#### Wiebke Beyer

# Teaching in Old Babylonian Nippur, Learning in Old Assyrian Aššur?

**Abstract:** Archaeologists have excavated thousands of clay tablets containing school texts from Old Babylonian Nippur, which has helped researchers to reconstruct the curriculum of scribal students and given them insights into educational practices in the first half of the second millennium. Even though literary texts describe particular school buildings and teachers, professional scribes and scholars presumably taught the art of writing in their own homes during the Old Babylonian period, mainly to their own children and other willing apprentices. Almost nothing is known about this from the Old Assyrian period at the beginning of the second millennium BC, even though literacy was presumably widespread by then. In this paper, a new approach to the subject is introduced, which is based on palaeographic studies and can reveal new insights about the Assyrians' educational practices.

In modern literature, a Sumerian riddle is often quoted when talking about schools in ancient Mesopotamia. The second part of it goes like this: 'One with eyes not opened has entered it; one with open eyes has come out of it'.¹ The answer is: a school. While contemporary buildings and educational structures are certainly not comparable with the respective ancient institutions, the subject of this riddle reveals that places for learning and teaching already existed 4,000 years ago in Mesopotamia.

Most of the written evidence about teaching and schools was found in the city of Nippur and is dated to the Old Babylonian period (the first half of the second millennium BC). The curriculum of that time and place has been able to be reconstructed in some detail from the content of thousands of school tablets that have survived the passage of time. It consisted of an elementary and an advanced phase. In the first phase, pupils mainly copied lexical lists to learn cuneiform

<sup>1</sup> See Sjöberg 1976, 159 for the full text.

<sup>2</sup> More details can be found in Tinney 1999, Veldhuis 1997, Robson 2001 and Proust 2007, for example.

signs and improve their knowledge of Sumerian vocabulary. Subsequently, mathematical and metrological tables were introduced and the students became familiar with everyday texts like contracts and simple proverbs, which would prepare them for the second phase of the curriculum when they would be studying literary texts.

The everyday life of pupils at school, their relations with teachers, the obstacles they encountered and the achievements they experienced are described in several Sumerian literary compositions, which are known as Edubba literature, or 'school stories'. These texts certainly give us insights into the daily challenges of school life, albeit (presumably) in an exaggerated and ironic way. Some scholars like N. Veldhuis, Y. Cohen and S. Kedar have suggested that the school stories describe an ideal school rather than the actual historical situation.<sup>3</sup> In contrast, A. R. George has pointed out that texts of this kind were part of the literary corpus of the Old Babylonian period.<sup>4</sup> Therefore, they certainly looked back on a much longer tradition and mirrored the educational conditions of different times, probably the Ur III period (approx. the twenty-first–twentieth century BC).

The following section focuses on the Old Babylonian period and the city of Nippur in particular, the best-documented time and place in the Mesopotamian educational system.

## 1 A place for learning and teaching

In the Edubba composition called *Schooldays* ('Edubba A'), a pupil describing his daily life says that he 'went to school' and 'went home when the lessons were over'.<sup>5</sup> The word for 'school' in the original Sumerian text is é.dub.ba.a (edubba), which was literally 'the house that distributes tablets'; its former simplified translation as 'tablet house' corresponds to the Akkadian expression *bīt tuppim*.<sup>6</sup> While schools must have already existed much earlier, the first attestations of the term é.dub.ba.a are found in royal hymns of the late second millennium BC. In a hymn about King Šulgi of Ur (2094–2047 BC), the king claims to have attended

<sup>3</sup> Veldhuis 1997, 25; Cohen and Kedar 2011, 230.

<sup>4</sup> George 2005, 132.

<sup>5</sup> See Kramer 1949 for the whole text and a translation.

**<sup>6</sup>** Volk 2000, 2–3.

(and built) an institution of this kind. After the Old Babylonian period, the term was presumably only used as a reminder of past periods.<sup>7</sup>

While *Schooldays* clearly states that the boy left his parent's home to study in a specific type of building, archaeological remains of such educational institutions have not been discovered yet. In fact, private homes have been identified as places for teaching and learning rather than school buildings as we know them today. These private educational environments were identified on the basis of finds of school exercises and specific household furnishings. Probably the most well-known house that was used for this purpose is 'House F' in Old Babylonian Nippur. 1,425 tablets and fragments were found there, more than 90 per cent of which are literary compositions or written exercises connected with education. What is more, unwritten tablets were discovered in the adjacent kitchen, indicating that apprentice scribes made their tablets there before inscribing them in the room next door.9 Houses of this kind were not only identified as 'private schools' in Nippur, but in other cities as well, such as Ur, Isin, Sippar, Tall ad-Dēr and Tall Harmal, based on finds of school exercises. 10

