

## Writing at margins: Strategies for adjusting cuneiform writing towards the right edge of Hittite tablets\*

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

[In this paper, I will try to show that Hittite scribes consciously adopted a number of writing and perhaps also linguistic strategies to accommodate the text to the limited space they had available at the end of the line and inside the *intercolumnium* or on the right margin of the tablet, exploiting the possibilities offered by the cuneiform writing. This could both shed further light on what we know about scribal habits and textual traditions and contribute to a better understanding of the relationship between language and writing, because it may help distinguish between linguistically-relevant spellings and variants merely intended to solve a problem of space.]

**Keywords:** Hittite, cuneiform writing, cuneiform orthography, scribal practice.

### 1. *The right side of the Hittite page*

As can be easily observed by looking at Hittite tablets, Hittite scribes often show a marked tendency to justify the text through the use of more or less extensive blank spaces both between and inside words. When the text was not long enough to fill the entire length of a line, Hittite scribes often moved the last word, or even the very last cuneiform sign of a word, to the end of the line, leaving a larger blank space from the previous word, or from the penultimate sign of the word, respectively.<sup>1</sup> These were the most common strategies to fill the line when scribes did not want to do it by anticipating textual content that, for whatever reason, was planned for the following line.

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\* While taking full responsibility for what is written in this paper, I would like to thank Federico Giusfredi, Alfredo Rizza, Filip De Decker, and the two anonymous reviewers for their valuable comments. Abbreviations are those of the *Reallexikon der Assyriologie und Vorderasiatischen Archäologie* and the *Chicago Hittite Dictionary*. The font used for Hittite cuneiform is Ullikummi (A, B, C), created by Sylvie Vanséveren, available on the Hethitologie Portal Mainz. Furthermore, the following conventions are employed in the examples quoted in this paper: the indicative beginning of the right edge or *intercolumnium* is marked by ||. If the textual material also exceeds the space on the edge or *intercolumnium* and overflows into the other side of the tablet or the right column, the indicative end of the edge or *intercolumnium* is also marked by ||. As far as sign shapes are concerned, when relevant in the discussion, older forms are marked by a superscript <sup>(O)</sup>, later forms by a superscript <sup>(L)</sup> (e.g., *li*<sup>(O)</sup> =  vs. *li*<sup>(L)</sup> = ). Erasures are marked by a strikethrough text (e.g., ~~ma~~). An arrow (→) marks a sign or a word moved to the end of the line after a more or less large blank space from the preceding text.

1. Cf. Waal 2015: 108, 110. The displacement of the last sign at the end of the line often – but not exclusively – occurs in the last line of the paragraph. In some cases, scribes prefer not to align the last sign or word at the very end of the line, but rather a little before (cf., e.g., KUB 19.37, in which, when the line is not entirely filled, the scribe writes the

In this paper, I will rather investigate the opposite scenario, i.e., when Hittite scribes wanted or needed to include textual material at the end of a line, without wrapping, but there was insufficient available space.

Unlike other cuneiform traditions, Hittite scribes never split words between lines: words were written as a whole at the end of the line, even if this meant crossing the boundaries of the page and overflowing into the *intercolumnium* or the right edge of the tablet.<sup>2</sup> Sporadic examples of words split between two lines point to a non-Hittite scribal tradition, as is the case of KUB 34.1+, the Akkadian treaty between an unknown Hittite king and Paddatiššu of Kizzuwatna (CTH 26), where we find the toponym <sup>URU</sup>Ki-iz- / :wa-ta-ni split between lines 22' and 22'a on the lower edge: some peculiar sign shapes, ligatures, and other writing features (e.g., a quite consistent use of the determinative <sup>KI</sup> after place names) confirm that the scribe did not belong to the tradition of Hattuša.<sup>3</sup>

Besides the impossibility of splitting a word, other factors, less consistent and predictable, could affect the writing of the final part of the lines. I list here some of these factors that I have noticed:

1) Sometimes the constituents of certain phrases are not divided: a genitive may not be separated from its head noun,<sup>4</sup> as well as an adjective or an apposition;<sup>5</sup> nouns in hendiadys<sup>6</sup> and

last word or sign about a couple of centimetres from the right margin; see, e.g., ii 10, 19, 34). Examples of displacement of the last sign can be found, e.g., in KBo 5.3+ (CTH 42.A, NS), KBo 34.79+ (CTH 481.B, NS), KBo 34.92+ (CTH 491.2.B, NS), KBo 34.127 (CTH 535, NS), KBo 34.136 (CTH 544, NS), KBo 34.189 (CTH 645, NS), KBo 40.58 (CTH 582.?, NS), KBo 41.86 (CTH 666, NS), KUB 14.13+ (CTH 378.4.A, LNS), KUB 23.27 (CTH 142.1, NS), KUB 28.12 (CTH 740.1.C, NS), KUB 28.18 (CTH 735, OS<sup>2</sup>/MS<sup>2</sup>), KUB 29.1 (CTH 414.1.A, NS), KUB 32.1+ (CTH 718.1.B, NS). Sometimes, when a scribe who consistently displaces the last sign of a word at the end of the line accidentally writes it immediately after the preceding one, the last sign is erased and regularly written again at the end of the line, after a larger blank space: cf., e.g., KBo 34.79+ ii 46' (*UP-~~𐎗~~ → NI*); KBo 34.127 ii 3' (*ḫi-in-~~kán~~ → kán*); KBo 34.136 rev. 7 (*aš-ku-~~uš~~ ~~𐎗~~ → uš*); KBo 41.86 i 6' (*ŠAH.~~FUR~~ → TUR*); KUB 19.37 ii 19 (*e-ša-~~ri~~ → ri*); KUB 20.28(+) i 3 (*a-ra-an-~~da~~ → da*), ii 4 (*da-a-~~i~~ → i*); KUB 25.2+ i 4' (*[... ú-d]a-a-~~i~~ → i*); KUB 25.42+ ii 30'' (*[ma-nu-u]z-zu-un-~~na~~ → na*); KUB 27.69 v 12 (<sup>LÚ.MEŠ</sup>ALAM.ZU<sup>9</sup>-~~az~~ → az). The same applies to the last word of a line: cf., e.g., KBo 5.3+ i 19 (*nu-ut-ta ~~ma~~ → ma-a-an*); KBo 41.86 i 13' (*[...] <sup>LUGAL</sup> → LUGAL-uš*). In other cases, only traces are found, either erased or not, indicating an aborted attempt to write the last sign immediately after the preceding one, which is then fully written at the end of the line: cf., e.g., KBo 5.3+ i 29 (*te-ek-ku-uš-ša-nu-~~𐎗~~ → ši*); KBo 34.79+ iii 13 (*É DINGIR-X → LIM*); KUB 20.28(+) iii 4 (*e-ep-~~𐎗~~ → zi*); KUB 27.69 v 7 (*an-~~𐎗~~ → da*). Sometimes, spaces between all the words in a line may be wider than usual (cf., e.g., KUB 27.46+ i 27'), and, in rare cases, even all the signs of a single word are spaced out (cf., e.g., *ši - pa - an - ti* in KBo 23.44 iv 9'; *ši - pa - an - ti* in KUB 60.154 obv.<sup>7</sup> 17').

2. Writing in the *intercolumnium* follows the direction of the line as long as there is space, then it can turn and continue running parallel to the vertical column dividers, either upwards (e.g., KBo 16.24+ i 8', 11', 15', 21', 25'; KBo 24.24+ iv 22'') or, rarely, downwards (e.g., KBo 40.118; KUB 21.5+ iv 2; KUB 25.24 iii; KUB 32.32), or it can cross the *intercolumnium* and overflow into the right column (e.g., KBo 18.24 iv 17'; KBo 20.10+ i 4, 6; KBo 40.200 l.c. 5'; KUB 35.16(+) i 5', 6'; DAAM 1.40 iv 22'). Sporadically, writing can turn upwards before the *intercolumnium*, not inside it (e.g., KBo 19.128 i 13; KBo 45.60 ii 12', v 11'; KBo 47.24 l.c. 6'; KUB 24.7 i 16'; KUB 55.28+ i 9'). Sometimes, writing can also cross the right edge and overflow onto the other side of the tablet (cf., e.g., KBo 23.64; KUB 10.13 iii 14'; KUB 14.8 obv. 19'; KUB 32.1+ iii 9; KUB 33.106+ ii 29).

3. Cf. the introduction to the online edition on the Hethitologie Portal Mainz: G. Wilhelm (ed.), *hethiter.net*: CTH 26 (INTR 2014-02-25). For a possible example of a word split between two lines in the Hattian text KBo 19.162(+) l.c. 5-6 (CTH 725.B, MS), see G. Torri – C. Corti (ed.), *hethiter.net*: CTH 725 (TX 01.10.2012, TRit 10.10.2013), with fn. 2.

4. Cf., e.g., KUB 21.1+ ii 30 ... DUMU<sup>ME</sup>||<sup>S</sup> dUTU<sup>Sr</sup>-ya, ii 36 ... A-NA DUMU<sup>M</sup>||<sup>ES</sup> dUTU<sup>Sr</sup>.

5. Cf., e.g., KUB 21.27+ iv 20' ... <sup>d</sup>Me-ez-zu-ul<sup>1</sup>-la-aš GAŠA||N-YA||, iv 26' ... <sup>d</sup>Me-ez-zu-ul<sup>1</sup>-la GAŠAN-YA, iv 33' ... <sup>d</sup>10<sup>URU</sup>Zi-ip-pa-la||-an-da EN-YA, iv 47' ... <sup>d</sup>10<sup>URU</sup>Zi-ip-pa-la-an-da E||N-<sup>d</sup>YA||; KUB 26.22 ii 8' ... a-pé-e-da-aš-ša||-an <sup>d</sup>DINGIR<sup>MEŠ</sup><sup>1</sup>-aš, iii 11' [... ku-i]š im-ma ku-<sup>1</sup>iš<sup>1</sup>|| MUNUS-za.

combined preverbs may not be divided;<sup>7</sup> sometimes, scribes also tend not to separate preverbs from verbs,<sup>8</sup> nor the forms involved in a periphrastic construction (however, examples involving verbs are virtually indistinguishable from the cases in point (2) below).<sup>9</sup> An Akkadian preposition is generally not divided from the noun it governs, even when they are not supposed to represent a single Hittite word;<sup>10</sup>

2) Some scribes show a marked tendency to make the end of a line coincide with the end of a sentence, especially when only few words would be put on the new line, although not consistently and sometimes only limited to specific sections of the text;<sup>11</sup>

3) Scribes may at times faithfully reproduce the lines of the model from which they were copying, i.e., writing the same number of words per line as in the model;<sup>12</sup>

4) A scribe might have accidentally omitted a part of the text and thus been forced to add it later: sometimes, such secondary additions may occur at the end of a line.<sup>13</sup>

Therefore, careful planning of the space was essential, and Hittite scribes could adopt a number of strategies when the space at the end of the line did not seem to be enough, exploiting the different options provided by cuneiform writing, including the use of signs with different shapes, variation in spelling, defective writing, alternation between heterograms and Hittite spellings, etc., besides, of course, choosing to write in smaller characters. In what follows, I will show some of these possible strategies that can be observed around the right margins of the writing area, i.e.,

6. Cf., e.g., KUB 26.22 iii 5' [...] A-NA ÉRIN<sup>MEŠ</sup> ||ANŠE.KUR.RA<sup>HI.A</sup>.

7. Cf., e.g., KBo 40.154 iv 9' ... *še-er ar-ḥa*, 10' ... *še-er a||r-ḥa*; KBo 40.220 obv. 11 [... *š]e-er a||r-ḥa*; KUB 19.54 i<sup>2</sup> 9' ... *pé-ra-a||n pa-ra-a||*; KUB 21.1+ iii 69 ... *ṛiṣ-tar-na|| ar-ḥa*; KUB 31.44+ ii 8 ... *kat-ta-a||n ar-ḥa*.

