



HAL
open science

Making Clay Envelopes in the Old Assyrian Period

Cécile Michel

► **To cite this version:**

Cécile Michel. Making Clay Envelopes in the Old Assyrian Period. Kültepe International Meetings 3, Aug 2017, Kayseri, Turkey. pp.187 - 203. halshs-02996202

HAL Id: halshs-02996202

<https://shs.hal.science/halshs-02996202>

Submitted on 9 Nov 2020

HAL is a multi-disciplinary open access archive for the deposit and dissemination of scientific research documents, whether they are published or not. The documents may come from teaching and research institutions in France or abroad, or from public or private research centers.

L'archive ouverte pluridisciplinaire **HAL**, est destinée au dépôt et à la diffusion de documents scientifiques de niveau recherche, publiés ou non, émanant des établissements d'enseignement et de recherche français ou étrangers, des laboratoires publics ou privés.

Making clay envelopes in the Old Assyrian period

Cécile Michel*

The Old Assyrian private archives excavated at Kültepe contain mainly letters and legal texts. These were originally wrapped in clay envelopes on which the sender(s), of the letters, or the witnesses and parties, for legal texts, would imprint their personal cylinder or stamp seals. These envelopes were meant to protect the letter during its transport or to give its legal value to a contract. Fragments of envelopes are numerous among the archives, and some complete envelopes with their tablet still preserved inside have also been found. However, except for their seal impressions, envelopes have often been neglected because any text on them might not be seen to be primarily important.

Textual data linked to the enclosing of a tablet in an envelope, and applying a seal on it, document the circumstances and the actors involved in closing of a letter or the certification of a legal document. This study of Old Assyrian envelopes is based on the corpus excavated during the 1993 season at Kültepe, in the house of Ali-ahum and his son Aššur-taklāku. The presence of envelopes and envelope fragments in this archive will be tentatively explained. A detailed study of the materiality of the envelopes will then be made in order to understand their manufacture. Descriptions here of hands-on experiments allow a better understanding of the techniques used to wrap tablets in envelopes, and the constraints while making them.

1. Encasing a tablet in the Old Assyrian texts

The Old Assyrian terminology linked to tablets' envelopes and to the making of an envelope is limited to the verbal root, *harāmum*, with the meaning 'to cover', and more specifically 'to cover a clay tablet with a clay envelope'.¹ Similarly, we often find the verbal adjective *harmum* referring to a tablet in an envelope, a 'cased tablet'.² The corpus of available texts contains more than two hundred occurrences of these words. The great majority of these attestations refers to loans.³ The acting party, who inserts the tablet in an envelope, is usually the creditor, who normally kept the loan contract in his archives to assert his rights at a later date:

* CNRS, Archéologies et Sciences de l'Antiquité (ArScAn); cecile.michel@cns.fr. The research leading to this article was supported by the LabEx *Past in Present*, and the Center for the Study of Manuscript Cultures (SFB 950), Hamburg. This reflection is part of ArScAn's transversal project *Argiles*, coordinated by Xavier Faivre. All the photos inserted in this article, unless otherwise stated, have the following copyright: Photo Cécile Michel; ©Kültepe archaeological mission. As this study was already in press, I received the article of Marine Béranger, 'Fonctions et usages des enveloppes de lettres dans la Mésopotamie des III^e et II^e mil. av. J.-C. (2340-1595 av. J.-C.)', *Epistolaire* 44, 2018, 25–46. Despite its title, apart from two references, this contribution does not take into account the Old Assyrian corpus.

¹See Larsen 1977; Hertel 2013, 138–142, with previous bibliography; Veenhof 2013, 46.

²Note that at Mari, the term *harmum* is attested under the form *hurumum*, see ARM 14, 53:14, republished as Durand 2000, no. 1071, and *hermum* ARM 28, 84:8': *ṭup-pa-ka qa-du-um he-er-mi-šu*, "your tablet and its envelope."

³This is shown by direct evidence of loans still preserved in their envelopes, but also by the many mention of memoranda (*tahsistum*) which consist of copies (*mehrum*) of loan contracts referred to as *ṭuppum harmum*, as in

“We borrowed for you each 13 minas 16 ½ shekels of fine silver, with an interest of 1 shekel per (mina), and they enclosed our tablet in an envelope.”⁴

Apart from debts, a variety of other types of legal texts were placed in an envelope. There are, for example, other types of contractual agreements (payment by working capital, joint-stock companies), verdicts of authorities, oaths or other documents sealed by the authorities:⁵

“This memorandum is a copy of the cased tablet concerning the working capital of Ennānum.”⁶

“This memorandum is a copy of the cased tablet concerning the joint-stock company of Anah-īlī.”⁷

“I hold an cased tablet with a verdict of the judges of the temple.”⁸

“We enclosed in an envelope the tablet containing the oath of Ikūnum.”⁹

“This memorandum is a copy of the cased tablet with the seal of the *kārum* Kaneš.”¹⁰

The act of enclosing a tablet in an envelope had a clear legal value and was so important that it was sometimes done at the Gate of the God where testimonies were given under oath.¹¹ Once a legal text was enclosed in its envelope, a copy or a summary of the text was written on the envelope, and one or more people – parties and witnesses – stamped or rolled their seal on it, making it legally valid.¹² The verb *harāmum* is sometimes used in elliptic sentences with witnesses as object, suggesting that these witnesses made a deposition under oath and impressed their seals on the envelope of the record of their deposition:

AKT 7a, 13a:16-20, *ta-ah-sí-is-tum, a-ni-tum me-eh-ra-at, tup-pi-im ha-ar-mi-im, ša hu-bu-ul Li-pá-a, dumu Ú-zu-a-a*, “this memorandum is a copy of the cased tablet of the debt of Lipaya, son of Uzua.” See the many more examples given in the volume: AKT 7a, 1; 2; 14; 24; 25; 26; 32; 38, etc.

⁴ATHE 28:18-23, 13 *ma-na* 16 1/2 *gín-ta kù-babbar, ša-ru-pá-am* 1 *gín-ta a-na, ši-ib-tim : ni-ils-qé-a-kum-/ma, tup-pi-ni ih-ri-mu*. A memorandum, which is a copy of a loan cased tablet (“this memorandum is the copy of the debt (tablet) of Aššur-bēl-awātum, son of Šu-Anum”) starts with the mention “Seal of the owner of the cased (tablet).” AKT 7a, 43:1 *kišib be-el ha-ar-mi-im*. This would perhaps suggest that the creditor would have exceptionally sealed the loan contract.

