

## Word-internal plene spelling with <i> and <e> in Cuneiform Luwian texts

Melchert's hypothesis that the cuneiform "orthography" of Hittite was transferred to Cuneiform Luwian by the Hittite scribes was tested with regard to the plene spelling with <i>. With our improved knowledge of the historical grammar of Luwian, it could be confirmed. Several cases of plene <i> found a new explanation. In addition, the restricted use of plene was described by a limited set of clear rules.

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1. Within the syllabic writing systems of Cuneiform scripts, such as Hittite, the syllabograms include signs representing a single vowel (*V*), combinations of consonant and vowel (*CV*, *VC*), and sequences of consonant – vowel – consonant (*CVC*). Plene spelling is defined as the extra use of an additional unitary vowel sign (*V*) that either precedes or follows an identical vowel. Thus, in word-internal position, plene spelling follows the patterns of *CV<sub>1</sub>-V<sub>1</sub>-V<sub>1</sub>C* and *CV<sub>1</sub>-V<sub>1</sub>-CV* as opposed to the non-plene spellings of *CV<sub>1</sub>-V<sub>1</sub>C* and *CV<sub>1</sub>-CV*, respectively. In the case of sequences of two vowels, we find plene spellings such as *CV<sub>2</sub>-V<sub>1</sub>-V<sub>1</sub>C*, *CV<sub>2</sub>-V<sub>2</sub>-V<sub>1</sub>C* and *CV<sub>2</sub>-V<sub>2</sub>-V<sub>1</sub>-V<sub>1</sub>C* vs. non-plene *CV<sub>2</sub>-V<sub>1</sub>C* (or *Ci-ya-aC* / *Cu-wa-aC* containing the unified signs <ya> or <wa>).

There are five unitary vowel signs available in the Mesopotamian cuneiform script as adapted for the Anatolian languages: <a>, <e>, <i>, <u> and <ú>. This article will focus on the function of the plene spelling with the vowel signs <i> and <e> in word-internal position in Luwian texts transmitted in the cuneiform script.<sup>1</sup>

While little attention has been paid to the distribution and function of plene spelling in Luwian, the same phenomenon has been frequently discussed in Hittite scholarship. The results of these studies may very well be important for Luwian also because, following Melchert (1994: 27; cf. also Kloekhorst 2008a: 118),

„[t]he documents we have in Hittite, Palaic and Cuneiform Luwian were written by the same scribes working in the same tradition. ... without counterevidence we may and should assume that the principles of orthography are the same for all three languages ...“

Previous assumptions about the function of plene spelling in Hittite are listed in full detail in Kloekhorst 2014: 13–18. According to these, plene spelling is used for

- marking primary and secondary vowel length under the accent (Hrozný 1917: XII; criticized by Götze 1928: 186 fn. 1; Friedrich 1931: 20; Sturtevant & Hahn 1951: 23),

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- marking a glottal stop (Sturtevant 1933: 61–63),
- the disambiguation of *Celi* or *eliC* signs with an overgeneralized use in unambiguous cases (Sturtevant 1933: 62f.; followed by Otten & Souček 1969: 44),
- avoidance of a word consisting of one sign only (except *nu*, *šu* and *ta*) (Sturtevant 1933: 64; followed by Otten & Souček 1969: 49 and generalized for final plene writing in 3-sign words),
- the disambiguation by marking non-dead vowels, the script being on the path to the alphabetic principle (Kronasser 1956: 35 following Pedersen 1938: 5),
- the differentiation of vowel quality in the case of plene <a> (Rosenkranz 1959a: 424),
- vowel length and disambiguation of ambiguous *eli* signs (Oettinger 1979: *passim*),
- marking a secondary effect of the accent on vowel length (Hart 1980: 14f.),
- marking accent (Carruba 1981),
- vowel length including secondary vowel length under the accent, by vowel contraction and compensatory lengthening; also for disambiguation (Georgiev 1983),
- vowel length including secondary vowel length under accent, by vowel contraction and compensatory lengthening (Kimball 1983), but not for disambiguation (Kimball 1983: 7–9),
- vowel length, accent, and disambiguation (Melchert 1984: 83f.),
- marking an initial glottal stop or laryngeal, vowel length in most cases, accent, disambiguation (Weitenberg 1984: 347–350),
- vowel length in most cases, due to accent, but not all accented vowels are lengthened (Melchert 1992),
- only vowel length in most cases (Melchert 1994: 27 and *passim*),
- for differentiation of <hu> and <ri/tal> in the case of <hu-u> (Kimball 1999: 54–64, 67f.),
- marking an initial glottal stop, reflex of an inherited *\*h<sub>1</sub>* (Kloekhorst 2006; Kloekhorst 2008: 32; Simon 2013: 12–16 referring to Simon 2010; Kloekhorst 2014: 161–170, 330–341, 434–440, 504–508, 529–533; rejected in Weeden 2011: 66f.),
- vowel length due to accent in most cases and the differentiation of vowel quality /o/ and /u/ in the case of plene <u> and <ú> (Rieken 2005 based on Held & Schmalstieg 1969: 105–109, Eichner 1980, and Hart 1983: 124–132; cf. also Kloekhorst 2008: 35–60; Kloekhorst 2014: 491–539).<sup>2</sup>