8. Cf., e.g., KBo 3.4+ i 21 ... EGIR-*pa ti-||ya-nu-un*; i 39 ... *pé-ra-an ṛh||u<sup>1</sup>-i-e-er*; ii 4 ... *pé-ra-an|| ḥu-i-e-er*; ii 37 ... EGIR-*an-d||a pa-a-un*; ii 64 ... *ṛan-da<sup>1</sup> wa-a||ḥ-nu-nu-un*; ii 65 ... *ar-ḥa da-aḥ-ḥu-un*; ii 68 ... *kat-t||a ḥu-wa-iṣ*; ii 73 ... *kat-ta pé-e-ḥu||-te-et*; iii 68 ... *ar-ḥa wa-a||r-<sup>1</sup>nu-nu<sup>1</sup>-un*. Also note ii 11 ... *nu-wa-ra-aš-mu EG||IR-pa* (12) EGIR-*pa Ú-UL pa-iṣ-ta*, where the preverb at the end of line 11 is repeated at the beginning of line 12. However, some exceptions are found: ii 39 ... *pé-||ra-an* (40) *ṛhu<sup>1</sup>-u<sup>1</sup>-i-e-er*; ii 52 ... *ar-ḥa ||* (53) *ṛsar<sup>1</sup>-ra-an-da-at*; ii 76 ... *na-an|| EGIR-pa* (77) [(*u-w*)*a-te-er*]; iii 45 ... *pé-ra-an ||* (46) *ḥu-u-i-e-er*. However, other examples show that the cases quoted here should be probably better understood in the light of a more general tendency of the scribe to make the end of a sentence coincide with the end of a line (cf., e.g., KBo 3.4+ ii 18 ... *nu G<sup>15</sup>kal-mi-ša-na-aš ||pa-it*; ii 19 ... <sup>URU</sup>A-*pa-a-ša-an ||URU-an GUL-aḥ-ta*; ii 26 ... DINGIR<sup>MEŠ</sup>-*ya ḥu-u-ma-an-te-eš ||pé-ra-an ḥu-i-e-er*; ii 35 ... *nu-za-kán <sup>URU</sup>Pu-ra-a||n-da-an e-ep-per*, etc.). Another relevant example could be KBo 18.54 rev. 18' ... *ar-ḥa Ú-UL|| pí-ip-pa||-an-zi*.

9. E.g., the scribe of KUB 17.7+ (CTH 345.I.1.A, NS) never separates by wrapping the two constituents of an ingressive construction with the imperfective supine and the verb *dai-*.

10. Cf., e.g., KBo 20.28 obv.<sup>7</sup> 18' ... *na-an-kán p||A-NI LUGAL* (written turning upwards into the *intercolumnium*).

11. Cf., e.g., KUB 12.15 (especially vi<sup>2</sup> 13'-14'); KUB 15.1+. Sometimes, the will of the scribe to start a new sentence on a new line is made explicit by erasures, e.g., KBo 16.24+ i 24' ... [*ta*]r-na-i ~~na~~ (25') *ṛna-at<sup>1</sup>*; KUB 15.1+ i 8 ... *i-ya-mi ~~na x x~~* (9) *nu-wa-ra-at-za*, i 13 ... *a-ri-ya-u-en ~~na~~* (14) *nu <sup>d</sup>Hé-pát*. See also perhaps KUB 7.60 iii 26', where we find a long erasure at the end of the line, and the traces that can be seen – especially the last sign on the line – are fully compatible with the sequence *ku-iṣ-ma-wa-* occurring at the beginning of the following line (note however that the sign WA is at the very end of the line, and the full sequence is longer – *ku-iṣ-ma-wa-ra-an-za* – so that the scribe possibly erased and started a new line because the full sequence would have not fitted into the few available space at the end of line 26').

12. E.g., it has been suggested that KBo 5.6 (CTH 40.IV.1.A, LNS) fully reproduced a tablet broken in the lower part. Being unable to restore it, the scribe would have faithfully duplicated the original lines, leaving extensive blank spaces where he could not read the text because of the breaks. As far as can be read, the lines of the fragment KBo 14.9 (CTH 40.IV.1.B, NS) perfectly matches the ones of KBo 5.6, so that it is possible that KBo 14.9 represents the model from which KBo 5.6 was copied (cf. Forrer 1926: 33\*, Güterbock 1956: 47, Del Monte 2009: 84, Pisaniello 2015: 267-268).

13. Cf., e.g., KBo 20.10+ i 10 (CTH 669, OS<sup>2</sup>/MS<sup>2</sup>); KUB 14.8 obv. 19' (CTH 378.2.A, NH/NS).

towards the column divider and *intercolumnium* or the right edge of the tablet, as well as inside the *intercolumnium* and on the right edge.

Examples have been collected through a non-systematic survey within the whole corpus of Hittite texts. No preliminary selection criteria were followed. As far as palaeographic dating is concerned, most of the examples come from NS and LNS tablets, a limited number from MS tablets, and only one, although controversial, from an OS tablet. However, given the non-systematic nature of the survey, I would not draw any conclusion based on these data.

In my opinion, acknowledging the possibility that Hittite scribes may have adopted a number of different strategies for adjusting cuneiform writing when compelled by space constraints does not only represent a further piece in the study of Hittite scribal practices, but could also be relevant for a more accurate analysis of the connection between writing and language, because it may, e.g., prevent one from regarding as linguistically-relevant spellings that are occasional, merely intended to solve a problem of space, or from regarding as mistakes what are actually scribal choices.

Furthermore, different scribes – or even scribes belonging to different scribal schools – might opt for different solutions for the same problem, so that a comprehensive study of these strategies could also provide further insights into the scribal habits and possibly help to identify the hands of the different scribes.

Of course, data should not be overestimated: the distinction between mistakes, free variation, and strategies employed by the scribes for a specific purpose can be quite difficult to detect. As a general guideline, the identification of a certain graphic use as a strategy consciously adopted by the scribe at the end of the line is more credible when it is exceptional. In other words, when a given shorter form, mostly (if not exclusively) occurring at the end of the line in a text, contrasts with a concurrent longer variant that is more or less consistently found in the same text where no problems of space are involved, the shorter variant is more likely to be regarded as a form purposely chosen by the scribe to solve an immediate problem of space. However, at the same time, the more consistently a shorter form only occurs at the end of the line, the more likely its status as a conscious strategy: one single occurrence of a given use at the end of the line, contrasting with a consistent different use elsewhere, may be easily regarded as a mistake, but if the same use consistently occurs multiple times only at the end of the line, the likelihood increases that it represents a deliberate strategy.

As a final remark, we should not expect full consistency: both the constraints listed above and the solutions adopted by the scribes that will be presented in the next sections should by no means be regarded as universal, and the same scribe may be inconsistent, even within the same tablet.

## 2. *Writing strategies*







Most of the strategies I observed to adapt the text to the available space in Hittite tablets involve the writing dimension and exploit typical features of the cuneiform script, such as different sign shapes, homophony, variation in spelling, heterography, etc.

Examples given for each category follow the same schema: first, the form showing the phenomenon involved is given, followed by those displaying the more or less consistent opposite use (usually when no problems of space are involved); finally, possible counterexamples are provided, i.e., forms attested on the same tablet showing the same phenomenon found at the end of

the line but in contexts in which no problems of space occur.<sup>14</sup> A brief commentary may follow when some remarks are needed. Uncertain and even unlikely examples have been included and discussed, in order to highlight some methodological issues.

### 2.1. *Sign shapes*

Normally, each Hittite cuneiform sign occurred with a number of different shapes that slightly differ from each other, but sometimes the differences are more considerable and affect the space required for the sign. The most significant differences concern a limited set of signs, whose different shapes also show a quite clear chronological distribution. Particularly, as suggested by van den Hout (2012), a peripheral innovative variant of some Old Babylonian signs, characterising the cuneiform script of Alalah VII and, as a consequence, the Old Hittite ductus that probably depended on it, came to be replaced in later times by the standard Old Babylonian variants, already present to a lesser extent at Alalah and in Old Hittite, possibly as a consequence of the diplomatic relationships with other international powers, which employed the standard Babylonian language and script.<sup>15</sup>

In three cases, the older sign shape is markedly longer than the later one – i.e., LI (older  vs. later ) , AK (older  vs. later ) , and KÜ (older  vs. later ) – so that scribes usually employing the older sign shape may opt for the shorter later one when the space at the end of the line is insufficient.

#### a. *Examples with LI*

- (1) KBo 1.28 (CTH 57, NS; scribe: Tattiya)  
 12 ... <sup>m</sup>pi-ya-||š*li*<sup>(L)</sup>  
 vs. pi-ya-aš-š*li*<sup>(O)</sup> (line 5); <sup>m</sup>pi-ya-š*li*<sup>(O)</sup> (line 10).  
 Counterexamples: šal-*li*<sup>(L)</sup> (line 14).

Also note the defective writing of the geminate -šš- in lines 10 and 12 (see example (26) below).

- (2) KUB 26.68 (CTH 126.3, NH/LNS)  
 i<sup>?</sup> 6' ... <sup>m</sup>Šu-up-pi-lu||-*li*<sup>(L)</sup>-ya-ma<sup>16</sup>  
 vs. *le*<sup>(O)</sup>-e (ii<sup>?</sup> 6').  
 No counterexamples.

14. As an anonymous reviewer remarked, one should also regard as counterexamples those cases in which a non-space-sparing variant occurs at the end of the line where the space is limited, and we could expect a shorter form. This is true, but, generally, these cases are difficult to evaluate, as they may simply depend, e.g., on the scribe's assessment of the space available, which may sometimes have been overestimated, or on the form occurring in the model (in case of copied texts), or on personal writing habits (i.e., the longer form may have been the most customary one for a given scribe, who may sometimes have written it mechanically, regardless of the space available). In other cases, the amount of overflowing material may have influenced the scribe's choices: e.g., a given scribe may not have cared too much about one or two signs overflowing into the *intercolumnium* or the right edge, but may have wanted to avoid the text overflowing into the right column or the other side of the tablet, thus employing space-sparing strategies only in the latter cases. Therefore, these examples will only be taken into account sporadically, when a plausible explanation can be glimpsed. However, the position of the margin will be indicated wherever I have the impression that the available space was rather limited to the extent that the scribe could have opted for a shorter variant.

15. Cf. van den Hout 2010: 104-105.

16. After *li*, writing turns upwards into the *intercolumnium*.

Uncertain because no other LI occurs in the fragment.