⁵For a definition of legal texts, see Hertel 2013, 135: “The general features that set the analytical category of ‘legal documents’ apart from other types of texts are in general that the former specifically served as legal instruments in substantive and procedural legal matters, and that they were sealed by those who asserted or acknowledged a legal action, right or obligation.” For a typology of Old Assyrian legal texts see Hertel 2013, 137. Note that the transport contract TPAK 1, 144:19 ends with the superfluous mention “*harmu*”.

⁶AKT 7a, 95:14-19, *ta-ah-sí-is-tum, a-ni-tum, me-eh-ra-at tup-pi-im, ha-ar-mi-im, ša be-ú-lá-at, En-na-nim*; see also AKT 7a, 131 and 150.

⁷AKT 7a, 54:11-15, *ta-ah-sí-is-tum, a-ni-tum me-eh-ra-at, tup-pi-im ha-ar-mi-im, ša na-ru-uq, A-na-ah-i-lī*.

⁸EL 325 (Tübingen 1): 31-32, [*tup-pá-am ha-ar*]-*ma-am ša dí-in, da-a-a-ni ša bi-tim ú-kà-al*; for another example of a cased tablet sealed by judges, see AKT 7a, 21:25-28.

⁹BIN 6, 29:26-27, *tup-pá-am, ša ma-mi-it I-ku-nim ni-ih-ri-im*.

¹⁰AKT 7a, 82:13-18, *ta-ah-sí-is-tum, a-ni-tum, me-eh-ra-at tup-pi-im, ha-ar-mi-im, ša ku-nu-uk, kà-ri-im Kà-né-eš*. See also AKT 7a, 119:12-17, *ta-ah-sí-is-tum, a-ni-tum me-eh-ra-at, tup-pi-im ha-ar-mi-im, ša ku-nu-uk kà-ri-im, Kà-ni-iš ša ar-ni-šu, ša Šu-Ištar*, “This memorandum is a copy of the tablet ‘in an envelope’ with the seal of the *kārum* Kaneš, concerning the penalty of Šu-Ištar.”

¹¹Hertel 2013, 141. See for example Prag I 446:29, *ká dingir ih-ri-mu*.

¹²See for example CCT 3 22b-23a:27-28 (Michel 2001, no. 245), *ù tup-pu-šu ha-ar-ma-am, ša ku-nu-ki-šu*, “And his cased tablet bearing his seal.” Veenhof 2008, n. 194. Several examples are given in the CAD A, 229–230 sub. *arāmu*, “to place a tablet in a clay case”.

Cécile Michel, Making Clay Envelopes in the Old Assyrian Period, in F. Kulakoğlu, C. Michel & G. Öztürk (eds.), *Integrative Approaches to the Archaeology and History of Kültepe-Kanesh, Kültepe, 4-7 August, 2017*, Kültepe International Meetings 3, SUBARTU XLV, Turnhout: Brepols, p. 187-203.

“(Write the names of) all the witnesses (on a tablet and) enclosed (it) in an envelope.”¹³

“Enclose in an envelope the tablet with the (names of) witnesses.”¹⁴

“Let him enclose in an envelope (a tablet with the names of) your witnesses.”¹⁵

Thus, beyond enclosing a tablet in an envelope, the verb *harāmum* also suggests the presence of one or more seal impressions on the envelope.¹⁶

“Whether one collected outstanding claims for the other, either (on the basis of) a cased tablet with their seals or (on the basis of) witnesses (...).”

These seal impressions on the envelope certified the legal value of the document.¹⁷ It was normally impossible to create a fake document enclosed in an envelope bearing seal impressions. Some contracts however envisage the possibility that such a fake could be presented:¹⁸

“Any cased tablet of Suen-nādā’s debt that may appear will be considered as fake.”

The valid legal text, enclosed in an envelope bearing the seal impressions of witnesses could replace the presence of these witnesses:¹⁹

“If Asqudum does not produce either a cased tablet or witnesses for Edinaya, Asqudum will pay Edinaya threefold for that silver, if he can produce either a (cased) tablet or witnesses, Edinaya is considered paid his silver.”

Legal texts enclosed in clay envelopes were usually stored together in the archives; several bullae, which were used to close and tag the tablet containers, indicate that such legal texts were kept together; this is also corroborated by the observations of the archaeologist, as well as mentions in the texts:²⁰

“Enter Nuhšatum’s house and let her place all containers with encased tablets of our father before you.”

“I left you the containers with the cased tablets of Aššur-rabi.”

¹³TC 3, 62 (Michel 2001, no. 212):21-23, *šī-bé-e, a-ni-ú-tim ú a-ni-ú-tim, hi-ir-ma-ma*.

¹⁴BIN 6, 96:14-15, *ṭup-pá-am ša šī-bi, hi-ir-ma*.

¹⁵CCT 5, 2:19-20, *šī-be-kà : li-ih-ri-ma*. See also ATHE 47:13, *ki-ma šī-be ta-ha-ri-ma-ni*.

¹⁶ATHE 24 :23-27, ²³*lu a-hu-um ša a-hi-im* ²⁴*kù-babbar i-na ba-áb-tim* ²⁵*ils-qé : lu ṭup-pu-um* ²⁶*ha-ar-mu-um ša : ku-nu-ki-šu-nu* ²⁷*lu ša šī-be*.

¹⁷Tessier 1994; Hertel 2013, 138 with previous bibliography.

¹⁸CTMMA 1 94:11-16, *ṭup-pu-um, ha-ar-mu-um, ša hu-bu-ul, Sú-en6-na-da, ša e-li-a-ni, sà-ar*.

¹⁹BIN 4, 147:11-20, *šu-ma, ṭup-pá-am ha-ar-ma-am, ú-lá šī-bi4 a-na, E-dí-na-a Ás-qú-dum, lá uš-té-li a-na, kù-babbar, a-nim šu-šál-šum, Ás-qú-dum a-na E-dí-na-a, i-ša-qal šu-ma ṭup-pá-am, ú-lá šī-bi4 uš-té-li, kù-babbar, Ás-qú-dum ša-bu*.

²⁰Özgüç N. – Tunca 2001; Özgüç T. 1994, 369, concerning the description of the archive discovered in the house of Elamma, brother of Ali-ahum; Michel 2018, 63–64. TPAK 1, 63:1015, *[a]-šé-er Nu-ùh-ša-tim, e-er-ba-ma mi-ma, ta-ma-lá-ki, ša ṭup-pé-e ha-ru-mu-tim, ša a-bi4-ni i-na igi-ku-nu, lu ta-ás-ku-ma*; AKT 3 106:11-14, *ta-ma-lá-ki, ša ṭup-pé-e, ha-ru-mu-tim, ša A-šür-gal e-zi-ba-ki-ni*.

Cécile Michel, Making Clay Envelopes in the Old Assyrian Period, in F. Kulakoğlu, C. Michel & G. Öztürk (eds.), *Integrative Approaches to the Archaeology and History of Kültepe-Kanesh, Kültepe, 4-7 August, 2017*, Kültepe International Meetings 3, SUBARTU XLV, Turnhout: Brepols, p. 187-203.