The teaching itself took place in the courtyard, out in the bright light that was necessary for reading and writing. The text of Schooldays indicates that learning took place in the courtyard as well: a pupil is told to sit down and copy what his teacher has written, and his supervisor in this situation is 'the man in charge of the courtvard'.11

#### 2 Teachers and students

In Schooldays (lines 29–41), the pupil mentions various employees at the school in addition to his teacher, such as the overseer of the courtyard (l. 31), the 'keeper of the gate' (l. 38) and a 'man who has a whip' (l. 39). While the number of staff described in this source – ten in all – indicates that the school was quite a large institution, the archaeological finds of the Old Babylonian period paint a different picture of things, questioning the truth of the story. Veldhuis has

<sup>7</sup> Volk 2000, 3-4; Veldhuis 1997, 24.

<sup>8</sup> A detailed description of the house and its findings can be found in Stone 1987 and Robson 2001.

**<sup>9</sup>** George 2005, 130.

<sup>10</sup> Waetzold and Cavigneaux 2009, 296.

<sup>11</sup> Volk 2000, 7 and n. 35–36.

suggested that these job titles may actually only refer to a single person: the teacher.12

As mentioned above, the archaeological findings suggest that education took place in private houses. The teachers were presumably private individuals like scholars, professional scribes or priests. In literary texts, they are sometimes referred to as ummia ('craftsman' or 'expert') or ad.da-é.dub.ba.a ('father of the é.dub.ba.a'). The latter may, again, indicate a family context, 3 while the first expression 'suggests that the work of a scribal teacher was regarded as parallel to that of the carpenter with his trainee'. 14 As in other crafts, it can be assumed that the scribal art was passed on in a family, from father to son and possibly to other boys who the scribe had accepted as apprentices.<sup>15</sup>

The designation of the pupil possibly points to a family background as well, like the similar term for the teacher ('father of the é.dub.ba.a'). In Schooldays, he is called dumu-é.dub.ba.a ('son of the é.dub.ba.a'), but one can also find the title dub-sar-tur ('junior scribe') in colophons. In addition, an advanced student was called šeš-gal ('big brother'); he probably had the task of tutoring the younger pupils.16

#### 3 Learning and teaching

According to the school story called Scribal Activities (Edubba D),<sup>17</sup> the pupil described in it had to go to school 24 days a month. He had three days off, and some festive activities took place on three other days, making 30 days altogether. The literary texts give an impression of what the pupil's daily activities were. Thus, in Schooldays the student talks about his strict teachers, who beat him for doing things wrong and being negligent.<sup>18</sup> In the text entitled *The advice of a* supervisor to a younger scribe (Edubba C),19 the young scribe remembers the

<sup>12</sup> Veldhuis 1997, 25. If George (2005, 129–134) is right about his theory that the Edubba texts originated in the Ur III period and describe 'real' institutions of the past, however, then it is certainly possible that a large number of servants were employed at such a place.

<sup>13</sup> Waetzoldt and Cavigneaux 2009, 295.

**<sup>14</sup>** Veldhuis 1997, 25.

**<sup>15</sup>** George 2005, 131; Volk 2000, 7.

<sup>16</sup> Veldhuis 1997, 25.

<sup>17</sup> See Civil 1985 for the full text.

<sup>18</sup> See Kramer 1949, 205.

**<sup>19</sup>** See Vanstiphout 1997, 590–592 for the whole text.

kindness and help shown by his mentor, who 'guided my hand on the clay and kept me on the right path. He made me eloquent with words and gave me advice' (ll. 10-12). As discussed above, the content of these texts is questionable and therefore the relationship between the teachers and student can hardly be reconstructed with any certainty. However, a scribe's training is described in a few of the texts: in *Scribal activities* (Edubba D), <sup>20</sup> for example, the student gives an account of what he learnt during his apprenticeship. One of the abilities he acquired was being able to read and write in Sumerian, which is thought to be a dead language in the Old Babylonian period. In addition, he learnt reading, writing and accounting. He became familiar with lexical lists and with legal texts.