- (3) KUB 27.67+ (CTH 391.1.A, NS)  
 i 4 ... [G]<sup>iš</sup> *hu-wa-al-li<sup>(L)</sup>-i*||š  
 ii 5 ... *hu-ul-li<sup>(L)</sup>-i*||š  
 ii 9 ... *hu-u-ur-ta-al-l*||*i<sup>(L)</sup>-en-zi*  
 ii 34 ... *hu-u-l*||*a-li<sup>(L)</sup>-i-e-ez-zi*  
 iii 9 ... *hu-ul-li<sup>(L)</sup>-iš* ||  
 iii 38 ... *hu-u-la-a-li<sup>(L)</sup>*||-ya-zi  
 vs. <sup>GIS</sup>*h*||*u-<sup>r</sup>wa-al<sup>r</sup>-li<sup>(O)</sup>-iš* || (i 2); *h*||*u-u-ur-ta-a*||*l*||*li<sup>(O)</sup>-in-zi*<sup>r</sup> (i 8); *har-pa-na-al<sup>r</sup>-li<sup>(O)</sup>-ya-aš* (i 22); *le<sup>(O)</sup>-e-wa-r*||*u-uš* (i 30); *hu-u-<sup>r</sup>la-a-li<sup>(O)</sup>-e*||-ez-z||*i* (i 34); *hu-ul<sup>r</sup>-li<sup>(O)</sup>-iš* (ii 3); *le<sup>(O)</sup>-e-aš* (ii 31); *h*||*u-ul-li<sup>(O)</sup>-iš* (iii 7); *le<sup>(O)</sup>-e* (iii 35); *hu-ul-li<sup>(O)</sup>-iš* (iv 9'); *le<sup>(O)</sup>-e* (iv 11'); *gul-li<sup>(O)</sup>-ya* (iv 33').

Counterexamples: *hu-u-ur-tal-li<sup>(L)</sup>-iš-ša* (iii 14).

The shape of broken LI in *har-pa-na-al<sup>r</sup>-l*||*i-ya-aš* in ii 22 is not clear from the photograph, but, according to the hand-copy, the old shape seems to be likely. Note that the only counterexample (iii 14), is quite close to the end of the line: ... *hu-u-ur-tal-li<sup>(L)</sup>-iš-ša iš-na-<sup>r</sup>aš<sup>r</sup>* ||.

- (4) KUB 12.2+ (CTH 526.17, LNS)  
 ii 5' ... <sup>DUG</sup>*har-ši*||-ya-al-*li<sup>(L)</sup>*  
 vs. <sup>m</sup>*Du-ud-du-ul-li<sup>(O)</sup>-iš* (i 14'); <sup>m</sup>*Du-ud-du-wa-al-li<sup>(O)</sup>-iš* (i 16'); <sup>HUR.SAG</sup>*ú-ut-ta-li<sup>(O)</sup>-ya-aš* (iii 11); *Za-wa-al-li<sup>(O)</sup>-ya* (iii 15); <sup>d</sup>*Pu-ri-li<sup>(O)</sup>-mi-iš* (iii 22); <sup>DUG</sup>*har-ši-ya-al-li<sup>(O)</sup>* (iv 1, 3, 5); <sup>URU</sup>*Tar-ma-li<sup>(O)</sup>-ya* (iv 10); <sup>m</sup>*Du-ud-du-wa-al-li<sup>(O)</sup>-i-iš* (iv 20).  
 No counterexamples.

- (5) KUB 20.42 (CTH 611.1.B, NH/NS)  
 i 1 ... <sup>m</sup>*Tu-ut-<sup>h</sup>a-li<sup>(L)</sup>-ya-aš* LU||GAL GAL||  
 vs. <sup>m</sup>*Ha-at-t*||*u-ši-li<sup>(O)</sup>* (i 3); <sup>m</sup>*Mu-ur-ši-li<sup>(O)</sup>* (i 4); <sup>m</sup>*Tu-ut-<sup>h</sup>a-li<sup>(O)</sup>-ya* (i 5).  
 No counterexamples.

- (6) KUB 20.59+ (CTH 616.2.A, LNS; scribe: Naninzi)<sup>17</sup>  
 ii 9' ... <sup>d</sup>*Ka-a*||-*li<sup>(L)</sup>-en*||  
 vi 1 ... <sup>d</sup>*Ka-al-li<sup>(L)</sup>*||-ya  
 vs. <sup>d</sup>*Ka-al-li<sup>(O)</sup>* (vi 16).  
 Counterexamples: *me-<sup>r</sup>ma-li<sup>(L)</sup>-it<sup>r</sup>* (v 26).

Quite uncertain because the old shape of LI only occurs once in the preserved text. Broken <sup>d</sup>*Ka-a-l*||*i* in i 2' and <sup>d</sup>*Ka-a-l*||*i-in* in i 12' cannot be evaluated.

- (7) KUB 59.22+ (CTH 627, NS)  
 iii 17' ... *pár-šu-u*||*l-li<sup>(L)</sup>*  
 iii 22' ... *p*||*ár-šu-ul-<sup>r</sup>li<sup>(L)</sup>*||  
 vs. [<sup>URU</sup>*Ti-iš-ša-ru-l*||*i<sup>(O)</sup>-ya-aš* (ii 6)]; [<sup>URU</sup>*Ti-iš-ša-ru-li<sup>(O)</sup>-y*||*a* (ii 7)];  
 Counterexamples: *par-šu<sup>r</sup>-ul-l*||*i<sup>(L)</sup>* (iii 21').

17. The unpublished fragment Bo 9400 has not been considered.

In this case, however, the distribution of the two variants could also relate to the different lexemes: *paršulli* consistently displays the late shape of LI, while *Tiššaruliya* the old shape.

- (8) KUB 12.12 (CTH 628.Tf03.C, NS; scribe: Ḫulanapi)  
 vi 3 ... *za-al-l|ī<sup>(L)</sup>*  
 vi 42 ... <sup>d</sup>*Li<sup>(L)</sup>*[- ||  
 vs. <sup>d</sup>*Li<sup>(O)</sup>*-*lu-r*[*a* (iv 2); *šu-wa-le<sup>(O)</sup>*-*e-eš* (v 7, 12);<sup>18</sup> <sup>d</sup>*Li<sup>(O)</sup>*-*lu-ri* (v 16, vi 15); <sup>d</sup>*Li<sup>(O)</sup>*-*lu-u-ri* (vi 17); *le<sup>(O)</sup>*-*e-la* (vi 36); <sup>d</sup>*Le<sup>(O)</sup>*-*el-lu-ri-ya* (vi 41).  
 Counterexamples: <sup>d</sup>*Le<sup>(L)</sup>*-*el-lu-ri* (v 20); *le<sup>(L)</sup>*-*e-lī<sup>(L)</sup>* (vi 4); <sup>d</sup>*Li<sup>(L)</sup>*-*lu-u-ri* (vi 7, 27); <sup>d</sup>*Le<sup>(L)</sup>*-*el-lu-u-ri* (vi 9).
- (9) KUB 58.38 + KUB 20.24 (CTH 645.2, NS)  
 i 12' ... <sup>d</sup>*Šu-wa-l|ī<sup>(L)</sup>*-*az*||  
 vs. <sup>d</sup>*Ma-lī<sup>(O)</sup>*-*ya-aš* (i 27', ii 10', 12', iii 26'); <sup>GIS</sup>*ŠEN-lī<sup>(O)</sup>* (ii 13', 21', iii 3', 14', 21', iv 6', 10', 14', 24', 29', 33', 37').  
 No counterexamples.
- (10) KUB 58.72 (CTH 666, NS)  
 ii 20 ... <sup>NINDA</sup>*pár-šu-ul-l|ī<sup>(L)</sup>*  
 ii 21 ... <sup>NINDA</sup>*pár-šu-ul-l|ī<sup>(L)</sup>*  
 vs. *ḫa-a-lī<sup>(O)</sup>*-*ya* (ii 12); <sup>NINDA</sup>*pár-šu-ul-lī<sup>(O)</sup>* (ii 19).  
 Counterexamples: <sup>d</sup>*Te-lī<sup>(L)</sup>*-*pí-nu* (ii 21); <sup>NINDA</sup>*pár-šu-ul-lī<sup>(L)</sup>* (ii 23).

Note that after the first instance of late LI (ii 20), probably depending on problems of space, all the others, occurring quite close to it, show the late shape.

- (11) KBo 21.109+ (CTH 741.1.B, NS)  
 i 19' ... *te-eg-ga-ḫu-l|ī<sup>(L)</sup>*-*in*  
 i 29' ... <sup>É</sup>*ḫa-le<sup>(L)</sup>*-<sup>Γ</sup>*en-tu-wa-az*<sup>1</sup> ||<sup>19</sup>  
 ii 8' ... *me-mi-ga-an-ta-lī<sup>(L)</sup>*-*pa-r*||*u-u*  
 ii 15' ... <sup>URU</sup>*Ti-iš-ša*||-*ru-lī<sup>(L)</sup>*-*ya*  
 iv 16 ... *me-i*||-*lī<sup>(L)</sup>*-*i*  
 iv 23 ... *du-u-w*||*a-a-lī<sup>(L)</sup>*  
 vs. *a-l|ī<sup>(O)</sup>*- ...] (i 5'); *a-lī<sup>(O)</sup>*-*na-i-u* (i 7'); *lī<sup>(O)</sup>*-*na-a mu-u<sub>2</sub>-wa-lī<sup>(O)</sup>*-*na-a* (i 8'); *an-te-eg-ga-ḫu-lī<sup>(O)</sup>* (i 9'); *te-eg-ga-ḫu-lī<sup>(O)</sup>* *te-eg-ga te-eg-ga-ḫu-l|ī<sup>(O)</sup>* (i 11'); *a-i-lī<sup>(O)</sup>*-*na* (i 13'); *a-lī<sup>(O)</sup>*-*i-na-i-u lī<sup>(O)</sup>*-*i-na-i-u\** (i 15'); *lī<sup>(O)</sup>*-*na-a mu-ú-wa-lī<sup>(O)</sup>*-*na* (i 16'); *an-te-eg-ga-ḫu-lī<sup>(O)</sup>* (i 17'); <sup>Γ</sup>*te-eg<sup>1</sup>*-*ga-ḫu-lī<sup>(O)</sup>* (i 19'); [<sup>É</sup>*ḫa-l|ī<sup>(O)</sup>*]-*in-tu-u-wa-az* (i 21'); [<sup>É</sup>*ḫa-le<sup>(O)</sup>*]-*en-tu-u-wa-ša-aš* (i 27'); [<sup>É</sup>*ḫa-le<sup>(O)</sup>*]-*e[n-tu-(u)-w]a-a*||*z* (i 31'); *me-iš-ga-an-ta-lī<sup>(O)</sup>*-*pa-ru* (ii 7'); *ta-a-lī<sup>(O)</sup>*-*i* (iv 17); *mu-ú-lī<sup>(O)</sup>*-*ya* (iv 20); *zi-i-la-a-lī<sup>(O)</sup>* (iv 22); *a-ú-lī<sup>(O)</sup>* *a-ú-lī<sup>(O)</sup>*-*ya* (iv 24); *zu-lu-lī<sup>(O)</sup>*-*ya-ma pá-r-ku-lī<sup>(O)</sup>*-*ya-ma* (iv 25); *du-up-pa-lī<sup>(O)</sup>* (iv 26); *me-i-lī<sup>(O)</sup>* (iv 30).  
 Counterexamples: [*te-e*]-*g-ga-ḫu-Γlī<sup>(L)</sup>*<sup>1</sup> (i 3'); *le<sup>(L)</sup>*-*e-ma* (i 4'); *lī<sup>(L)</sup>*-*i-na-i-u* (i 7'); *a-wa-lī<sup>(L)</sup>*-*i-ya-an-na* (iv 21); *du-wa-a-lī<sup>(L)</sup>*-*ya-an-ta* (iv 24);<sup>20</sup> *du-up-pa-lī<sup>(L)</sup>*-*ya-an-ta* (iv 27); *me-i-lī<sup>(L)</sup>* *me-i-lī<sup>(L)</sup>* (iv 29).