Legal tablets enclosed in envelopes covered with seal impressions could be sent to Aššur when a legal case was brought to court or for the division of a succession:

“All this (represent) the debt of Adada, the scribe; his encased tablets will travel to the City (of Aššur).”²¹

“We will have the tablets enclosed in a case (...) and we will send (them) to you.”²²

Tablets, enclosed in an envelope, are referred to as ‘encased tablet’ (*tuppum harmum*); *tuppum* is a generic term in Old Assyrian, which corresponds both to the materiality of the object and its content, whether it is a “legal text” or it is a “letter”. Several of the examples given above refer to memoranda (*tahsistum*) which are copies of a legal text.²³ Such private records, were preserved in the merchants’ archives and were useful to keep track of their transactions; they had no legal value. They were easily accessible, meaning that they were not enclosed in an envelope.²⁴ However, we do find exceptional mentions of memoranda enclosed in an envelope or sealed:²⁵

“Encase a memorandum in an envelope stating that my deposit will go for three years and that the silver cannot be claimed (by another).”

But this remains unusual because normally, such memoranda, considered as “open”, are opposed to encased tablets whose text is hidden:²⁶

“He had placed it among the open memoranda and the cased tablets of his father.”

Letters were also encased in a clay envelope on which the name of the recipient(s) was indicated, as well as the indication “sealed by (the sender).” The latter rolled his cylinder seal over the envelope several times. Such an envelope protected the confidentiality of the content

²¹AKT 3 27:20-24, *mì-ma a-nim hu-bu-lúm, ša A-da-da <dub>-sar, tupp-pu-šu ha-ru-mu-tum, a-na A-lim^{ki} <e-ti-qú>*.

²²BIN 6, 73:25, 30, *tupp-pè-e nu-ha-ra-ma (...) nu-šé-ba-lá-kum*. See also AKT 4, 25:55-56, *šu-nign 14 tupp-pu-ú¹ ha-ru-mu-tum, gán^{lum} e-ti-qú*. Note that usually, merchant preferred sending copies of encased: TC 3, 213:45-47, *me-eh-ru-um ša tupp-pè-e, ha-ru-mu-tim gán^{lum}, e-ti-qú*; CCT 1, 4:47-48, *me-eh-ru-um ša tupp-pè-e, ha-ru-mu-tim gán^{lum} e-ti-qú*; VS 26, 119:49-50, *me-eh-ru-um, ša tupp-pè-e ha-ru-mu-tim gán^{lum} e-ti-qú*.

²³The archive unearthed in 1988 and partly published by Bayram – Kuzuoğlu 2014 (AKT 7a) contains more than a hundred of memoranda which are copies of legal documents originally preserved in envelopes (see comments Bayram – Kuzuoğlu 2014, 60–61). Note that CCT 2, 17:3-5, makes a distinction between encased tablets, copies and memoranda: *lu tupp-pu, ha-ru-mu-tum lu me-eh-ru, lu ta-ah-sí-sà-tum*.

²⁴For this type of texts, see Veenhof 2013, 43–44.

²⁵BIN 4, 32:31-35, *ša 3 ša-na-at, ma-šu-kà-tí i-lu-ku-ma, kù-babbar lá i-ša-bu-tù, ta¹-ah-sí-is-tám, hi-ir-ma-ma*. For other examples of memoranda placed under seal, see CAD T, 53b and Veenhof 2013, 43–44. This suggests that *tahsistum* could exceptionally have a legal value. For such a meaning, see the unpublished tablet Kt 93/k 543:12-13, 17-19, *ta-ah-sí-[is]-/tá[m], ba-lu-um : A-lim^{ki} [ù l]á ni-du-a-ak (...) li-mu-um : ta-ah-sí-is-/tám, a-[na] A-lim^{ki} : ú-bia-ils-ma : ta-ah-sí-is-tám, igi A-lim^{ki} : i-sí-ú-ma*, “We will not cancel the *tahsistum* without (the authorisation) of the City (of Aššur) (...) the eponym brought the *tahsistum* t[o] the City (of Aššur), and they invoked the *tahsistum* in front of the City (of Aššur).”

²⁶CCT 1, 13a:20-24, *iš-tù : ta-ah-sí-sà-tim, pá-ti-a-tim : tupp-pè-e, ha-ru-mu-tim ša a-bia¹-šú¹, iš-ta-kà-šu*. Veenhof 2013, 43–44 notes the expression “open memorandum” (*tahsistum patitum*) in AKT 6b, 375:11 and AKT 6b, 446:19-20, by contrast to the loan contract enclosed in its envelope.

Cécile Michel, Making Clay Envelopes in the Old Assyrian Period, in F. Kulakoğlu, C. Michel & G. Öztürk (eds.), *Integrative Approaches to the Archaeology and History of Kültepe-Kanesh, Kültepe, 4-7 August, 2017*, Kültepe International Meetings 3, SUBARTU XLV, Turnhout: Brepols, p. 187-203.

of the letter and the integrity of the tablet during its transport.²⁷ The seal impression(s) of the sender on the envelope authenticated the message.²⁸ Letters are referred to in texts by the words *tuppum* or *našpertum* ('message', 'shipment'). None of the examples recorded of an encased tablet (*tuppum harmum*) concerns a letter, although they were in fact also encased, and the verb *harāmum* is never used referring to a letter. Therefore, *harāmum* clearly does not refer to a technical gesture but rather to a legal act. For this reason, Old Assyrian specialists usually translate this verb as: 'to validate, to certify a tablet' and the adjective *harmum* as 'a certified tablet, a valid tablet'.²⁹ The certification of the tablet is done with the addition of seal impressions on the surface of its envelope.

Texts do not provide many insights into the actual enclosing of a tablet in an envelope. Thus, the following sections will focus on the envelopes themselves and their materiality. The archive excavated in 1993 at Kültepe will serve as a case study.

2. The envelopes in the '1993 archive'

2.1. Inventory of the envelopes

In 1993, the Kültepe archaeological team, under the direction of Tahsin Özgüç, excavated two badly damaged houses (or, perhaps, one large house), which contained 954 tablets, envelopes and fragments,³⁰ and 37 bullae that had been used to label and seal various types of containers. This large archive belonged to three generations of a family of merchants whose main members were Ali-ahum, his son Aššur-taklāku and his daughter Tariša. The brother of Ali-ahum, Elamma, whose archives have been published by Klaas Veenhof in AKT 8 (2017), lived across the street.