It is fair to say that the view of plene spelling as a marker of vowel length and, in the case <u> and <ú>, as a marker of vowel quality, has gained most supporters and it has also been transferred to Luwian by Melchert (1994: 27 and 2010). However, the latter assumption is not as straightforward as it may seem at first sight. Hittite and Luwian are known to have diverse vowel systems, the main distinction being the lack of /e/ and /ē/ in Luwian. Apart from this phonemic difference, we cannot be sure whether or not the phonetic realization of the respective vowels was close enough between the two languages not to cause any insecurity in the perception of the foreign phonemes and their spelling (cf., e. g., the American English pronunciation of Italian *pizza* with long /i/ in spite of the existence of /i/ in English, due to the realization of Italian /i/ as a vowel higher than English /i/ and identification as the long, tense /i/). In addition, it is a well-known fact that scribes often attempt to spell more accurately when using a foreign language. This may result in the hypercorrect use of extra vowel signs and, as a consequence, as “apparent” plene spellings, so to speak.

<sup>2</sup> Plene spelling is assumed to have no function at all by Pedersen (1938: 5, 34, 194) and Kammenhuber (1969: 175).

2. If plene <i> is really a marker of vowel length in Luwian cuneiform texts, the sources of long  $\bar{i}$  are of prime importance to the question. According to Melchert (1994: 240f.), Luwian word-internal long  $\bar{i}$  arises from accented short  $*i$  in open syllables, from accented long  $*\bar{i}$ , which in turn may be the outcome of  $*i$  through compensatory lengthening, of a rising  $i$ -diphthong by monophthongization, and of inherited long  $*\acute{e}$  (in contrast with  $\bar{a} < *eh_1$ ). While most of this is uncontroversial, the view that inherited long  $*\acute{e}$  resulted in  $\bar{i}$  was challenged by Hajnal (1995: 61–64). He tried to show that  $*\acute{e}$  and  $*eh_1$  merged into  $\bar{a}$  in Luwian. Surprisingly, the question is relevant only for three of the words treated here (*ni-i-iš* ‘not’, *hi-i-ru-u-un* ‘oath’ and *ki-i-ša-am-ma* ‘combed’). In addition to the sources of long  $\bar{i}$  just mentioned, a development of disyllabic *-iya-* >  $\bar{i}$  still observable in the texts seems to be generally accepted (e. g. Plöchl 2003: 20; Melchert 2004: 474; Bauer 2014: 30f.). As a consequence, plene <i> may have multiple sources. In each single case, this source is to be determined. If, with our improved knowledge of Luwian phonology and lexicon, we arrive at a coherent picture for all its attestations within the corpus, Melchert’s hypothesis of plene <i> as marker of vowel length can be regarded as confirmed.

3.1. The abstract suffix *-tīl-* in Luw. *pu-u-wa-ti-i-il* ‘past’ is long known to be the equivalent of Hitt. *-zzīl-* (Melchert 1994: 119f. with references). Hitt. *-zzīl-* goes back to the composite suffix  $*-tī-lo-$  from abstract  $*-tī-$  plus adjectival  $*-lo-$  with apocope of the final syllable. The position of the accent of the Hittite derivative can be determined by both the plene spelling in *-zzīl-* and the apocope (cf. Melchert 2001 and Rieken 2008: 246–9). It stands to reason to assume the same for Luwian *-tīl-*. Accordingly, *-ti-i-il* is a case of lengthening an originally short accented  $*i$  in open syllable parallel to its Hittite equivalent. Based on the root connection proposed by Ivanov (2002), a back projection  $*b^rweh_2-tī-lo-$  ‘(entity) belonging to being’ seems plausible.