18. In both cases, the right margin is close: *šu-wa-le<sup>(O)</sup>*-*e-eš* <sup>Γ</sup>*ki-||lu-uš<sup>1</sup>*|| (v 7); *šu-wa-le<sup>(O)</sup>*-*e-e*||š (v 12).

19. Also note the lack of *scriptio plena* in *-tu-wa-*, consistent elsewhere (see example (50) below).

20. Perhaps triggered by preceding *du-u-w*||*a-a-lī<sup>(L)</sup>* at the end of iv 23.

A marked tendency can be observed to use the older LI (possibly the most frequent variant in the older model from which the tablet was copied) vs. the later one – 27 vs. 14 examples – but the later LI consistently occurs inside the *intercolumnium* and on the right edge, when problems of space are found (6 examples), and sporadically elsewhere (8 examples, some of which may be not real counterexamples).

*b. Examples with AK*

- (12) KUB 13.3(+) (CTH 265.1, NS)  
i 3' ... SA]G<sup>2</sup>.DU-aš|| **ak**<sup>(L)</sup>-ka<sub>4</sub>-tar||  
vs. *ḥar-ak*<sup>(O)</sup>-ti (i 9'); *ga-ag*<sup>(O)</sup>-ga-pa-an-ma-aš-[m]a-aš (ii 12'); *mar-ak*<sup>(O)</sup>-te-ni (iv 25', 32'); *mar-ak*<sup>(O)</sup> (iv 27').

Counterexamples: **ak**<sup>(L)</sup>-ta (iii 35); *k]a-ag*<sup>(L)</sup>-ga-pa-an (iv 13').

Note that *ḥar-ak*<sup>(O)</sup>-ti in i 9' is written in the *intercolumnium* (the two final horizontal wedges of the older AK overflow into col. ii, while TI is written turning upwards into the *intercolumnium*), as well as *mar-ak*<sup>(O)</sup> in iv 27', and both occurrences of *mar-ak*<sup>(O)</sup>-te-ni (iv 25', 32') are also at the end of the line, partly overflowing into the *intercolumnium*. In **ak**<sup>(L)</sup>-ka<sub>4</sub>-tar (i 3'), also note, perhaps, the use of ka<sub>4</sub> = QA as a possible further strategy to shorten the form.

- (13) KUB 14.11+ (CTH 378.2.B, NH/LNS)  
43' ... **ak**<sup>(L)</sup>-kán-zí||  
iv 10' ... **ak**<sup>(L)</sup>-ká||n-zí  
vs. **ak**<sup>(O)</sup>-ki-iš[-ke-et-ta-ri] (i 8'); *ḥu-u-da-ak*<sup>(O)</sup> (ii 6); **ak**<sup>(O)</sup>-ki-iš-ke-et (ii 30); **ak**<sup>(O)</sup>-ki-iš-ke-et'-||ta-ri (ii 35); **AK**<sup>(O)</sup>-šU-UD (ii 37).  
No counterexamples.

- (14) KUB 35.148+ (CTH 412.1.2.A, NS)  
iii 12 ... ša-**ak**<sup>(L)</sup>-tí||  
iii 13 ... ša-**ak**<sup>(L)</sup>-t||i  
vs. *ga-ak*<sup>(O)</sup>-kar-ta-an<-ni>-ya-aš-ša-aš (iii 19); *ga-ak*<sup>(O)</sup>-kar-ta-ni-y[a- (iii 33); *da-ak*<sup>(O)</sup>-ku-da-ku-wa-a[n (iii 38); *da-ak*<sup>(O)</sup>-ku-da-<sup>Γ</sup>ku-wa-a<sup>1</sup>-e[r] (iii 40); *da-ak*<sup>(O)</sup>-da-ku-wa-a-e[r] (iii 41); *d]a-ak*<sup>(O)</sup>-ku-da-ku-wa-at-ta-a[t] (iii 44).  
No counterexamples.

- (15) KUB 30.24+ (CTH 450.I, LNS)  
ii 1 ... *ḥar-ak*<sup>(L)</sup> ||  
vs. GA.KIN.AG<sup>(O)</sup> (i 14''); **ak**<sup>(O)</sup>-kán<-za> (iii 38'); **ak**<sup>(O)</sup>-kán-za (iii 40'); *ma-ak*<sup>(O)</sup>-ku-[y]a-aš-ša-an (iv 5'); *ma-ak*<sup>(O)</sup>-ku-ya-an (iv 8').  
No counterexamples.<sup>21</sup>

- (16) KBo 42.1 (CTH 555, NS)  
i 9' ... iš-ta-**ak**<sup>(O)</sup>-k||a<sub>4</sub>-**ak**<sup>(L)</sup>  
No other comparable forms.  
Perhaps also note the use of ka<sub>4</sub> = QA instead of longer KA.

21. Also note that in KUB 39.7+ (a different tablet, but probably written by the same scribe, as suggested in Pisaniello 2020a) the older AK is consistently found (20 times), while the later AK only occurs in *la-ak*<sup>(L)</sup>-nu-u-[wa-an-zí] in iii 53, although no problems of space seem to be involved.



c. Examples with  $K\dot{U}$

- (17) KUB 55.54+ (CTH 652, LNS)  
 i 12' ...  $K\dot{U}^{(L)}$ .SI||G<sub>17</sub>  
 vs.  $K\dot{U}^{(O)}$ .GA (i 11').  
 No counterexamples.
- (18) KUB 12.53+ (CTH 780.II.Tf01.C, NS)  
 i 11' ...  $K\dot{U}^{(L)}$ .BABBAR  $K\dot{U}^{(L)}$ .SIG<sub>17</sub>|| *te-pu*  
 vs.  $K\dot{U}^{(O)}$ .BABBAR (i 3', 6').  
 No counterexamples.

2.2. Variant spellings

Cuneiform writing provided Hittite scribes with different ways to write the same syllable: a good degree of homophony made a set of interchangeable signs available with the same value, and some CV-VC sequences could be replaced by CVC signs. Such possibilities were most welcome when the space at the end of the line was insufficient: Hittite scribes could opt for shorter homophonous sign (e.g.,  $ka_4 = QA$  𐎗 vs. longer  $KA$  𐎗𐎗 or  $GA$  𐎗𐎗;  $li_{12} = LI\check{S}$  𐎗 vs. longer  $LI$  𐎗𐎗; etc.)<sup>22</sup> and CVC signs (e.g.,  $ket_9 = KAT$  𐎗 vs.  $ke-et$  𐎗𐎗) in order to make the text fit in the available space.

Of course, a careful investigation into the text is needed in order to ascertain whether a given use is actually a strategy for solving space problems and not the typical use of the scribe of the tablet. For example, in KBo 3.4+ ii 35 (CTH 61.I.A, NS), we find at the end of the line <sup>URU</sup>*Pu-ra-||an-da-an e-ep-per*, where *per* corresponds to the sign UD (𐎗), clearly shorter than the sequence *pé-er* (𐎗𐎗). Although such a value is quite rare in Hittite, one should note that: (1) the scribe of KBo 3.4+ employs it consistently in the verbal form *ēpper* (cf. ii 34 and iv 37'); (2) more generally, *e-ep-per* is a quite common spelling, while *e-ep-pé-er* seems to occur more rarely.<sup>23</sup> Therefore, the spelling *e-ep-per* in KBo 3.4+ cannot be regarded as a strategy to make the text fit into the line.

a. Examples in which a longer sign is replaced by a shorter homophonous sign

- (19) KBo 5.6 (CTH 40.IV.1.A, LNS)  
 i 18 ... <sup>URU</sup>*Qa*||-aš-*ga*-aš<sup>24</sup>  
 vs. <sup>URU</sup>*Ga*-aš-*ga*-aš (i 14, 30, 44); <sup>URU</sup>*Ga*-aš-*ga* (i 15).  
 No counterexamples.
- (20) KBo 18.46 (CTH 186, NS)  
 obv. 1 ... <sup>m</sup>*A-ra-an-h*||*a-pí-li*<sub>12</sub>-*i*||z-*zi*  
 No comparable forms, but the name is usually written with LI elsewhere (while  $li_{12} = LI\check{S}$  𐎗).<sup>25</sup>

22. For the possible use of the sign E to spell /ja/, see point 3.3. below.

23. Cf. HW<sup>2</sup> E: 49.

24. After the second QA, writing turns upwards into the *intercolumnium*.

25. See Laroche 1966: 37.

(21) KUB 20.90 (CTH 649.III.1, NS)

iii 11 ... 1 <sup>NINDA</sup>LA-AB-KA<sub>4</sub>||

vs. 1 <sup>NINDA</sup>LA-AB-KÀ (iii 6)

No counterexamples.

Note *ka*<sub>4</sub> = QA (𐎧𐎺) vs. longer *kà* = GA (𐎧𐎺𐎠).

*b. Examples in which a CV-VC sequence is replaced by a shorter CVC sign*

(22) KBo 3.4+ (CTH 61.I.A, NS)

i 8 ... Ú-UL-<sup>l</sup>y||a<sup>1</sup> ku-i-e-eš ku-u-ru-ri-ya-ah-<sup>h</sup>e-||eš-**ker**<sup>26</sup>

iv 47' ... tar-ah-<sup>h</sup>e-eš-**ke**||r

vs. °-ke-er (?), but only ša-ku-wa-an-da-ri-eš-**ke-er** in i 18 is found.

Counterexamples: te-ep-nu-uš-**ker** (i 24).

Very uncertain: three examples out of four show °-ker, one (i 24) in the middle of the line, when no problems of space occur. Also, in iv 47' there would have been enough space for °-ke-er. All in all, °-ker seems to be the first choice for the scribe of KBo 3.4+ (as well as other CVC signs in place of CV-VC sequences: *per*, *liš*, *šer*, etc.). Perhaps, °-ke-er in i 18 could rather be a (quite insufficient) strategy to fill a large blank space.

(23) KBo 18.186 (CTH 250, NS)

l.e. 4 ... 6 <sup>TUG</sup>tar-ya-na-**liš**||

vs. °-li-iš (?), but no comparable forms.

This is possible, but not assured: no other °-liš and no examples of °-li-iš occur in the fragment. However, after <sup>TUG</sup>tar-ya-, the writing turns upwards, because the line was interrupted by a word belonging to rev. 11', written on the left edge by the scribe. The space between the sign NA and the beginning of rev. 10' was minimal and only LIŠ would have fit (but we do not know whether, in a different context, the scribe would have used LIŠ anyway).