The '1993 archive' includes an important number of letters, 40 % of the archive. Legal documents correspond to 28 %, a little less than half of these are loan contracts. Thus, almost 70 % of the texts belonging to this archive could originally have been protected by an envelope. I was led to work on the envelopes because they represented almost 20 % of the archive: There are 185 envelopes, mainly envelope fragments, and a few intact envelopes with the tablet still preserved inside. It was possible to match some forty envelope fragments with their respective tablets (see below). In eight cases, more than one fragment has been identified for a given tablet.³¹

Of the total number of envelopes and envelope fragments, 57 of them originally protected letters, with five envelopes being still intact with the letter inside. A letter's envelope usually has a very short text – for Old Assyrian envelopes, the name of the recipient(s) and a short notice identifying the seal of the sender(s) (*kišib PN*)³² – and the sender(s) seal impression(s) which can be repeated several times on both sides and on the four edges.³³ Thus, though

²⁷Michel 2008a; Michel 2018, 53.

²⁸Charpin 2013, 47.

²⁹See the various translations given by Veenhof 2017 (AKT 8): 'valid record / sealed debt-note / valid debt-note.'

³⁰There are 891 tablets and fragments excavated in 1993, 61 pieces discovered in 1994 and 2 more tablets found during the cleaning of the area in 1998. For a general presentation of the archives, see Michel 2008b.

³¹Michel 2008b, 56.

³²Note that Old Babylonian letter envelopes have only the name of the recipient(s) preceded by *ana*; exceptionally, a mention is added with the name of the sender with the expression *tuppi PN*, 'letter of PN', see Sallaberger 1999, 26–28; Charpin 2013, 57, n. 62.

³³For seal substitutes, see Ricetti 2015.

Cécile Michel, Making Clay Envelopes in the Old Assyrian Period, in F. Kulakoğlu, C. Michel & G. Öztürk (eds.), *Integrative Approaches to the Archaeology and History of Kültepe-Kanesh, Kültepe, 4-7 August, 2017*, Kültepe International Meetings 3, SUBARTU XLV, Turnhout: Brepols, p. 187-203.

fragments of envelopes are often anepigraphic, in some cases one or more seal impressions are partly visible on their surface. When such a fragment corresponds more or less to one side of the envelope, has one or two seal impressions, often from the same seal, and is empty of text, it most probably is the reverse of a letter envelope. Indeed, envelopes of legal documents were covered with text – the copy of the text on the tablet or a summary of it –, and had the seal impressions of the parties and the witnesses. Using this reasoning, 26 of the envelope fragments probably protected letters. Two more fragments show on their inner side the negative imprint of a second page. Old Assyrian letters could sometimes be extended on a small tablet of flat lenticular shape, written on one side only (see below). So, all together 46 % of the 185 envelopes and fragments are letter envelopes, which corresponds to a surprisingly high percentage.

Only 17 envelopes and fragments (9 % of the total) have been identified as covering legal texts. Among these, seven concerned loans, six of them are completely preserved with the tablet is still inside. At last, 83 envelope fragments (45 % of the total) remain unidentified.

2.2. Presence of envelopes in the archive

The important number of envelopes and envelope fragments found in the ‘1993 archive’ needs an explanation.

The existence of joins that have been made between fragments of envelopes suggest that these envelopes were kept untouched in the archive, the tablet still inside, and broke when the building collapse.

Envelopes that gave a legal value to a contract or a judicial document presumably remained intact in the merchants’ archives, and one would expect that there were many of them. Four of the loan contracts that are still preserved in their complete envelope belong to the last owner of the archive, Aššur-taklāku, son of Ali-ahum, as creditor; the corresponding debts, due by Anatolians, have never been paid back, or Aššur-taklāku issued a receipt to the debtors at the time of the repayment; therefore their envelopes remained intact.³⁴ It is most probable that these documents were kept together in the archive.³⁵

Logically, the envelopes of letters should be exceptional in the archive, since the recipient was obliged to break the envelope to read the letter. The envelopes and envelope fragments that were found in the excavated house were either opened in Antiquity and not cleaned away from the archive, or more likely broken when the buildings fell apart. The discovery of intact envelopes still containing their letter can only be explained if the letter has never reached its recipient: either it was not sent – whether a copy or an original – or the letter was never delivered to its recipient; it arrived while he was absent from Kaneš or he had died. One third of the 57 well-identified envelopes that protected letters was addressed to the grand-father Iddin-Suen; this ancestor is moreover represented in the archive only by letters. The presence of these envelopes could suggest that Iddin-Suen received these letters as he was no longer there, either dead or retired at Aššur.³⁶ The second important group of letter envelopes (23 %) concerns the last owner of the archive, Aššur-taklāku, son of Ali-ahum and grand-son of Iddin-Suen. Three

³⁴Kt 93/k 550 is a debt of Šakdunua, son of Šarpa; Kt 93/k 941 is a debt of Šarabunua, Tamuriya and Hapuala; Kt 93/k 942 is a debt of Kabašunuwa, son of Kēna-Aššur; Kt 93/k 946 is a debt of Hašuahšu, the *alahhinnum*.

³⁵Michel 2018, 61–64.

³⁶Michel 2018, 65.

Cécile Michel, Making Clay Envelopes in the Old Assyrian Period, in F. Kulakoğlu, C. Michel & G. Öztürk (eds.), *Integrative Approaches to the Archaeology and History of Kültepe-Kanesh, Kültepe, 4-7 August, 2017*, Kültepe International Meetings 3, SUBARTU XLV, Turnhout: Brepols, p. 187-203.

of these letters were sent by Aššur-taklāku, two of them addressed to his wife among other recipients.³⁷ There is a great probability that she read the letters from her husband and that pieces of the envelopes were not cleaned out and remained in the archive room. Aššur-taklāku is the sender of the third letter, together with his father, to a group of colleagues; the envelope has never been opened and remained intact (Kt 93/k 144). Thus this letter has never left the house. Among the ten letters addressed to Aššur-taklāku and for which fragments of envelopes were found in his house, one was sent by his father (Kt 93/k 374), and two others were sent by her sister, alone (Kt 93/k 372+380) or with other persons (Kt 93/k 143b). All the other letters were addressed solely to Aššur-taklāku. This merchant traveled a lot; he had long periods away from Kaneš, and spent a year or more in jail.³⁸ Either he read these letters and left pieces of their envelopes in the room, or he never opened them, and they broke at the fall of the building.