A curriculum<sup>21</sup> as described in these literary texts was reconstructed from the exercise tablets discovered in private houses, especially in Old Babylonian Nippur. It seems teachers were able to draw on an extensive amount of educational material, partly consisting of texts transmitted for centuries. The curriculum of each city, and indeed each teacher, differed slightly, according to the teacher's preferences and the pupil's particular needs.<sup>22</sup>

The curriculum used in Nippur can be divided into two stages. In the first one, after learning how to make a tablet and press wedges into the clay to make signs, the pupil studied lexical lists, model contracts and proverbs. Veldhuis, who reconstructed the curriculum, also noticed that specific types of tablets were used for the exercises during that phase:<sup>23</sup> 'type II' refers to medium-sized tablets, which have different exercises written on the obverse and reverse. On the left side of the obverse, the teacher wrote an extract from a text which the pupil copied next to it on the right. On the reverse, the student would normally repeat an excerpt of a text written in several columns, which he had previously learnt. Type-III tablets are one-column tablets on which one text or extract was written by a pupil. Type-IV tablets are lentil-shaped, usually have a diameter of 6 to 8 cm and also have a teacher-student exercise written on them.<sup>24</sup> It is assumed that the student was closely supervised by his teacher during the first phase, while he worked more autonomously during the second phase, in which he studied and copied literary texts.<sup>25</sup> Veldhuis also points out that the first phase of the Nippur curriculum reminded him of the achievements of the pupil in the Scribal activities

<sup>20</sup> See Civil 1985 for the full text.

<sup>21</sup> For more extensive information on this topic and further literature, see Tinney 1998, Tinney 1999, Robson 2001, Veldhuis 1997, Veldhuis 2004 and Proust 2007.

<sup>22</sup> See Tinney 1999 and Robson 2001 for more details.

<sup>23</sup> Veldhuis 1997. See Civil 1995 for an earlier classification of the tablets.

<sup>24</sup> Veldhuis 1997, 31-40.

<sup>25</sup> Veldhuis 1997, 40.

text (Edubba D): 'The exercises he refers to all belong to the first phase, including an elementary sign list, a name list, a thematic list, mathematical and metrological tablets, model contracts, and proverbs'.<sup>26</sup>

#### 4 Education in the Old Assyrian period

Merchants from the city of Aššur in modern Iraq operated a trading network in Anatolia. For a long time during the Old Assyrian period (approx. twentieth–eighteenth century BC), the centre of this network was the city of Kaneš (near the modern city of Kayseri in Central Anatolia). Many houses with large private archives have been excavated there. The texts that were discovered in the process document the daily lives and business of the merchants and their families. Larsen assumed that most of the merchants and their families were literate to a certain extent as they had to manage their own daily activities, such as their correspondence, notes and legal documents.<sup>27</sup> However, not much is known about their educational system as the abundant school material familiar from the Old Babylonian period is missing.

Very few texts from the large amount of written material found could be identified as educational material. <sup>28</sup> Cécile Michel divided just over 20 tablets into two main categories: three quarters of them contain mathematical exercises written on lentil-shaped tablets, while the rest consist of various exercises written in columns on rectangular tablets, such as different kinds of lexical lists. <sup>29</sup> The latter mainly contain items important for traders' professional activities, like the names of metals and stones, and terms useful in daily life, like the names of numerous plants and animals. One of those tablets also contains a list of different measurements and weights, which were obviously important for trading. <sup>30</sup> Another tablet lists expressions which can typically be found in letters. The ability to write letters was very important for merchants who travelled around on business as they had to inform and manage their companies and private households while *en route*. These texts – the lists and mathematical exercises – contain useful information for a merchant's day-to-day business. Contentwise,

<sup>26</sup> Veldhuis 1997, 40.

<sup>27</sup> Larsen 1976, 305.

**<sup>28</sup>** See Hecker 1993 on older studies about the school texts from Kaneš and see Donbaz 1985 on the material from Aššur.