(24) KUB 33.93+ (CTH 345.I.1.A, NS)

iv 23 ... pá<sup>r</sup>-<sup>l</sup>ki<sup>1</sup>-iš-**ket**<sub>9</sub>-t||a-ri

vs. consistent °-ke-et-° elsewhere, cf. na-iš-**ke-et-ta** (iv 3, 4); wa-al-<sup>h</sup>i-i]š-**ke-et-ta-ri** (iv 25); ka]r-pé-eš-**ke-et-ta-ri** (iv 31).

Counterexamples: [p]ár-ki-iš-**ket**<sub>9</sub>-ta-ri (iv 24).

This is valid unless the verbal form should be actually interpreted as /parkiskattari/. The use of *ket*<sub>9</sub> (= KAT) in the only counterexample may have been triggered by the very same verbal form in the preceding line.

(25) KBo 21.12(+) (CTH 767, NS)

20' ... pa-ap-pár-š<sup>u</sup>-u-wa-an-z[i]||

vs. pa-ap-**pa-ar**-š<sup>u</sup>-u-wa-an-zi (line 22').

Counterexamples: pa-ap-**pár**-aš-ke-«ez»-<sup>\*</sup>mi<sup>\*</sup> (line 19'); pa-ap-**pár**-aš-ke-mi (line 22').

This example may appear controversial, because spellings with *pár* are prevalent for the verb *papparš*- 'sprinkle' on this tablet (and only one of them occurs at the end of the line), while *pa-ar*

26. After *ku-i-*, writing turns upwards inside the *intercolumnium*: the second || marks the beginning of the upper edge.

is only found once. However, Kloekhorst and Mens (2021) recently suggested that spellings with *CaR* and *Ca-aR* may have not been entirely equivalent to each other: consistent spelling with *CaR*, to be interpreted as /CəR/, generally reflected PIE \*CeR or \*C<sub>ṛ</sub>, while alternation between *CaR* and *Ca-aR*, to be understood as /CaR/, can be generally traced back to PIE \*CoR. According to this hypothesis, the infinitive *papparšūwanzi*, reflecting \*pV-pórs-wen-ti,<sup>27</sup> is the only form in this text for which an alternation between *pár* and *pa-ar* would be expected, while the two imperfective forms in -*ške/a-* listed as counterexamples here were regularly built on the weak stem (\*pV-prs-ské/ó-) and thus should consistently display *pár*.<sup>28</sup> Therefore, were this hypothesis correct, the two alleged counterexamples would not be relevant, and one could explain the alternation between *pa-ap-pár-šu-u-wa-an-zi* and *pa-ap-pa-ar-šu-u-wa-an-zi* by taking into account the space available to the scribe: the shorter variant with *pár* was selected at the end of the line, while the longer one with *pa-ar* occurred at the beginning of the line.<sup>29</sup>

### 2.3. Defective writings

A possible way to shorten a sequence of cuneiform signs might involve dispensing with signs that were perhaps not entirely necessary, e.g., signs marking geminate consonants, *scriptio plena*, determinatives, etc. Although such elements were relevant, they could have been easily retrieved by scribes who knew the language, so that their absence would probably not have seriously affected the understanding of the text.<sup>30</sup> Therefore, while the examples listed in this section are generally regarded either as mistakes or as alternative spellings in free variation (and in some cases they may actually be so), I would suggest the possibility that some of them could represent spellings consciously chosen to make the text fit into a limited available space.

#### a. Involving geminate consonants

(26) KBo 1.28 (CTH 57, NS; scribe: Tattiya)

10 ... <sup>m</sup>*pí-ya-ši-l*||<sup>i</sup>(<sup>O</sup>)

12 ... <sup>m</sup>*pí-ya-*||*ši-li*(<sup>L</sup>)

vs. *pí-ya-aš-ši-li*(<sup>O</sup>) (line 5).

No counterexamples.

Also note the late variant of LI in line 12 (see example (1) above).

(27) KBo 16.31 (CTH 212.14, MS)

6' ... *ti-ta-*||*nu-uš-ke-e*[*z-zi*]

vs. *ti-i*[*t-t*]*a-nu-z*||[*i*] (line 10').

No counterexamples.

27. See Kloekhorst – Mens 2021: 247.

28. See Kloekhorst – Mens 2021: 245-246.

29. See Kloekhorst – Mens 2021: 246 fn. 18.

30. On this issue, see, e.g., the important remarks by Melchert (2016: 191): “Native speakers *know* how the words of their language are pronounced and also the grammar that predicts where they will occur, and writing systems (especially those used by a small elite) need only give just enough clues for another native speaker reader to successfully identify the word intended. Examples like the Anatolian hieroglyphs for Luvian and Linear B for Mycenaean Greek show just how much information can be omitted! Many factors determine spelling practices in a given tradition: aesthetics (important in the Anatolian hieroglyphs used for public inscriptions), convention, convenience, and above all simply imitation of one’s teachers.”

- (28) KUB 14.10+ (CTH 378.2.C, NH/NS)  
i 9 ... *ak-ki-iš-ke-ta-||at||*  
vs. *ak-ki-iš-ke-et-ta-ri* (i 12, 13, ii 34', iii 2', iv 4', 9', 18').  
No counterexamples.

Note *ak-ki-iš-ke-et-t||a-ri||* in i 13, in which, although the available space at the end of the line was roughly the same found in i 9, the scribe marks the geminate consonant anyway.

- (29) KUB 33.102+ (CTH 345.I.1.C, NS)  
iii 13' ... *ú-wa-t||én*  
vs. *ú-wa-at-tén-wa* (iii 10'); in general, the spelling <sup>o</sup>-*Vt-tén* is consistent in other imperative forms in the texts, cf. *nu-un-tar-nu-ut-tén* (iii 13'); *da-a]t-tén* (iii 20'); *i-ya-at-[tén]* (iii 21'); *pé-e-ta-a[t-tén]* (iii 21'); *nu-un-tar-nu-u[t-tén-wa]* (iii 22'); *ti-ya-at-té[n]* (iii 24').  
No counterexamples.

- (30) KBo 26.65+ (CTH 345.I.3.1.A, NS)  
i 21' ... <sup>Giš</sup>*š-i-ya-||-tal*  
vs. <sup>Giš</sup>*š-i-ya-at-tal* (iii 47', iv 15').  
No counterexamples.

- (31) KBo 52.26+ (CTH 402.C, LNS)  
ii 35'' [ || ]x *tar-aš-ke-tén*  
vs. *tar-aš-ke-et-tén* (ii 35''); cf. also *da-a-at-||tén* (i 5').  
Counterexamples: perhaps *ú-da-[te-e]n* (iii 18'),<sup>31</sup> but, based on the photograph, I would not entirely exclude the reading *ú-da-[at-té]n*, although it seems less likely.

- (32) KUB 7.5+ (CTH 406, NS)  
i 40' ... *šu-up-p||é-šar-aš*  
vs. *šu-up-pé-eš-šar-aš* (i 14).  
No counterexamples.

- (33) KBo 4.1+ (CTH 413.1.A, NS)  
obv. 26 ... <sup>NA4</sup>*ku-un-ku-||-nu-zi-ya-aš*  
rev. 19 ... <sup>NA4</sup>*ku-un-ku-nu-zi-ya-aš ||*  
vs. <sup>NA4</sup>*ku-un-ku-nu-uz-zi-ya-aš||* (obv. 22); <sup>NA4</sup>*ku-un-ku-nu-uz-zi-in* (obv. 38).  
No counterexamples (but in rev. 19 there would have been enough space to add *uz*).

- (34) KUB 29.4+ (CTH 481.A, NS)  
i 47 ... *šu-up-iš-du-||wa-ra-an*  
vs. expected *šu-up-pí-iš-du-wa-ra-an* (?), but no other forms attested.

Spelling with <pp> is consistent elsewhere, but no other occurrences of this word are found in the text. Also, the broken writing *up-iš* may point to a mistake.

31. Probably not enough space to restore *ú-da-[at-te-e]n*.

- (35) KUB 20.24(+) (CTH 645.2, NS)  
 iii 8' ... *šu-up-ya-ah*||-*hi*  
 vs. *šu-up-pí-ya-ah-hi* (iii 18', 25'); *šu-up-pí-ah-hi* (iii 35').  
 No counterexamples.

Very uncertain, because the broken writing *-up-ya-* may point to a mistake, and the space on the right margin was wide enough (also cf. *šu-up-pí-y||a-ah-hi* in iii 25'). For the same reason, it is perhaps unlikely that *šu-up-pí-ah-hi*|| in iii 35', without *-ya-*, consistent elsewhere, should be explained as a different strategy to shorten the writing (cf. example (54) under point c below).

- (36) KBo 34.199+ (CTH 647.?, MS)  
 8' ... *ši-pa[-an-ti ||]*  
 vs. *ši-ip-pa-an-ti* (lines 2', 6')  
 No counterexamples.

Although the tablet is broken, there are no doubts that the verb in line 8' occurs at the end of the line, close to the right edge.

- (37) KUB 10.91 (CTH 669.5, LNS)  
 iii 14' ... *za-an-za-pu-||ši-in*  
 vs. *za-an-za-pu-uš-ši-in* (iii 13').  
 No counterexamples.

- (38) KBo 64.55 (CTH 670.1384, MS)  
 11' [...] *IŠ-TU BI-IB-RI te-šum-m||[i- ...]*  
 vs. expected *te-eš-šum-mi-* (?), but no other forms are attested.

Spelling with <šš> is consistent elsewhere, but no other occurrences of this word are found in the text.

*b. Involving scriptio plena*

- (39) KBo 3.4+ (CTH 61.I.A, NS)  
 i 39 ... *pé-ra-an* <sup>1</sup>*h*||*u<sup>1</sup>-i-e-er*  
 ii 4 ... *pé-ra-an*|| *hu-i-e-er*  
 ii 26 ... *hu-u-ma-an-te-eš pé*||-*ra-an hu-i-e-er*  
 vs. *hu-u-i-e-er* (ii 40,<sup>32</sup> 62,<sup>33</sup> iii 32, 46, 54, 66, 90, iv 27', 39').  
 No counterexamples.

See also the following example (40).

- (40) KBo 3.4+ (CTH 61.I.A, NS)  
 ii 68 ... *GE<sub>6</sub>-az kat-t||a hu-wa-iš*  
 vs. *hu-u-wa-iš* (ii 31).<sup>34</sup>

32. Seemingly mistakenly written (perhaps <sup>1</sup>*hu<sup>1</sup>-u<sup>1</sup>-i-e-er* based on the photograph, while in the hand-copy the first two signs appear as <sup>1</sup>DINGIR<sup>MEŠ1</sup>).

33. Added in superscript.

34. For a possible explanation for the *Glossenkeil* with this genuine Hittite verbal form, see Melchert 2005: 445-446 and Yakubovich 2010: 375. However, based on the photograph of the tablet, I am not entirely sure that the sign

No counterexamples.

Other forms of the same verb generally show *scriptio plena* in the first syllable (see also example (39) above, from the same manuscript).

- (41) KUB 17.7+ (CTH 345.I.1.A, NS)  
 ii 15 ... *me-mi-i||š-ke-u-wa-an da-i||š*  
 vs. consistent *da-a-iš* (iii 13, 14, 15, 37, iv 13, 49, 54, 55, 56, 57).

No counterexamples.