Five of the letters have evidently never been opened since they are still preserved intact in their envelopes. Besides the letter Kt 93/k 144 written by Ali-ahum and his son Aššur-taklāku (see above), one letter envelope was sealed by Aššur-taklāku and Šamaš-abi and was addressed to two other merchants (Kt 93/k 211); again, this message has presumably never been sent. Another letter was addressed first to an anonymous *tamkārum*, ‘creditor’, who could be one of the family members living in the house (Kt 93/k 944). The individuals mentioned in the headings of the last two encased letters do not belong to the family living in the house. There is no clue about the presence of these two encased letters in the archive (Kt 93/k 97; Kt 93/k 379); their recipients might not have a house in Kaneš, and were receiving their mail in the house excavated in 1993.³⁹

In any case, the large number of letter envelope fragments found in this house remains a mystery; it is hard to believe that the inhabitants read their letters leaving all these pieces of envelopes without cleaning them away. Thus, many of these fragments might have belonged to complete envelopes, which fell apart with the destruction of the building.

3. The Materiality of Envelopes and Envelope Fragments

3.1. The tablet and its Envelope

The Old Assyrian tablets are usually small in size, the average corresponding more or less to the palm of the hand. The writing is small and tight, which makes it possible to write a lot of text on a small surface. For example, several letters sent by Aššur-taklāku, the last owner of the ‘1993 archive’, are written with a very tiny script: Kt 93/k 526 measures 4,9 × 6,7 cm and has 53 lines (Fig. 1), including 7 lines on the left edge.⁴⁰ This small size facilitates the making of an envelope.

³⁷The letters are Kt 93/k 852 and Kt 93/k 863; for Lušitiya, wife of Aššur-taklāku, see Michel 2015.

³⁸Michel 2008b.

³⁹For such a situation of a group of texts preserved in someone’s else house see Michel – Garelli 1997 (TPAK), introduction: the archive of Šumi-abiya contained some 25 letters of Aššur-mūtappil, some still in their unopened envelopes, but no loan contracts.

⁴⁰The remarkable letter sent by Ummī-Išhara to her sister Šalimma, AKT 8, 206, measures 5 × 5,5 cm and contains 49 lines; photos of the tablet are published in Veenhof 2017 (AKT 8), pl. 40, enlarged by 62%.



Fig. 1: Letter to Rabi-Aššur, Ataya, Puzur-Aššur, Šu-Ištar, Šamaš-abi, Anina, Amārum, and Tariša from Aššur-taklāku; Kt 93/k 526 (4,9x6,7 cm), left edge, obverse and reverse.

The envelope protected the letter during its transportation, both the object itself and the intimate character of the text content. The obverse of the envelope contains the name or the names of the addressees, sometimes with their patronyms, and the name of the sender, whether one or several, with the indication that he has or they rolled his or their seal on the surface of the envelope; the corresponding seal impressions are visible on both sides and over all the edges (Fig. 2). The owner(s) or user(s) of the seal(s), often anepigraphic, can therefore be identified more easily. In a few cases, two or three lines of text are added, prompting the reader to carefully read the content of the message. The reverse of the envelope with its two seal impressions, with a blank space in between, is usually uninscribed. Thus, when we deal with a fragment of the reverse, it is very difficult to match it with its corresponding tablet.



Fig. 2: Envelope of a letter from Ah-šalim to Ištar-bāni, Kurub-Ištar and Hattiya; Kt 93/k 379 (5 × 4,6 cm).

For documents of legal value, the text is often repeated in its entirety on the envelope, so that one could read it without actually opening the envelope. The seal impressions on every side of the envelope belonged to the parties and witnesses. The persons who sealed the envelope are

Cécile Michel, Making Clay Envelopes in the Old Assyrian Period, in F. Kulakoğlu, C. Michel & G. Öztürk (eds.), *Integrative Approaches to the Archaeology and History of Kültepe-Kanesh, Kültepe, 4-7 August, 2017*, Kültepe International Meetings 3, SUBARTU XLV, Turnhout: Brepols, p. 187-203.

mentioned at the beginning of the text, on the obverse of the envelope, in the form 'kišib PN' with their fathers' names (Fig. 3). In general, on the envelope, one finds first the names of the witnesses followed by those primarily concerned by the contract, as for example the debtor for a loan contract.



Fig. 3: Envelope of a loan contract belonging to Aššur-taklāku, the debtor is Kabašunuwa, son of Kēna-Aššur Kt 93/k 942 (4,6 × 5,1 cm).

The order of enumeration of those who have sealed the envelope does not respect the seal impressions' order. Since the seals are generally uninscribed, it is then difficult to identify the owners or users of seals. The existence of the envelope with the seal impressions of witnesses and parties certifies the validity of the document and protects it against fraud. In the event of a dispute, the envelope was opened and the text of the tablet checked. If the envelope was broken, the document was no longer valid. As discussed above, it has been assumed by default that most of the uninscribed envelope fragments are reverse of letter envelopes, since envelopes of legal texts are inscribed on both sides.

There does not seem to have been a systematic rule for the orientation of the envelope with respect to the tablet.⁴¹ The text written on the envelope has often the same orientation of that of the tablet.⁴² A little less than half of the time, the text on the envelope appears as perpendicular to the text on the tablet.⁴³ Both orientations can apply to letters as well as to legal texts. Note however that the perpendicular orientation is a little more frequent with rectangular tablets; this allowed to unroll the cylinder seal on a longer surface, and thus, to be sure to have the complete scene (Fig. 4).

⁴¹D. Charpin noted that for Old Babylonian legal texts, the envelope was covering the tablet head to tail so that, if one side of the document was broken, the text remained complete between tablet en envelope, Charpin 2002, 496, n. 54.

⁴²This is the case, for example, of the following Kt 93/k envelopes: 62+108, 93+101, 134+251 (head to tail), 217+239, 225, 227, 229+238, 272+380, 369, 379, 554, 555, 694+839, 817, 819, 836, 841, 844, 857+886, 943 (head to tail), 945 (head to tail), 946, 974.

⁴³This is the case, for example, of the following Kt 93/k envelopes: 136+220+232, 143, 211, 222, 223, 230, 383, 552, 673+852, 823, 824+828, 837, 845, 861, 867.

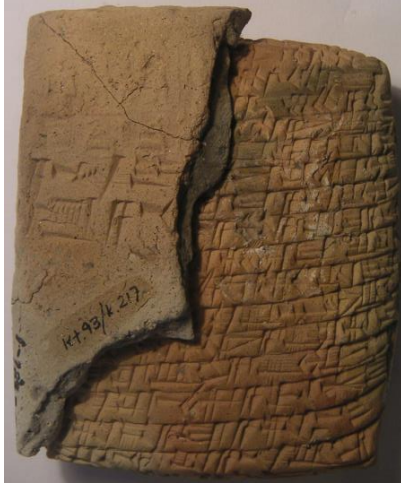


Fig. 4a: Letter, Kt 93/k 239+217 (tablet 5,5 × 6,4). The text on the envelope is written parallel to the one on the tablet.



Fig. 4b: Contract, Kt 93/k 945 (5,3x5,7 cm). The text on the envelope is written parallel to the one on the tablet, but head to tail.