**<sup>29</sup>** Michel 2008, 349–351.

**<sup>30</sup>** See Michel (forthcoming) for a detailed discussion of this tablet.

none of these types of text is familiar from the Old Babylonian period (or any other, in fact). However, their formal structure and genre correspond to the educational material covered at primary-school level in the Old Babylonian period: the content was simply adapted to the needs of the Assyrian merchants.<sup>31</sup>

The material presented above was partly discovered in private archives in Kaneš and partly in Aššur and has been dated to the later phase of the Old Assyrian period (level Ib). Michel has suggested that Assyrian children living with their mothers in Aššur were first educated there before joining and working for their family's business. The educational system was probably similar to the Old Babylonian one, but later, when Assyrians had settled in Anatolia and established families there, they may have set up a local educational system as well.32

## 5 From parent to child – a hypothesis

As described above, the profession of a scribe may have been taught like any other craft from the Old Babylonian period. The scribe taught his art to his son and apprentices. Assuming a similar practice existed in the Old Assyrian period is reasonable enough, but hard evidence of this is lacking; the only known written evidence of scribal education is on a clay tablet known as CCT 4, 6e containing a letter in which a son asks his father for a present for his teacher, who is instructing him in the scribal arts.<sup>33</sup> Another approach to analysing literacy and educational practices is therefore suggested here, which focusses on handwriting and palaeographical analysis.

In modern forensic handwriting analysis, 34 it is assumed that every individual develops their own unique handwriting. This evolves from practice, creativity and imitation.<sup>35</sup> Furthermore, each person's handwriting is characterised by class and individual characteristics as well. The latter refers to the individual peculiarities every writer develops and which make each person's handwriting

**<sup>31</sup>** Michel 2008, 351.

<sup>32</sup> Michel 2008, 351.

<sup>33</sup> Also see Larsen 1976, 305, n. 47 and Michel 1998, 250 and n. 2. CCT 4, 6e, 4-8: DUB.SAR-tám wa-dí lá-am-da-ni e-pá-tá-am a-na um-me-a-ni-a šu-bi-lam ('As you know, we are learning the scribal art. Send me an *epattum* garment for my teacher').

<sup>34</sup> See Huber and Headrick 1999 and Koppenhaver 2007 for an extensive explanation of handwriting identification and forensic document examination.

<sup>35</sup> Davis 2007, 260.

unique. Class characteristics, on the other hand, are features shared by a group of people:<sup>36</sup> pupils learn writing by copying their particular teacher's handwriting, for example. Consequently, all the pupils in a certain class learn the characteristics of a specific handwriting style, and their own script will be characterised by it. Class-specific characteristics do not have to be restricted to a group of pupils or students, however, but can be common aspects of a writing system and may also have 'geographic, religious, national, academic, or political boundaries'.<sup>37</sup>

By adapting this theory to the Old Assyrian context where it is believed that children probably learnt to write within their own family, an analysis of parents' handwriting and that of their children could give us some new insights about learning and teaching the art of writing.

#### 6 Elamma's family – a case study

One of the houses excavated in the lower city of Kaneš in 1991 belonged to a merchant called Elamma and his family.<sup>38</sup> A large archive was found in his house containing more than 500 clay tablets, fragments and envelopes.<sup>39</sup> Several generations of the family were able to be identified on basis of these texts: Elamma, the head of the household, his wife Lamassatum and several of their children and grandchildren. Texts from Elamma and two of his children, his son Ennam-Aššur and his daughter Ummī-Išhara, were examined for the present case study. My focus was on comparing their handwriting and gaining insights into educational practices within the family.<sup>40</sup>

The corpus I studied contains seven letters sent by Elamma, three tablets from Ennam-Aššur and two sent by Ummī-Išhara. Not much is known about the personal circumstances and whereabouts of the three individuals. Elamma, the owner of the house and archive, must have lived in Aššur at a certain point in time, which was where he started a family before moving to Kaneš to live (he probably died there later, too). The existence of letters he had sent people can be

**<sup>36</sup>** Koppenhaver 2007, 14.

**<sup>37</sup>** Huber and Headrick 1999, 42–45.

<sup>38</sup> The archive was studied by Klaas Veenhof and then published by him in AKT VIII (2017).

<sup>39</sup> The excavation of the house was continued in 1992 when another part of the archive was discovered (Veenhof 2017, XXVI-XXVII). Assyrian envelopes were made of clay as well. A thin layer of material was wrapped around letters and legal texts to protect the tablet and safeguard legal documents. For a comprehensive overview, see Michel 2020.