Although A is a short sign, the scribe probably omitted it because the text was overflowing into the other side of the tablet (conversely, note *da-a-i||š* in iii 37, only slightly overflowing into the right edge).<sup>35</sup>

- (42) KUB 24.8+ (CTH 360.1.A, LNS)  
 iii 14' ... *šUM-an ||da-iš*  
 vs. consistent *da-a-iš* (i 27, 32, 35, ii 5, 14, iii 2', 7' [x2], 8', 12', iv 7).

No counterexamples.

Note that *da-a-iš* in iii 8', showing regular *scriptio plena*, is fully written on the right edge, as well as *da-iš* in iii 14', but in the latter case the space on the edge was already partly occupied by *ne-p]í-ši* in ii 11, so that the scribe had to shorten the form in iii 14' to make it fit into the smaller available space.

- (43) KBo 20.82 (CTH 434.4, NS)  
 i 9' ... *me-mi-iš-ke-u-wa-an d||a-iš ||*  
 vs. *da-a-iš* (ii 31).

No counterexamples.

- (44) KBo 11.72+ (CTH 447.B, MS<sup>?</sup>)  
 iii 41 ... *DUMU.DUMU-šU-NU pa-i ||*  
 iii 43 ... *MU<sup>HLA</sup>-||uš pa-i*  
 vs. *pa-a-i* (ii 31', 32', 34' [x2]).  
 Counterexamples: *pa-i* (iii 42).

Uncertain because in iii 41 there was space on the edge and the sign A is not large; therefore, maybe just a mistake, because the text is full of omissions. Otherwise, the form *pa-i* in iii 42, which represents the only counterexample, may have been triggered by *pa-i* in the preceding line.

- (45) KUB 25.6+ (CTH 592.1.A, NS)  
 iii 20' ... *2<sup>NINDA</sup>mi-it-ga-i-mu-uš ú||-da-i*  
 vs. *ú-da-a-i* (i 4', iii 19', 27', iv 12', v 10', vi 4',<sup>36</sup> 20').  
 No counterexamples.

preceding *hūwaiš* actually is a *Glossenkeil*: although the tablet is damaged in that point, two oblique wedges seem to be visible, while the assured *Glossenkeil* marking *guršauwananza* in the following line only consists of a single oblique wedge. Therefore, I would not exclude the possibility that traces in ii 31 represented an aborted tentative to write a different sign.

35. See also example (46) below.

36. Traces of a vertical wedge after DA are clearly visible in the photograph.

Broken  $\acute{u}$ - $\Gamma da^1$ [- in iii 9' cannot be evaluated.

- (46) KBo 46.137 (CTH 612, NS)  
 obv.<sup>?</sup> 6' ... *na-an A-NA* || DUMU É.GAL *pa* || -*i*  
 vs. [... DU]MU E.GAL *pa*- $\Gamma a^1$ -[*i*] || (obv.<sup>?</sup> 11'); A-N[A ...] || x *pa-a-i* || (obv.<sup>?</sup> 11').  
 No counterexamples.

Note that *pa-i* is only found when the line crosses the border of the right edge into the other side of the tablet (cf. example (41) above).

- (47) KUB 20.28(+) (CTH 626.Tf13, NS)  
 iii 10 ...  $\acute{u}$ -||*da-i*  
 vs.  $\acute{u}$ -*da-a-i* (i 5, iii 9, v 19').

Counterexamples:  $\acute{u}$ -*da*- $\Gamma i^1$  (v 8').

- (48) KBo 40.67(+) (628.Tf05.A, NS; scribe: Ḫulanapi; supervisor: Walwaziti)  
 iv 12 ... *la-ḫ* || *u-wa-i*  
 vs.  $\Gamma la-a^1$ -*ḫu-u-wa-i* (i 32); *la-ḫu-u-wa-i* (iii 9').

No counterexamples.

- (49) KUB 28.1 (CTH 728.A, NS)  
 iv 7' ... SIG<sub>5</sub>-*ah-ḫu-u-e* || *n*  
 vs. *i-ya-u-e-en* (iv 19'); SIG<sub>5</sub>-*a* || *ḫ-ḫu-u-e-en* (iv 20'); ]- $\acute{u}$ -*e-en* (iv 21').  
 No counterexamples.

- (50) KBo 21.109+ (CTH 741.1.B, NS)  
 i 29' ...  $\acute{e} ḫa-le^{(L)}$ - $\Gamma en-tu-wa-az^1$  ||<sup>37</sup>  
 vs. [ $\acute{e} ḫa-l$ ]*i*<sup>(O)</sup>-*in-tu-u-wa-az* (i 21');  $\Gamma \acute{e}^1 ḫa-le^{(O)}$ -*en-tu-u-wa-ša-aš* (i 27').  
 No counterexamples.

Broken  $\acute{e} ḫa-le^{(O)}$ -*e* || *n-tu-(u)-w* || *a-a* || *z* in i 31' cannot be evaluated.

### c. Involving glides

- (51) KUB 31.81 (CTH 21.II, OS)  
 obv. 6' ... LUGAL KU || R<sup>URU</sup> *Ki-iz-zu-at-n* || *a* KI.MIN  
 vs. <sup>URU</sup>*K* || *i-iz-zu-wa-at-na* (rev. 10').  
 No counterexamples.

Note, however, that <sup>URU</sup>*K* || *i-iz-zu-wa-at-na* in rev. 10' is also mostly written on the right edge, so that free variation is a possible explanation as well, although the presence of more textual material in obv. 6', also overflowing into the other side of the tablet, may have led the scribe to shorten the name of the country.

- (52) KUB 60.151+ (CTH 483.II.A, LNS)  
 iii 12' ...  $\acute{u}$ -||*at-tén*

37. Also note the late variant of LI (see example (11) above).

vs. *ú-wa-at-tén* (iii 14').

No counterexamples.

- (53) KUB 56.42 (CTH 638.2.E, NS)

i 7' ... *pé-ra-an hu-u-a-||i*

vs. more common *hu-u-wa-a-i* (?), but no other forms attested.

No other occurrence of the verb in this fragment, but the spelling *hu-u-a-i* is very rare (cf. HW<sup>2</sup> H: 796).

- (54) KUB 20.24(+) (CTH 645.2, NS)

iii 35' ... *šu-up-pí-ah-||hi*

vs. *šu-up-ya-ah-||hi* (iii 8'); *šu-up-pí-ya-ah-||hi* (iii 18', 25').

No counterexamples.

Very uncertain, because there was enough space on the right margin (see example (35) under point *a.* above, where *šu-up-ya-ah-||hi* in iii 8' is discussed).

*d. Involving determinatives*

- (55) KBo 3.4+ (CTH 61.I.A, NS)

ii 8 ... *I-NA* <sup>K</sup>||<sup>UR</sup> <sup>A</sup>||*r-za-u-wa*

vs. consistent KUR <sup>URU</sup>*Ar-za-u-wa* (ii 18, 19, 28, 33, 54, iii 30, 32, 35, 39, 40).

No counterexamples.

Note, however, *I-NA* KU||<sup>R</sup> <sup>URU</sup>*Ar-za-u-wa* in ii 28 and KUR <sup>URU</sup>A||*r-za-u-wa* in ii 54.

- (56) KUB 25.3 (CTH 634.2.A, NS)

iii 11 ... \*<sup>LÚ.MEŠ</sup>ALAM.ZU<sub>9</sub>\* ||*ki-i-ta-aš-||ša*<sup>138</sup>

vs. <sup>LÚ</sup>*ki-i-ta-aš(-ša)* (iii 15, iv 8', 28').

No counterexamples.

<sup>LÚ.MEŠ</sup>ALAM.ZU<sub>9</sub> is written over an erasure, so that it is perhaps possible that the determiner <sup>LÚ</sup> of the following *ki-i-ta-aš-||ša*<sup>1</sup> has been mistakenly erased, unless *ki-i-ta-aš-||ša*<sup>1</sup> was added after <sup>LÚ.MEŠ</sup>ALAM.ZU<sub>9</sub> was written. Note <sup>LÚ</sup>*ki-i-ta-||-||[aš]-||ša*<sup>1</sup> in iii 15<sup>39</sup> and, perhaps less relevant, [... <sup>LÚ</sup>*ki-i-ta-a*||š in iv 28', which may suggest that the determinative was omitted in iii 11 because the whole word was written on the edge.

*e. Involving phonetic complements*<sup>40</sup>

- (57) KBo 3.4+ (CTH 61.I.A, NS)

iii 62 ... *GUL-||-||he-er*

No comparable forms.

Very uncertain due to lack of *comparanda* in the same text, but *GUL-ah-||he-er* is normally found elsewhere (cf. Weeden 2011: 505).

38. No photograph of the right edge available.

39. Transliteration based on the hand-copy.

40. More generally, the whole issue concerning the use of phonetic complements deserves a thorough analysis. For some preliminary remarks, see Busse 2013.



*f. Involving other elements*

- (58) KUB 58.36 (CTH 638.?, LNS)  
 i 11' ...  $\Gamma^d10^{URU}A-tal-ḥa-zi-ya$  ||3 BÁN KI||  
 i 12' ...  $d10^{URU}A-tal-ḥa-zi$  2 B||ÁN KI ||  
 vs. consistent **KI.MIN** in all the other lines.  
 No counterexamples.

Although a mistake cannot be excluded, the fact that the omission of the sign MIN only occurs in two contexts in which there was no more space available in the *intercolumnium* makes it possible – perhaps even likely – that it should be regarded as a voluntary omission of something that would have been contextually easily retrieved.

2.4. Heterography

Longer sequences of syllabic signs could be replaced by shorter heterograms,<sup>41</sup> both Sumerian logograms and Akkadian syllabic writings. If different variants for a complex Sumerogram exist (e.g., LÚ.U<sub>19</sub>.LU, DUMU.LÚ.U<sub>19</sub>.LU, DUMU.NAM.LÚ.U<sub>19</sub>.LU, which all seem to correspond to Hitt. *antuhša-*), the shorter ones may be selected when problems of space are involved.

*a. Sumerograms vs. Hittite syllabic spellings*

- (59) KBo 3.4+ (CTH 61.I.A, NS)  
 i 4 ... DINGIR<sup>LM</sup>-iš DÛ||-at  
 vs. *ki-ša-at* (i 8, 13, ii 50, iii 62).  
 Counterexamples: DÛ-*at* (i 11).
- (60) KBo 3.4+ (CTH 61.I.A, NS)  
 iii 41 ... DÛ-*nu-un* ||  
 iii 69 ... DÛ-*nu-un*||  
 vs. *i-ya-nu-un* (i 22, 48, ii 48,<sup>42</sup> 49, iii 59, 95); see also *i-ya-at* (iii 75).  
 Counterexamples: DÛ-*nu-un* (iv 34').
- (61) KBo 3.4+ (CTH 61.I.A, NS)  
 ii 38 ...  $dUTU^{URU}TÚL-na$  GAŠAN-Y||A «[o]-er»  
 iii 44 ...  $dUTU^{URU}TÚL-na$  GAŠAN-Y||A  
 iii 64 ...  $dUTU^{URU}TÚL-$ ||na  
 iv 47' ...  $dUTU^{URU}TÚL-na$  GAŠAN-YA ||  
 vs.  $dUTU^{URU}A-ri-in-na$  (i 21, 22, 23, 24, 25, 27, 38, ii 3, 25, 61).  
 Counterexamples:  $dUTU^{URU}TÚL-na$  (iii 53, 89, iv 26', 38').