The seals were usually first impressed on the envelope before the text was written; thus some wedges overlap regularly the feet or the heads of the figures of the seal's scene (Fig. 5).



Fig 4c: Letter Kt 93/k 143 (env. 6,5 × 9,5 cm). The text on the envelope is written perpendicular to the one on the tablet.

On letter envelopes, the seal impression of the sender was repeated twice on the obverse, the few lines of text positioned with the same orientation in-between, and twice on the reverse (Fig. 5). It was also reproduced on all the edges. In the case of legal texts, the number of seal impressions on the obverse and the reverse depended on the number of witnesses and the length of the text to write.



Fig. 6: Contract, Kt 93k 215a (4,7x4,2 cm)

On the envelope, there is no ruling separating the lines of text contrary to the systematic ruling on the tablet, even in the case of legal documents on which the text is quite long. The text is written with the same orientation as the seal impressions, but in some instances, some seal impressions may appear upside down (Fig. 6).



Fig. 7: Royal letter Kt 93/k 201+376+381 (8,4 × 5,3 cm, envelope 4,2 × 8,6)

The letters sent by the king of Aššur which transmit to the Kaneš Assyrian authorities a verdict of the City assembly constitute a special case: the king's cylinder seal is unrolled in a direction perpendicular to the text of the envelope (Fig. 7).⁴⁴

3.2. Matching Tablet and Envelope

Many envelopes of the '1993 archive' show, on their inner side, negative imprints of the cuneiform signs of the corresponding tablet which is the consequence of clay retraction during the drying process (Fig. 8). Imprints of wedges are more or less marked according to whether the clay of the envelope has much retracted or not when drying; in some cases, the inner side of the envelope is completely smooth. A systematic reading of these negative mirror imprints of signs allowed the matching of 22 % of the fragments of envelopes with their corresponding tablets (Fig. 9).

⁴⁴This was also observed by A. Lassen during the lecture she gave during 63th RAI in Marburg on Wednesday July 26, 2017: "Sealing the *waklum*-letters."



Fig. 8: Inside of the envelope
Kt 93/k 865



Fig. 9: Join between envelope fragments
Kt 93/k 232+136 + 220

3.3. Second ‘Pages’

The inner side of some envelope fragments have a circular depression indicating that the letter originally contained two ‘pages’ enclosed in the same envelope (Fig. 10). The second ‘page’, referred to in the texts as *šibat tuppim*, ‘tablet supplement’, is usually a flat oval or lenticular piece of clay written only on one side and placed over the obverse or the reverse of the main tablet, with the text facing the envelope.⁴⁵ When the envelope was open, the two pages of a letter were separated and there is no indication in the text helping to match them again. To connect them again, the identification of the corresponding envelope is of great help. When the envelope has remained intact, a bulge on one of its faces indicates the presence of a small second page (Fig. 10). There are several such small tablet supplement in the ‘1993 archive’, some remained seldom.



Fig. 10: inside of the envelope Kt 93/k 843 with the negative imprint of a “second page”;
Kt 93/k 211: Tablet and “second page” preserved in their envelope;
Kt 93/k 55+120+831+240: join between two envelope fragments, main tablet and “second page”.

3.4. Indications Concerning the Making of the Envelope

Analyzing further the inner side of the envelopes, several observations can be made that give clues about how they were shaped. The envelope was made of a thin layer of clay folded around

⁴⁵Michel 2008, 123. The study of Old Assyrian second ‘pages’ is ongoing within the frame of the *Center for the Study of Manuscript Culture* (Hamburg).

Cécile Michel, Making Clay Envelopes in the Old Assyrian Period, in F. Kulakoğlu, C. Michel & G. Öztürk (eds.), *Integrative Approaches to the Archaeology and History of Kültepe-Kanesh, Kültepe, 4-7 August, 2017*, Kültepe International Meetings 3, SUBARTU XLV, Turnhout: Brepols, p. 187-203.

the tablet and over itself so that it's both ends overlapped. The envelope was more or less thick, often thinner on the edges than on the obverse or on the reverse where the clay overlapped. Different layers of clay can be sometimes distinguished (Fig. 11).⁴⁶ Indeed, inside some of the envelope fragments, we observe a completely smooth part, suggesting that, either on the obverse or on the reverse, the layers of clay of the envelope superimposed allowing to close it. When broken, the superimposed layers have been occasionally detached leaving a more or less flat surface, along the zone with negative imprints of cuneiform signs (Fig. 11).



Fig 11: Insides of envelope fragments.

Kt 93/k 552

Kt 93/k 228

Kt 93/k 117

Kt 93/k 142

Several inner sides of envelope fragments show imprints of textiles and fibers; in such cases, the negative imprints of the tablet's signs are less visible. Such textile imprints were already observed on some tablets, and it was suggested that these tablets had been enclosed in their envelope before being completely dry.⁴⁷ In such a case, a fine textile was used to wrap the tablet before applying the envelope in order to avoid the clay of the tablet from sticking to the envelope.⁴⁸ When there was enough time to let the tablet be completely air dry, then there was no need to use a textile, the addition of a new and fresh layer of clay would not stick to it.



Fig. 12: textile and fibers imprints on the inside of envelopes

Kt 93/k 373

Kt 93/k 223

⁴⁶Taylor – Cartwright 2011, 299.

⁴⁷Andersson Strand – Breniquet – Michel 2017, p. 98-99.

⁴⁸Cartwright – Taylor 2011, 68 propose another explanation: “(The presence of fax fibers on tablets) could indicate wrapping of the tablets in a protective linen cloth to keep them moist or to protect the inscribed surfaces or results from resting the tablet on a cloth used as part of the sealing process.” A list of tablets from other periods showing imprints of textiles suggesting that they have been wrapped in textiles is given by Garcia-Ventura – López-Bertran 2014, 195–196; these authors interpret the wrapping of objects in textiles as rituals (201–206).

Cécile Michel, Making Clay Envelopes in the Old Assyrian Period, in F. Kulakoğlu, C. Michel & G. Öztürk (eds.), *Integrative Approaches to the Archaeology and History of Kültepe-Kanesh, Kültepe, 4-7 August, 2017*, Kültepe International Meetings 3, SUBARTU XLV, Turnhout: Brepols, p. 187-203.

In a unique case up to now, tiny pieces of a textile remained fossilized on the tablet Kt 94/k 487. This tablet looks brand new, as if just out of its envelope. No analyses have yet been carried on these textile remains.⁴⁹

Thus, the practice of wrapping tablets in a thin textile before shaping the envelope must have been quite regular in the Old Assyrian period; this was necessary when the authors of letters or writers of legal texts could not wait for two days before enclosing their tablet in an envelope. A white powder, which could correspond to decomposed textile fibers, remained inside some uncleaned envelope fragments.⁵⁰

4. Experimentation: How Were Envelopes Shaped?

Starting from these different observations, I carried out some experiments to understand how the envelopes of tablets were fashioned in antiquity.⁵¹ The problems encountered in the manufacture of the envelopes are presented here step by step.