**<sup>40</sup>** The following pictures were provided by Cécile Michel.

explained by him being away on business trips and corresponding with his family in Aššur and/or by him keeping archive copies of his own texts at home. His son Ennam-Aššur travelled a great deal in Anatolia, but he also undertook some trips to Aššur. His sister Ummī-Išhara lived in Aššur where she was a priestess. 41 Exactly how long Elamma lived there and whether his children grew up in Aššur or Kaneš is unclear.42

In the following section, the names of the individuals who sent the tablets that are discussed will be abbreviated using their initials: Elamma = EL, Ennam-Aššur = EA and Ummī-Išhara = UI. For easier identification of the tablets. I used the abbreviation of the sender's name followed by the numerical classification that Veenhof employed in his publication, AKT VIII (2017). One letter from Elamma is published in AKT VIII as no. 16, for example, so in this paper it is mentioned as EL016. If a specific sign on a tablet is mentioned, then its line is added after a colon, so a sign in the fifth line of EL016 would be referred to as EL016:5.

# 7 A tablet's shape and typeface

For the analysis and identification of handwriting, not only the script is important, but the object on which it is written – the clay tablet in this case. The tablet's shape, layout and typeface can all provide information about the identity of the scribe who wrote on it.43

Elamma's seven tablets mostly look very similar (see Fig. 1; not every tablet can be shown, just examples from each group). Four of the tablets have straight or slightly convex edges, and pointy corners which have been squeezed to make so-called pillow-corners in some cases (EL016, EL079, EL080, EL081). Two other tablets (EL017, EL082) have a very similar shape, but the upper and lower edges are strongly convex and the edges are pointed. The exception here is EL030 as its edges are crude, the corners being rounded. The shape of this particular tablet hints at the work of an unskilled or untrained scribe; other tablets were formed with much more care and skill.

<sup>41</sup> Veenhof 2017, XXX-XXXV, 121.

<sup>42</sup> Elamma's wife Lamassutum lived with him in Kaneš, but as Veenhof says, 'we do not know whether she moved to Kanesh together with her husband or after he had married her' (Veenhof 2017, XXXII).

**<sup>43</sup>** Koppenhaver 2007, 19–20.







Fig. 1: Tablets by Elamma: EL079, EL017, EL030.

As regards the typeface, my classification is similar to the distinction made for the tablets' shape. One tablet stands out from the others, which is EL030. The ruling on it is straight, but the writing itself is irregular in terms of its height and spacing. The handwriting on the other tablets is regular and clear. In a few cases (EL017 and EL080) the signs are more inclined to the right than usual, which may indicate they were written rather hastily.

The three tablets written by Elamma's son Ennam-Aššur basically have the same shape as Elamma's own. Their edges vary from straight to slightly convex and the corners are pointy (see Fig. 2a). The script on these tablets is very regular and the ruling is straight; the slant seems the same.

The two tablets that Ennam-Aššur's sister Ummī-Išhara sent differ considerably (see Fig. 2b and c). UI206 is a carefully crafted tablet with straight to slightly convex edges and pointy corners and resembles the shape of the tablets her brother and father produced. The other tablet, however, UI165, is a rather crudely formed piece: the tablet, which is almost square, has straight but uneven edges and the corners are almost rounded. Like the crude tablet in Elamma's corpus, this one seems like it was made by a rather untrained person.







Fig. 2a-c: (a) EA189, (b) UI206 and (c) UI165.

The script on UI206 is tiny, but very regular, which points to the work of a very skilled scribe. The ruling is slightly oblique and partly curves upwards on the right. On the other tablet, UI165, the ruling is mostly straight and only curves upwards in a few cases. The script, however, is placed unevenly around the ruling, which gives the typeface a rather imbalanced appearance.<sup>44</sup>

#### 8 Handwriting

Theories on handwriting analysis say that the uniqueness of an individual's handwriting is not in its unique characters, because then there would be all kinds of variants for each character and letter, but in the unique composition of different character variants and individual writing habits. 45 This theory applies to the Old Assyrian cuneiform script as well. By comparing variants of 13 signs that members of Elamma's family wrote with the handwriting produced by another family, 46 it became apparent that two or three main sign variants were frequently used in many cases. Further variants of the respective signs exist as well, but these

<sup>44</sup> Because of the crude form and script as well as occasional mistakes, Veenhof suggested that UI165 might have been written by Ummī-Ishara herself (Veenhof 2017, 231).

<sup>45</sup> Koppenhaver 2007, 14.

**<sup>46</sup>** I conducted this study as part of my PhD project.

are usually only found on individual tablets. The main variants of a cuneiform sign are not exclusive to a specific family, but appear across the board.



Fig. 3: The sign LI on EL080:29a, Ul165:3, EA190:10 and Ul206:5.