41. Note that some heterograms may be longer than the corresponding Hittite spelling, so that one should carefully evaluate each case in order to distinguish possible writing strategies to shorten the text from other phenomena of variation for different reasons. Thus, e.g., it is questionable whether GIG-*an* written on the right edge in KUB 9.34 ii 38, in contrast to fully syllabographic *i-na-an* in ii 37 (also *i-na-na-aš* in iii 30'), should be regarded as a strategy to save space, because the sign GIG (= MI.NUNUZ ~~𐎗~~) roughly covers the same space as the sequence *i-na* (~~𐎗~~).

42. Partly written on the right edge: *i-ya-nu*||-un.

Note that the semi-heterographic spellings far from the right margin consistently occur towards the end of the text, while in the first two columns only the fully syllabic spelling <sup>URU</sup>A-ri-in-na is found (except in ii 38 at the end of the line).<sup>43</sup> Note <sup>d</sup>UTU <sup>URU</sup>A-ri-in||-na in i 24, <sup>d</sup>UTU <sup>URU</sup>A-ri-in-na GAŠAN-||YA in i 25, and <sup>d</sup>UTU <sup>URU</sup>A-ri-in||-na in i 38.

- (62) KUB 19.41+ (CTH 63.B, NS)  
ii 14 ... IT-TI ||KUR <sup>URU</sup>KÙ<sup>(L)</sup>.BABBAR<sup>1</sup>||  
vs. <sup>URU</sup>Ħa-at-ti (ii 2, 24, 32).  
No counterexamples.

Also note the shorter late shape of the sign KÙ, but no other KÙ is found in the fragment.

- (63) KUB 23.1+ (CTH 105.A, NH/LNS)  
iii 21 ... LUGAL <sup>UR</sup>||<sup>U</sup>KÙ.BABBAR-ti e-eš<sup>44</sup>  
vs. <sup>URU</sup>Ħa-at-ti (i 3, 7, 14, 16, 25, 26, iii 6, 8).  
Counterexamples: <sup>URU</sup>KÙ.BABBAR-ti (i 46, 47, iv 4', 10', KUB 23.1a, 4').

- (64) KUB 23.1+ (CTH 105.A, NH/LNS)  
i 22 ... <sup>1</sup>PAB-aš-ta<sup>1</sup>||  
i 25 ... PAB-aš-ta||  
i 45 ... PAB-aš-ta ||  
vs. pa-aḥ-ḥa-aš-ta (i 23, 25, 46, ii 27); pa-aḥ-ši (ii 9, 10, 39, 40, iii 19); pa-aḥ-ḥa-aš-ḥi (ii 29).  
Counterexamples: PAB-ši (ii 4, 5); PAB-nu-uš-ki (l.e. 1); PAB-nu-uš-ke-ši (l.e. 1).

- (65) KBo 18.25(+) (CTH 187, LNS)  
rev. 6' ... SU||M-ta  
vs. pé-eš-<sup>1</sup>ta<sup>1</sup>|| (rev. 3').  
Counterexamples: SUM-ti (KBo 31.69 obv.<sup>?</sup> 7').

- (66) KUB 21.46 (CTH 254, NH/NS)  
i 5 ... INA KUR <sup>URU</sup>GIDRU-ti ||an-da <sup>1</sup>e-eš-zi<sup>145</sup>  
vs. KUR Ħa-at-ti (i 1).  
No counterexamples.

This instance is uncertain because only a small fragment is preserved and no other occurrences of GIDRU-ti/Ħa-at-ti are found, but also note in i 5 the Akkadian preposition INA written as AŠ (𒀭) rather than I-NA (𒀭𒀫).

If GIDRU (= PA 𒀭) should be understood as a syllabic CVC sign with reading *ḥat* (acrophonically from Akk. *ḥaṭṭum* ‘sceptre, staff’), this example belongs to point 2.2.b above.<sup>46</sup>

43. An anonymous reviewer pointed out an analogous distribution between heterographic and syllabic spellings in KBo 12.53+ (CTH 529.7, LNS), in which the formula “His Majesty instituted the following” quite consistently displays ME-iš in the first part of the text (with one exception), while da-a-iš is consistently found in the second part (see Cammarosano 2018: 275). However, it seems to me that problems of space cannot account for such a distribution.

44. BABBAR-ti is written in smaller characters, while e-eš is added in larger script above BABBAR-ti, because there was no more space available on the right edge, which was already occupied by ku-||at-qa in ii 29.

45. After an-da, writing turns upwards into the *intercolumnium*.

- (67) KUB 13.3+ (CTH 265.1, NS)  
 iii 8 ... 𒄩LU-lu 𒄩Š<sup>1</sup>-an \*pī\*-ya||-an-zi  
 vs. 𒄩LU<sup>1</sup>-lu 𒄩i-in-kán pī-ya-an-𒄩z||i<sup>1</sup> (ii 19'); *i-da-a-lu 𒄩i-in-kán pī-ya-an-zi* (iii 18).  
 No counterexamples.  
 𒄩LU-lu (ii 19', iii 8) vs. *i-da-a-lu* (iii 18) may be a similar strategy.

- (68) KUB 33.93+ (CTH 345.I.1.A, NS)  
 iii 19' ... UGU pa-id-du ||  
 iv 31 ... ne-pī-šī|| UGU  
 vs. *ša-ra-a* (i 12).  
 No counterexamples.

- (69) KUB 14.8 (CTH 378.2.A, NH/NS)  
 rev. 37' ... TI-nu-ut||  
 vs. *𒄩u-iš-nu-ut* (rev. 21'); *𒄩u-u-iš-nu-ut* (rev. 45').  
 No counterexamples.

- (70) KUB 14.11+ (CTH 378.2.B, NH/LNS)  
 ii 34 ... I-M||A ŠÀ<sup>URU</sup>GIDRU-ti  
 ii 40 ... <sup>URU</sup>GIDRU-ti ||  
 iii 12' ... <sup>URU</sup>GIDRU-ti||  
 iii 23' ... <sup>URU</sup>GIDRU-ti 𒄩i||-in-𒄩kán<sup>an1</sup>  
 iii 45' ... <sup>URU</sup>GIDRU||-ti  
 iv 4' [... <sup>UR</sup>]<sup>U</sup>GIDRU-t||i EN-YA  
 vs. <sup>URU</sup>Ha-at-ti (i 8', ii 1, 2, 3, 5, 21, 27, 33, 39, 41, 43, 48, iii 9', 25', 39').  
 Counterexamples: <sup>URU</sup>GIDRU-ti (ii 32, 45, iv 18').

Note <sup>URU</sup>Ha||-at-ti in i 8' (where TI is written turning upwards into the *intercolumnium*), <sup>URU</sup>Ha-at-t||i in ii 43, and <sup>URU</sup>Ha-at-||ti in iii 9'.

- (71) KUB 21.27+ (CTH 384.1.A, NS)  
 i 19 ... SUM-an 𒄩har-ta||  
 vs. *pī-ya-an 𒄩har<sup>1</sup>-mi* (ii 18); *pī-ya-an* (iii 21'); *pī-ya-an 𒄩har-zi* (iii 22'). Also, all the other forms of the verb *pai-* are fully syllabically written.  
 No counterexamples.

- (72) KUB 56.13 (CTH 590, NS)  
 obv. 1' [... A-NA DING]||IR<sup>LM</sup> 𒄩SUM<sup>1</sup>-𒄩hi  
 rev. 8' ... A-NA 𒄩DINGIR<sup>1L</sup>||<sup>M</sup> SUM-𒄩hi  
 rev. 13' ... 1 MA.NA SU||M-𒄩hi  
 vs. *pé-eh-𒄩hi* (obv. 19', rev. 17', 18').  
 Counterexamples: SUM-𒄩hi || (obv. 4').

46. Consider, however, the writing <sup>URU.GIS</sup>GIDRU-ti (e.g., KUB 6.45+ i 12, 14, 16, 23, 50, iv 39; KUB 49.21+ iv 4), where the determinative <sup>GIS</sup> points to the reading GIDRU.

- (73) KUB 27.49 (CTH 692.4.A, NS)  
 ii 49' ... NA||G-na pa-a-i  
 vs. a-ku-wa-an-na ṽpa-a-i<sup>1</sup> (iii 4).

Counterexamples: NAG-na 1-šU pī-an-zi || (iii 12).

Uncertain, but the counterexample in iii 12 can be explained if one assumes that the scribe could have estimated the space available to him and the text he had to write.

*b. Akkadian vs. Hittite syllabic spelling*

- (74) KUB 21.17 (CTH 86.1.A, NH/NS)  
 ii 8 ... a-pé-||e-da-ni AD-DIN  
 vs. pé-eḫ-ḫu-un (ii 4, 22, iii 36'). All the other forms of the verb *pai-* are fully written in Hittite.

No counterexamples.

Another likely example is ... ù||-za IQ-BI in ii 9, but no contrasting *memišta* is found in the text.

- (75) KUB 17.7+ (CTH 345.I.1.A, NS)  
 ii 14 ... INIM<sup>MES</sup>-||ar IŠ-ME  
 vs. ṽiṣ-ta-ma-aš-šer<sup>1</sup> (iv 6); no *iṣ-ta-ma-aš-ta* is found.

No counterexamples.

- (76) KUB 9.4+ (CTH 409.IV.Tf02.A, NS)  
 ii 16 ... IŠ-BAT||  
 vs. e-ep-ṽta<sup>1</sup> (ii 15). All the other forms of the verb *epp-/app-* are consistently spelled in Hittite.

No counterexamples.

*c. Longer vs. shorter variants for complex Sumerograms*

- (77) KBo 3.8+ (CTH 390.A, NS; scribe: Armaziti; supervisor: Anuwanza)  
 ii 55 ... ]x-kán ||A-NA LÚ.U<sub>19</sub>.LU  
 vs. DUMU.LÚ.U<sub>19</sub>.LU (ii 68).  
 No counterexamples.

In this example (as well as more generally elsewhere in Hittite texts), LÚ.U<sub>19</sub>.LU and DUMU.LÚ.U<sub>19</sub>.LU should be probably interpreted as two variants of the same heterographic writing, which, therefore, do not correspond to two different Hittite readings (see the discussion in Weeden 2011: 279-284): in both passages, Hitt. *antuḫša-* is probably intended (also note that the dupl. Bo 4010+, 14' has DUMU.LÚ[...] matching LÚ.U<sub>19</sub>.LU in KBo 3.8+ ii 55).<sup>47</sup>

47. Possibly, this case could also find its place among the examples of defective writings above (§ 2.3); however, in my view, the existence of competing variants for complex Sumerograms should be regarded as a different phenomenon from the variation in spelling of syllabically written Hittite words, because in the latter case a “standard” spelling seemingly existed, compared to which the variant spelling can be regarded as defective, while in the former we are probably rather dealing with free variation.