It is necessary to obtain a thin layer of clay whose surface is very flat. For this, unlike for the tablet, specific tools are needed. To flatten the clay into a 'sheet' with a regular thickness, one needs a flat surface and some kind of cylinder which could be made in wood, stone or even clay to roll it on the clay like a rolling pin. Another solution is to flatten the clay directly on a cone or a cylinder to obtain this 'sheet' of clay. However, the tests point to the first solution. It is also necessary to find a way to prevent the tool sticking to the clay sheet. Envelope tools must have been found in excavations, but if so none has been so far identified.

Then we must think about the shape of the thin layer of clay destined to form the envelope. A square or rectangular shape, when folding around the tablet, leaves too much clay for the edges, which result in protuberances. This is due to the influx of clay when the thin layer is folded to close it. On original envelopes, the thickness of clay is equal or even smaller on the edges compared to obverse and reverse. In order to avoid such an influx of clay on the edges a solution consists in pre-cutting the 'sheet' of clay with a shape of a cardboard box that would have been opened and unfolded. Thus, when folded, the envelope has a regular thickness on all sides except on the side where the two layers of clay close.

⁴⁹Personal communication of Gojko Barjamovic, 9 June 2017, who also kindly provided the photo of the tablet.

⁵⁰Up to now, no analyses of this powder have been made.

⁵¹The experiments referred to here were made on dried tablets. The first test, recorded in Andersson Strand – Breniquet – Michel 2017 was done on a fresh clay tablet which was wrapped into a piece of gauze before being covered by an envelope.



Fig. 14: The different steps in the manufacture of an envelope.

At last, before closing the envelope, it is necessary to leave a lot of free space between the tablet and the envelope, because during the drying process, the clay retracts a lot and thus can easily split or even break itself by retracting on the tablet. This explains why many envelope fragments have impressions of positive cuneiform signs, as the envelope by retracting took on the shape or even stuck to the tablet. Of the first envelopes made, one envelope out of two cracked after one day, and some even broke after two days. The envelope did not adhere to the tablet, and it was possible to make a replacement envelope after removing the remains of the broken envelope. If, when closing the envelope over the tablet there is too much free space, then it becomes very difficult to write on the envelope and to unroll the cylinder seals. It is therefore very important to find the best possible balance to adjust the clay envelope around the tablet.

*

The Old Assyrian archives excavated at Kültepe include an important number of envelope fragments and a few complete envelopes with the tablet still preserved inside. These envelopes were a material protection for the tablets they contained, and they ensured the confidentiality of letters, and with the seals impressions they had on their surface, they gave their legal character to contracts and judicial texts. The terminology linked to the enclosing of a tablet in an envelope refers to the certification of legal texts.

Cécile Michel, Making Clay Envelopes in the Old Assyrian Period, in F. Kulakoğlu, C. Michel & G. Öztürk (eds.), *Integrative Approaches to the Archaeology and History of Kültepe-Kanesh, Kültepe, 4-7 August, 2017*, Kültepe International Meetings 3, SUBARTU XLV, Turnhout: Brepols, p. 187-203.

Beyond the use and significance of envelopes, a thorough observation of envelope fragments as well as experiments allow a better understanding to their mode of production. This is an ongoing project which is carried in collaboration with physicists at Hamburg within the frame of the Centre for the Study of Manuscript Cultures.⁵² The goal is to set up a procedure using a tomographic scanner to be able to read the tablets still enclosed in their envelopes without opening them. The first tests carried out on tablets and envelopes produced as part of the experiments gave satisfactory results.⁵³

Acknowledgements

I heartedly thank the two successor directors of Kültepe excavations, Tahsin Özgüç and Firki Kulakoğlu who entrusted me the publication of this large archive. I wish to thank the directors of the Anadolu Medeniyetleri Müzesi in Ankara who allowed me to work on the collection of tablets, as well as all the staff of the Tablet seksyonu for their kind help, with a special mention to Şerife Yılmaz. All my thanks go also to Philippe Abrahami who kindly read this article and to Arch Naylor who corrected the English language.

Abbreviations

AKT	(Ankara) Kültepe Tabletleri, Ankara.
ARM	Archives Royales de Mari, Paris.
ATHE	B. Kienast, <i>Die altassyrischen Texte des orientalischen Seminars der Universität Heidelberg und der Sammlung Erlenmeyer</i> , Berlin, 1960.
BIN	Babylonian Inscriptions in the Collection of J. B. Nies, New Haven.
CAD	Chicago Assyrian Dictionary, Chicago.
CCT	Cuneiform Texts from Cappadocian Tablets in the British Museum, London.
CTMMA	Cuneiform Texts in the Metropolitan Museum of Art, New York.
EL	<i>Die altassyrische Rechtsurkunden vom Kültepe</i> , MVAG 33 = EL 1 – MVAG 35/3 = EL 2.
KIM	Kültepe International Meetings, Turnhout.
Kt 93/k	Tablet found during the 1993 Turkish excavations at Kültepe, on the tepe, and preserved in the Anadolu Medeniyetleri Müzesi (Ankara).
OAAS	Old Assyrian Archives Studies, Leiden.
Prag I	K. Hecker, G. Kryszat, L. Matouš, <i>Kappadokische Keilschrifttafeln aus den Sammlungen der Karlsuniversität Prag</i> , Prague, 1998.
TC	Tablettes cappadociennes du Louvre, Paris.
TPAK 1	C. Michel, P. Garelli, <i>Tablettes paléo-assyriennes de Kültepe 1 (Kt 90/k)</i> , Istanbul, 1997.

Bibliography

Andersson Strand, E. – Breniquet, C. – Michel, C.

⁵²The tests have been done by Maik Kahnt, under the supervision of Christian Schroer (DESY). The project is carried first within the frame of the SFB 950 and soon within the Excellence Cluster Understanding Written Artefacts (dir. M. Friedrich).

⁵³Similar experiments have been very recently carried by the staff of the Delft University of Technology on samples of the Böhl collection, Leiden: <http://www.nino-leiden.nl/message/seeing-through-clay-4000-year-old-tablets-in-hypermodern-ct-scanner> page consulted on August 31, 2018.