However, if we only focus on the tablets that Elamma and his children wrote, it turns out that only the three signs LI, RI and ZI were written with the same sign variant. For example, the *Winkelhaken*<sup>47</sup> part of the sign LI is written on almost every tablet with two enlarged Winkelhaken in the bottom row and three to four smaller ones in the upper row (Fig. 3). The only exception is Ummī-Išhara's tablet UI165. Here, both the upper and bottom row each consist of four Winkelhaken. The sign ZI is not written on every tablet, but the ones containing the sign all show the same variant. The sign RI is another case in point. In contrast to the signs LI and ZI, which clearly show different variations with regard to the number of *Winkelhaken* and their arrangement, the sign RI has a fixed number of wedges. It can therefore only be studied in terms of individual writing habits, i.e. the position of the individual wedges. The sign begins with a horizontal wedge,

<sup>47 &#</sup>x27;Winkelhaken' are triangularly shaped impressions in the clay.

which is crossed by two verticals. This combination is followed by a Winkelhaken and finalised by another vertical. The distinctive feature of the sign is usually the positioning of the two verticals at the beginning. On the tablets that the three letter senders dispatched, it appears that the first vertical was usually placed directly after the head of the horizontal wedge, and the second vertical is basically in the middle of the horizontal, resulting in some space between the second vertical and the following Winkelhaken.



Fig. 4: The sign BA on EL079:17, EA190:4, UI206:9a and UI165:16.

While there are only three signs for which the same variant or writing habits were displayed on almost every tablet, there are several cases where the children's tablets contain similar signs which rarely appear on their father's tablets, if at all: BA, DÍ, KÀ, KÙ and MA. The sign BA was written with three parallel horizontal wedges which ended with an attached vertical, for example (see Fig. 4). While the horizontal stroke in the middle is usually a little shorter than the other two, the one at the bottom could be slightly oblique. However, the latter can also be written horizontally in several cases, as on the tablets of Ennam-Aššur and his sister. The bottom wedge on most of the tablets belonging to their father is clearly an oblique downward stroke, though.

While similar observations can be made regarding the other diagnostic signs mentioned above as well, the sign DÍ (Fig. 5) is a particularly interesting one. On Elamma's tablets, this sign consists of three Winkelhaken in the upper row and one at the bottom. This bottom one is either placed under the middle Winkelhaken of the upper row or under the middle and the right one of the upper row. The variant with three *Winkelhaken* in the upper row and the two different variations are very common on Old Assyrian tablets.



Fig. 5: The sign DÍ on EL030:6, EL081:3, EA190:17, UI206:28 and UI165:18.

On the tablets of his son Ennam-Aššur, however, the sign DÍ is written with four Winkelhaken in the upper row and one at the bottom. Not only the number of Winkelhaken differs here, but they are also written in a peculiar way: the first (left) Winkelhaken in the upper row is larger than the four that follow it. Its tail protrudes beyond the Winkelhaken at the bottom. The three other Winkelhaken are rather small and short, and all of them are positioned on top of the wedge at the bottom. The latter wedge, in contrast, is very large.

If this variant is compared with the DÍ sign on his sister's tablets, it appears that both tablets – although probably written by different people – basically contain the same variant as the one found on Ennam-Aššur's tablets. The bottom Winkelhaken of the sign DÍ is enlarged on both tablets, and a number of small Winkelhaken are positioned on top of it, while an additional larger Winkelhaken is on the left side of the upper row. However, while the number of wedges on UI165 is the same as on Ennam-Aššur's tablets, there is an additional small one on UI206 (so there are four small ones and one larger one in the upper row). Thus, the tablets belonging to the two siblings exhibit the same peculiar version of the sign DÍ even though they were written by three different people.

Another case in point is the sign TIM (see Fig. 6). The discriminating part here is the number and arrangement of the Winkelhaken in the middle of the sign. On two of Ennam-Aššur's tablets (EA189 and EA191), there are two small Winkelhaken impressed next to each other in the middle of the sign, followed by two larger ones. The latter are on a roughly vertical axis, the upper one slightly beneath the upper ruling and the lower one positioned in the lower half of the sign (see Fig. 6). The same variant can be found on Ummī-Išhara's tablet UI165. A different variant is written on her other tablet (UI206), however, which can also be found on her father's tablets.