### 2.5. Use of *KI.MIN* ‘ditto’

This is to be regarded as a writing strategy rather than a linguistic one: Hittite scribes could avoid repetitions by replacing a word, phrase, sentence, or even a whole passage by *KI.MIN* ‘ditto’.<sup>48</sup> However, in the following example, *KI.MIN* replaces the verbal form *memai* in the sentence *ḫurlili (kiššan) memai*, ‘he speaks in Hurrian (as follows)’, which occurs elsewhere in the texts and always shows a fully syllabically written Hittite verbal form. Therefore, the unique occurrence of *KI.MIN* (𐎲𐎠𐎵) in place of *me-ma-i* (𐎶𐎶𐎶) in i 12 was probably not due to the will of the scribe to abbreviate a repetitive content, but rather merely depended on the little space available at the end of the line.

- (78) KUB 45.3+ (CTH 701.c.VI.A, MS)  
 i 12 ... *ḫur-li-li-ma ki-iš-ša-an KI.MIN* ||  
 vs. *me-ma-i* (i 3, 20, 27, 30).  
 No counterexamples.

### 3. Linguistic strategies

Besides the writing strategies presented in the preceding sections, some proper linguistic strategies can be perhaps identified, i.e., involving true linguistic elements, although the examples I can provide are far more uncertain and should be regarded as tentative.

#### 3.1. Synonyms

Theoretically, the possibility exists that a scribe might replace a word at the end of the line with a shorter synonym due to lack of space, but the only possible example I can provide for this is quite unclear.

- (79) KUB 33.19 (CTH 327.1.A, NS)  
 iii 5' ... *še-er-ra-aš-ša-an* <sup>GIŠ</sup>*kal-mi-i*||-e<sup>2</sup>-eš<sub>17</sub>?  
 vs. consistent *kalmiša/enieš* in all parallel passages in the other Hittite myths of the disappearing deity.  
 No counterexamples.

The reading of the signs on the edge is tentative, because in the photograph they appear less clear than in the hand-copy. However, that the first sign is E seems to be likely, while the presence of *eš<sub>17</sub>* (= MEŠ) is less certain, because the *Winkelhaken* overlap the vertical wedge, so that the sign may be EŠ, written over a mistaken vertical wedge. In any case, the form seems to be <sup>GIŠ</sup>*kalmiyeš*, nom.pl. of the stem <sup>GIŠ</sup>*kalmi-*. The fragment KUB 33.19 belongs to the myth of the disappearance of the Storm-god of Ḫarapšili, and the passage in which <sup>GIŠ</sup>*kalmiyeš* occurs, referring to the restoration of the natural order after the return of the Storm-god, runs parallel to other passages found in other myths of the disappearing deity, where *kalmišanieš* (or *kalmišenieš*) ‘fire logs’ consistently occur. The only exception is the acc.sg. <sup>GIŠ</sup>*kal-mi-in* in KUB 17.10+ iv 22, which, as shown in Pisaniello (2020b: 381), is clearly a mistake for <sup>GIŠ</sup>*kal-mi-še-ni* due to the similarity between the sequence *še-ni* and the sign IN. Elsewhere, the stem <sup>GIŠ</sup>*kalmi-* is independently attested only in the funerary

48. For a comprehensive discussion on the use of *KI.MIN* in Hittite, see Görke – Lorenz 2018-2019.

ritual (coll. <sup>GIS</sup>*kal-mi-ya* KÜ.BAB[BAR ...] in KUB 39.35+ iv 12'), but its meaning cannot be assured.<sup>49</sup> If it actually had more or less the same meaning of the derivative *kalmišani-*, one might regard <sup>GIS</sup>*kalmiyeš* in KUB 33.19 as a shorter synonym selected by the scribe in a context in which limited space was available.

### 3.2. *Asyndeton*

When contrasting with a consistent polysyndeton, occasional asyndeton may be regarded as a strategy for saving space.

- (80) KUB 58.33 (CTH 678, NS)  
 iii 21' ... *a-ru-w*||*a-iz-zi* BAL-*ti*||  
 vs. *a-ru-wa*]-*iz-zi* ✕ BAL-*ti-y*||*a* (iii 13'); *a-ru-w*]*a-iz-zi* BAL-*ti-ya* || (iii 15'); *a-ru-wa-iz-zi* BAL-*t*||*i-ya* (iii 17'); *a*]-*ru-wa-iz-zi* BAL-*ti-ya* || (iii 19').  
 No counterexamples.

In this text, the verbal forms *aruwaizzi* and *šipanti* (BAL-*ti*) are consistently linked by the clitic conjunction *-ya*, except for iii 21', where BAL-*ti* is written at the very end of the right edge and no more space was available, unless overflowing onto the reverse of the tablet.

### 3.3. *Phonetic variation*

As suggested by Oettinger (1984, 1985), a sound change *-ya* > *-ye-* may be established for Hittite, occurring when the following syllable has /i/ or /e/ (cf., e.g., *memiyani* > *memieni*). In his view, such phenomenon also led to both the replacement, through paradigmatic levelling, of regular *-iya-* with *-ie-* where the change would not be expected, and the secondary replacement of etymological *-ie-* with *-iya-* due to hypercorrection. As a result of these changes, a quite free alternation between -(C)*i-ya-* and -(C)*i-e-* in Hittite can be observed.

For the purpose of our discussion, because the sign YA (𐎶𐎶) is longer than E (𐎶), the possibility exists that when the variant with -(C)*i-e-* occurs in contexts in which the space is limited, and the variant with -(C)*i-ya-* is found elsewhere in the same text, the selection of the former may be regarded as a conscious strategy to make the text fit within the line.

- (81) KUB 14.11+ (CTH 378.2.B, NH/LNS)  
 iv 9' [... <sup>L</sup>]<sup>U</sup>.MES<sup>Š</sup>*iš-pa-tu-uz-z*||*i-e-la-aš-ša*<sup>50</sup>  
 vs. [<sup>L</sup>]<sup>U</sup>.MES<sup>Š</sup>*iš-pa-an-tu-zi-ya-li-e-eš* (iii 42').  
 No counterexamples.

The dupl. KUB 14.8 rev. 39' (CTH 378.2.A, NH/NS) has <sup>L</sup>U.MES<sup>Š</sup>*iš-pa-an-tu-uz-zi*||*la-aš-ša* (vs. <sup>L</sup>U.MES<sup>Š</sup>*iš-pa-an-tu-uz-zi-ya*-<sup>L</sup>*li*<sup>1</sup>-*uš* in rev. 19').

- (82) KBo 41.1b (CTH 453.1.B, MS)  
 rev. 12' ... <sup>L</sup>*mu-ga-u-en tal*<sup>1</sup>-*li*<sup>1</sup>-<sup>L</sup>*e*<sup>1</sup>-[[*u-e*]*n*<sup>51</sup>  
 vs. expected \**tal-li-ya-u-en* (see EDHIL: 131 for the paradigm); cf. *tal-li-ya-an* (obv. 12, 15); *tal-li-ya-an-z*[*a*] (obv. 16).  
 No counterexamples.

49. On this stem and related words, see HED K: 26-28, EDHIL: 431, HW<sup>2</sup> K: 38, to which one should probably add Luw. *kalmiyani-*.

50. After *-e-*, writing turns upwards into the *intercolumnium*.

51. Based on the photograph, the sign is clearly E, while YA can be surely excluded.

Note however that a different explanation is possible: there is clear evidence that Hittite scribes sometimes used the sign E to represent /ja/ (cf., e.g.,  $\text{ḫa-}^{\text{r}}\text{a-li}^{\text{l}}\text{-e-aš}$  in KBo 6.2+ iii 48, to be read  $\text{ḫa-}^{\text{r}}\text{a-li}^{\text{l}}\text{-ya}_x\text{-aš}$ ),<sup>52</sup> so that  $^{\text{L}}\text{]}^{\text{U.MEŠ}}\text{iš-pa-tu-uz-z}||\text{i-e-la-aš-ša}$  in (81) may be read as  $^{\text{L}}\text{]}^{\text{U.MEŠ}}\text{iš-pa-tu-uz-z}||\text{i-ya}_x\text{-la-aš-ša}$  (but note that this solution cannot account for  $^{\text{L}}\text{]}^{\text{U.MEŠ}}\text{iš-pa-an-tu-uz-z}||\text{-la-aš-ša}$  in the duplicate), and  $^{\text{r}}\text{tal}^{\text{l}}\text{-li-}^{\text{r}}\text{e}^{\text{l}}\text{-}||\text{u-e}||\text{n}$  in (82) as  $^{\text{r}}\text{tal}^{\text{l}}\text{-li-y}[\text{a}_x\text{-}||\text{u-e}]\text{n}$ . If this is the case, these examples would belong to point 2.2.a above, being variant spellings in which a longer sign (YA  $\text{𒀭}$ ) is replaced by a shorter homophonous ( $\text{ya}_x = \text{E } \text{𒀭}$ ).

#### 4. Conclusion

In this paper, I have showed that Hittite scribes adopted different writing and possibly linguistic strategies to shorten a text when approaching the right margin of the page, where the remaining available space was limited, thus making the text fit within the line.

Writing strategies included the use of shorter sign variants (e.g., the late shape of the sign LI vs. the older one), the replacement of a sign with a shorter homophonous (e.g.,  $\text{LIŠ} = \text{li}_{12}$  in place of longer LI) and of a sequence CV-VC with a shorter CVC sign (e.g.,  $\text{KAT} = \text{ket}_9$  in place of longer  $\text{ke-et}$ ), the use of variant spellings with omission of not entirely necessary signs (e.g., signs marking geminate consonants, *scriptio plena*, glides, determinatives, etc.), the substitution of a Hittite word with a shorter Sumerogram or a shorter Akkadian word, and the use of KL.MIN ‘ditto’ to replace a longer word/phrase/sentence/passage that could be easily retrieved because it was repeated elsewhere in the text. On the other hand, truly linguistic strategies may involve the replacement of a word with a shorter synonym, the choice of asyndeton vs. the use of connectives, and the selection of the shorter form among two or more synchronically competing alternatives characterised by some phonetic variation.

Acknowledging such strategies may have some important consequences for the study of Hittite palaeography and scribal practices; e.g., it may represent a further element for the identification of scribal hands, and could also shed some new light on the alternation between older and later sign-shapes. Thus, e.g., the presence of old signs in a New Hittite manuscript in which late variants are also attested does not necessarily depend on an older model from which the scribe was copying: if later variants are more or less consistently found at the end of the line, and the older ones occur elsewhere, it is possible that the older signs represented the customary use of the scribe, who however could resort to the shorter late variants where not enough space was available.

Theoretically, such an analysis may also help to establish the relationships between manuscripts belonging to the same textual tradition: e.g., an unusual spelling for a given word occurring on a tablet may find its justification if it was directly copied from a model in which that spelling simply depended on problems of space. On the other hand, when comparing different manuscripts belonging to the same textual tradition, the presence of variants – especially truly linguistic variants – does not necessarily point to different archetypes, if their occurrence may be merely due to the space available on the tablet. Of course, a careful and comprehensive analysis of all the Hittite tablets belonging to a given textual tradition is needed in order to identify such cases.

Furthermore, the opposite phenomenon would also be worthy of thorough investigation, i.e., the possible strategies adopted by Hittite scribes to fill too wide a space at the end of the line.

52. See Melchert 2020: 4, with further examples.

Of course, this article only constitutes a preliminary analysis. A systematic and comprehensive investigation into the Hittite corpus is needed in order to clarify some relevant details, such as possible relationship between these strategies and Hittite scribal schools, their distribution over documentary genres, their chronology, etc.

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