- Cécile Michel, Making Clay Envelopes in the Old Assyrian Period, in F. Kulakoğlu, C. Michel & G. Öztürk (eds.), *Integrative Approaches to the Archaeology and History of Kültepe-Kanesh, Kültepe, 4-7 August, 2017*, Kültepe International Meetings 3, SUBARTU XLV, Turnhout: Brepols, p. 187-203.
- 2017 “Textile Imprints on *Bullae* from Kültepe”, in: F. Kulakoğlu – G. Barjamovic (eds), *Proceedings of the 2nd Kültepe International Meeting, Kültepe, 26-30 July 2015*, KIM 2, Subartu XXXIX, Turnhout, 87–104.
- Bayram, S. – Kuzuoğlu, R.
2014 (*Ankara Kültepe Tabletleri-VII. Aššur-rē’i Ailesinin Arşivi. I Cilt: Aššur-rē’i’nin Kendi Metinleri*, (AKT 7a), TTKY VI/33e-a, Ankara.
- Cartwright, C. – Taylor, J.
2011 “Investigating technological and environmental evidence from plant remains and molluscs in cuneiform tablets”, *The British Museum Technical Research Bulletin* 5, 67–72.
- Charpin, D.
2002 “Esquisse d’une diplomatique des documents mésopotamiens”, *Bibliothèque de l’Ecole de chartes* 160, 487–511.
2013 “‘Garde ma lettre en témoignage’ Le rôle de la correspondance dans le système juridique mésopotamien de la première moitié du deuxième millénaire av. n. è.”, in: U. Yiftach-Firanko (ed.), *The Letter. Law, State, Society and the Epistolary Format in the Ancient World. Proceedings of a Colloquium held at the American Academy in Rome 28-30.9.2008*, Legal Documents in Ancient Societies 1, Wiesbaden, 45–60.
- Durand, J.-M.
2000 *Documents épistolaires du palais de Mari*, Littératures anciennes du Proche-Orient 17, Paris.
- Garcia-Ventura, A. – Lopez-Bertran, M.
2014 “Unveiling Clay and Metal: The Context and Use of Mesopotamian Textile Wrappings”, in: S. Harris et L. Douney (dir.), *Wrapping and Unwrapping Material Culture: Archaeological and Anthropological Perspective*, Publications of the Institute of Archaeology, University College London 64, Walnut Creek, 194–198.
- Hertel, T. K.
2013 *Old Assyrian Legal Practices. Law and Dispute in the Ancient Near East*, OAS 6, Leiden.
- Larsen, M. T.
1977 “Seal Use in the Old Assyrian Period”, in: McG. Gibson – R. D. Biggs (eds), *Seals and Sealing in the Ancient Near East*, Bibliotheca Mesopotamica 6, 89–105.
- Michel, C.
2001 *Correspondance des marchands de Kanish*, Littératures anciennes du Proche-Orient 19, Paris.
2008a “La correspondance des marchands assyriens du XIX^e s. av. J.-C. : de l’archivage des lettres commerciales et privées”, in: L. Pantalacci (ed.), *La lettre d’archive. Communication administrative et personnelle dans l’Antiquité proche-orientale et égyptienne*, Topoi Suppléments 9, Le Caire, 117–140. <http://halshs.archives-ouvertes.fr/halshs-00644198>
2008b “The Alāhum and Aššur-taklāku archives found in 1993 at Kültepe Kaniš”, in: G. Kryszat (ed.), *Festschrift für Karl Hecker zum 75. Geburtstag am 25. Juli 2008, Altorientalische Forschungen* 35, 53–67 [abstract p. 359] <http://halshs.archives-ouvertes.fr/halshs-01186428>
2015 “Women in the Family of Ali-ahum son of Iddin-Suen (1993 Kültepe archive)”, in F. Kulakoğlu – C. Michel (eds), *Proceedings of the 1st Kültepe International Meeting, Kültepe, 19-23 September, 2013. Studies Dedicated to Kutlu Emre*, KIM 1, Subartu XXXV, Turnhout, 85–93. <https://halshs.archives-ouvertes.fr/halshs-01673980>
2018 “Constitution, Contents, Filing and Use of Private Archives: The case of the Old Assyrian archives (19th century BC)”, in: A. Bausi, C. Brockman, M. Friedrich & S. Kienitz (eds), *Manuscripts and Archives: Comparative Views on Record-Keeping*, Studies in Manuscript Cultures 11, Berlin/New York: De Gruyter, 43–70. <https://www.degruyter.com/view/product/488155>
- Michel – Garelli
1997 See TPAK 1.
- Özgüç, T.
1994 “A Boat-shaped Cult-vessel from the Karum of Kanish”, in: H. Gasche – M. Tanret – C. Janssen – A. Degraeve (eds), *Cinquante-deux réflexions sur le Proche-Orient ancien offertes en hommage à Léon de Meyer*, Leuven, 369–375.
- Özgüç N. – Tunca 2001

- Cécile Michel, Making Clay Envelopes in the Old Assyrian Period, in F. Kulakoğlu, C. Michel & G. Öztürk (eds.), *Integrative Approaches to the Archaeology and History of Kültepe-Kanesh, Kültepe, 4-7 August, 2017*, Kültepe International Meetings 3, SUBARTU XLV, Turnhout: Brepols, p. 187-203.
- Sallaberger, W.
 1999 “Wenn Du mein Bruder bist, ...” *Interaktion und Textgestaltung in altbabylonischen Alltagsbriefen*, Cuneiform Monographs 16, Groningen.
- Ricetti, M.
 2015 “Sealing without a Seal: Alternative Sealing Media at Kültepe during the Old Assyrian Period”, in: F. Kulakoğlu – G. Barjamovic (eds), *Proceedings of the 2nd Kültepe International Meeting, Kültepe, 26-30 July 2015*, KIM 2, Subartu XXXIX, Turnhout, 131–160.
- Taylor, J. – Cartwright, C.
 2011 “The Making and Re-Making of Clay Tablets”, *Scienze dell’Antichità* 17, 297-324
- Tessier, B.
 1994 *Sealing and Seals on Texts from Kültepe kārūm Level 2*, Publication de l’Institut historique-archéologique néerlandais de Stambul, PIHANS 70, Istanbul.
- Veenhof, K. R.
 2008 “The Old Assyrian Period”, in: M. Wäfler (ed.), *Mesopotamia. The Old Assyrian Period. Annäherungen* 5, Orbis Biblicus et Orientalis 160/5, Fribourg-Göttingen, Teil 1, 13–264.
 2013 “The Archives of Old Assyrian Traders: their Nature, Functions and Use”, in: M. Faraguna (ed.), *Archives and archival documents in ancient societies: Legal documents in ancient societies IV, Trieste 30 September - 1 October 2011*, Trieste, 27–71.
 2017 (Ankara) *Kültepe Tabletleri VIII. The Archive of Elamma, son of Iddin-Suen, and his Family (Kt 91/k 285-568 and Kt 92/k 94-187)*, (AKT 8), TTKY VI/33f, Ankara.