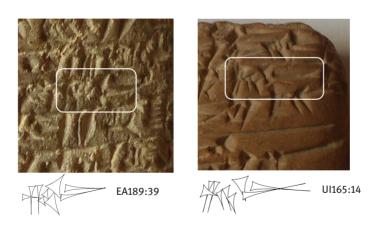


Fig. 6: The sign TIM on EA189:39 and UI165:14.

# 9 The identity of the writer and further conclusions

My analysis of the handwriting showed that the tablets sent by the two siblings have several peculiar similarities (especially UI165 in Ummī-Išhara's case), which they do not share with the handwriting on their father's tablets. Therefore, it is likely that the writers of the siblings' letters may have had a similar educational background. The father's tablets, in contrast, partly show a different writing tradition at work, indicating a different educational background.

What this comparison does not answer is the question of the writers' identity. As mentioned above, the two letters from Ummī-Išhara in particular were written by two different individuals. Ummī-Išhara may have been one of them, but we cannot be sure of that at present. We know that Ennam-Aššur's texts were archive copies which remained in the house in Kaneš while the original tablets were sent to Aššur. Furthermore, it can be assumed that his three letters were sent from other places in Anatolia over a fairly short period. In contrast, his sister's tablets were sent from Aššur, and UI165, which is a crudely made tablet, was certainly not written by a professional scribe; it was someone who was familiar with writing but did not have much experience of it. This latter tablet has the most similarity with the tablets authored by her brother elsewhere in Anatolia. It is certainly possible that the three tablets attributed to Ennam-Aššur and at least UI165 were written by the siblings, but more evidence is needed before we can be sure of that.

Obviously, the question of teaching and learning in the Old Assyrian period cannot be answered by a small-scale case study, especially one in which it is hard to even say who wrote the clay tablets that were examined. However, the study does indicate that some children did not learn to read and write within their own families, or at least not from their fathers, but were taught by someone else. More material is necessary for a more conclusive study on this topic. Nevertheless, the case study shows that a palaeographic comparison can lead to new insights on the topic of teaching and learning by revealing handwriting styles and habits that tell us whether the writers' educational backgrounds were similar or different. This, in turn, can help us reconstruct learning traditions in Assyrian families.

#### **Acknowledgements**

This article is based on my PhD project entitled 'The Identification of Scribal Hands on the Basis of an Old Assyrian Archive', which was carried out within the scope of the work conducted by SFB 950, 'Manuskriptkulturen in Asien, Afrika und Europa' / the Centre for the Study of Manuscript Cultures (CSMC), Hamburg.

All pictures in this article were kindly provided by Cécile Michel, © Kültepe Archaeological Mission.

#### References

- Civil, Miguel (1980), 'Les limites de l'information textuelle', in Marie Thérèse Barrelet (ed.), L'archéologie de l'Iraq du début de l'époque néolithique à 333 avant notre ère. Perspectives et limites de l'interprétation anthropologique des documents. Paris, 13-15 juin 1978, Paris: CNRS, 225-232.
- Civil, Miguel (1985), 'Sur les "livres d'écolier" à l'époque paléo-babylonienne', in Jean-Marie Durand and Jean R. Kupper (eds), Miscellanea Babylonica. Mélanges offerts à Maurice Birot, Paris: Recherche sur les civilisations, 67-78.
- Civil, Miguel (1995), 'Ancient Mesopotamian Lexicography', in Jack M. Sasson (ed.), Civilizations of the Ancient Near East, vol. 4, New York: Charles Scribner's Sons, 2305-2314.
- Cohen, Yoram and Sivan Kedar (2011), 'Teacher-Student Relationships: Two Case Studies', in Karen Radner and Eleanor Robson (eds), The Oxford Handbook of Cuneiform Culture, Oxford: Oxford University Press, 229-247.
- Davis, Tom (2007), 'The Practice of Handwriting Identification', The Library, 8: 251–276.
- Donbaz, Veysel (1985), 'More Old Assyrian Tablets from Assur', Akkadica, 42: 1–23.
- George, Andrew R. (2005), 'In search of the é.dub.ba.a: the ancient Mesopotamian school in literature and reality', in Yitschak Sefati, Pinhas Artzi, Chaim Cohen, Barry L. Eichler and Victor Avigdor Hurowitz (eds), An Experienced Scribe who Neglects Nothing: Ancient Near Eastern Studies in Honor of Jacob Klein, Bethesda: CDL Press, 127-137.
- Hecker, Karl (1993), 'Schultexte vom Kültepe', in Machteld J. Mellink, Edith Porada and Tahsin Özgüç (eds), Aspects of Art and Iconography: Anatolia and Its Neighbours. Studies in Honor of Nimet Özgüç, Ankara: Türk Tarih Kurumu Basımevi, 251–258.
- Huber, Roy A. and Alfred M. Headrick (1999), Handwriting Identification: Facts and Fundamentals, Boca Raton: CRC Press.
- Koppenhaver, Katherine M. (2007), Forensic Document Examination. Principles and Practice, Totowa, NJ: Humana Press.
- Kramer, Samuel N. (1949), 'Schooldays: a Sumerian Composition Relating to the Education of a Scribe', Journal of the Ancient Oriental Society, 69: 199-215.
- Larsen, Mogens Trolle (1976), The Old Assyrian City-State and Its Colonies, Copenhagen: Akademisk Forlag.
- Michel, Cécile (1998), 'Les marchands et les nombres : l'exemple des Assyriens à Kaniš', in Jiři Prosecky (ed.), Intellectual Life of the Ancient Near East. Papers presented at the 43rd Rencontre Assyriologique Internationale, Praque, July 1-5, 1996, Prague: Academy of Sciences of the Czech Republic, 249-267.

- Michel, Cécile (2008), 'Écrire et compter chez les marchands assyriens du début du IIe millénaire av. J.-C.', in Taner Tarhan, Aksel Tibet and Erkan Konyar, Muhibbe Darga Armağanı, Istanbul: Sadberk Hanım Müzesi, 345-364.
- Michel, Cécile (2020), 'Making clay envelopes in the Old Assyrian period', in Fikri Kulakoğlu and Cécile Michel (eds), Integrative Approaches to the Archaeology and History of Kültepe-Kanesh. Proceedings of the 3<sup>rd</sup> Kültepe International Meeting. Kültepe, 4–7 August 2017, Turnhout: Brepols.
- Michel, Cécile (forthcoming), 'Weighing Units and Weights in the Context of Trade from Upper Mesopotamia to Anatolia (Nineteenth and Eighteenth Centuries BCE)', in Karine Chemla, Agathe Keller and Christine Proust (eds), Cultures of Quantification and Computation, Berlin/Heidelberg: Springer.
- Proust, Christine (2007), Tablettes mathématiques de Nippur, Paris: De Boccard.
- Robson, Eleanor (2001), 'The Tablet House: A Scribal School in Old Babylonian Nippur', Revue d'assyriologie et d'archéologie orientale, 93/1: 39-66.
- Sjöberg, Ake W. (1976), 'The Old Babylonian Eduba', in Stephen Lieberman (ed.), Sumerological Studies in Honor of Thorkild Jacobsen on his Seventieth Birthday, June 7, 1974, Chicago: The Oriental Institute, 159-179.
- Stone, Elizabeth C. (1987), Nippur Neighborhoods (Studies in Ancient Oriental Civilization, 44), Chicago: The Oriental Institute.
- Tinney, Steve (1998), 'Texts, Tablets, and Teaching. Scribal Education in Nippur and Ur', Expedition, 40: 40-50.
- Tinney, Steve (1999), 'On the Curricular Settings of Sumerian Literature', *Iraq*, 61: 159–172.
- Vanstiphout, Herman L. J. (1997), 'Sumerian Canonical Compositions. C. Individual Focus. 6. School Dialogues', in William W. Hallo (ed.), The Context of Scripture. I: Canonical Compositions from the Biblical World, Leiden: Brill, 588-593.
- Veenhof, Klaas R. (2017), 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), Ankara: Türk Tarih Kurumu Basımevi.
- Veldhuis, Nicolaas C. (1997), Elementary Education at Nippur. The List of Trees and Wooden Objects, Groningen: Rijksuniversiteit Groningen.
- Veldhuis, Nicolaas C. (2004), Religion, Literature, and Scholarship: The Sumerian Composition 'Nanše and the Birds', Leiden: Brill.
- Volk, Konrad (2000), 'Edubba'a und Edubba'a-Literatur: Rätsel und Lösungen', Zeitschrift für Assyriologie, 90: 1-30.
- Waetzold, Hartmut and Antoine Cavigneaux (2009), 'Schule', in Reallexikon der Assyriologie und Vorderasiatischen Archäologie, vol. 12, Berlin: De Gruyter, 294-309.