The same sound change can be assumed for cases of reduplication. In general, verbal reduplication syllables were accented, in Hittite (see Dempsey 2015: 333–41). They were lengthened in open syllables and spelled plene (Melchert 1994: 131). The same seems to apply for Luwian. Cases of verbal reduplication syllables with plene <i> are the 2<sup>nd</sup> sg. imp. *ti-i-ta* ‘?’ and the 3<sup>rd</sup> pl. imp. *li-i-la-an-du* ‘let them pacify’. The meaning and etymology of the former are not known, but since the 1<sup>st</sup> sg. prt. *ti-ta-aḫ-ḫ[a]* of the same verb is proof of a stem *tita-*, the forms lend themselves to such an analysis. The latter is related to the noun *līla-/lēla-/lila-* ‘conciliation, pacification’ attested in Hittite texts (Melchert 1993: 127). This, in turn, is interpreted as a reduplicated thematic noun derived from the verb *lā-/l-* (root  $*leh_1-$  ‘loosen, release, remove; cf. Kloekhorst 2008: 523f.; Puhvel, HED 5: 77; Tischler, HEG L/M: 56f.). Since inherited  $*lī-lh_1-o-$  would be reflected by  $*līlla-$  with assimilation of the laryngeal (Melchert 1994: 79–81), both verbal *līla-* and nominal *līla-/lēla-/lila-* must be regarded as late formations. The frequent forms with *e* in the reduplication syllable either reflect the original Hittite formation ( $*lē-loh_1-$  >  $lē-la-$ ) or are just another example of the “Hittitization” of a Luwian loanword by means of a hypercorrect replacement of *i* with *e* in New Hittite, as suggested by Yakubovich (2010: 326–333; differently Kloekhorst 2008: 524).

Luw. *ti-i-ta-ni* dat./loc. sg. ‘breast, teat’ follows the same pattern, being related to the participle *titaḫma/i-* ‘suckling’ (differently Kloekhorst 2008: 875–7). Although there is no Old Script attestation of its Hittite cognate *tēta(n)-*, the almost consistent spelling with <te-> and <te-e-> implies that the reduplication vowel *e* is original, different from the Luwian reduplicant with *i*. Thus, Hitt. *tēta(n)-* and Luw. *tīta(n)-* are parallel formations built according to the rules of their respective languages, with different reduplication vowels, which, however, had been lengthened under the accent in the Proto-Anatolian period in either case. The extension with an *n*-suffix is surely another late development common to both words due to contact.

**3.2.** The negation *ni-i-iš* can be derived from either *\*nē+* (cf. Dunkel 2014: II 536, *\*né eh<sub>1</sub>*) or *\*nei+* (cf. Dunkel 2014: II 537f., *\*né ih<sub>1</sub>*) depending on what one accepts as the reflex of *\*é* in Luwian. Neither account would be problematic for the assumption that plene <*i*> represents a synchronic long vowel  $\bar{i}$ .

A better example of *\*é >  $\bar{i}$* , spelled with plene <*i*>, is nom./acc. *hi-i-ru-ú-un*, obl. *hi-i-ru-ú-t°* (contra Hajnal 1995: 61–64; see above section 2). Following Watkins (1993: 469–73), the word goes back to *\*h<sub>2</sub>ér-u-* with accented vřddhi grade, enlarged by a suffix *\*-t-*, and can be compared to Gk. ἀνά ‘prayer, imprecation, curse’ < *\*ar-w-á* < *\*h<sub>2</sub>eru-éh<sub>2</sub>*. According to Eichner’s Law, long *\*é* in *\*h<sub>2</sub>ér-u-* was not colored in spite of neighboring *\*h<sub>2</sub>*, but developed into  $\bar{i}$  in Luwian (Melchert 2004: 471 fn. 1).

**3.3.** Long  $\bar{i}$  in Luw. *kīšamma/i-* ‘combed’ is unexpected from the diachronic point of view. This verb shows consistently a participle *ki-(i-)ša-am-m°* in all of its three attestations, which would fit a root stem as well as a stem in *-a-/-ai-(di)*. The plene spelling in the root with <*i*> occurs both in Luwian context (twice) and in the Luwian loanword in Hittite *kīša(e)-*. Since it should be the suffix syllable of *kīša(e)-* that carries the stress, long  $\bar{i}$  must originate in Luwian *ki-(i)š°*. Melchert (1994: 152) assumes for the Luwian word a denominative formation *kīš-a-/-ai-(di)* based on a noun *\*kīš-a-* with lengthened grade. This would require a derivational chain such as PIE root *\*kes-* ‘to comb’ → *\*kés-o-* ‘comb’ → *\*kēs-ó-* ‘belonging to the comb, (subst.) comb teeth’ → *\*kēs-eh<sub>2</sub>ye/o-* ‘to treat with comb teeth, to comb’, which is not impossible, but a more economical hypothesis would be preferable. Kloekhorst (2008: 482) operates for Hittite with an ablauting stem *\*kés-ti/ks-énti*, which would give *\*készi/kis-ánzi* and with paradigmatic leveling lead to the attested stem *kīš-*. However, this does not work for Luwian. A slight change of this scenario is necessary. Following Ilya Yakubovich (pers. comm.), we may assume paradigmatic leveling of the root verb *\*kés-ti/ks-énti* at an early stage resulting in PANat. *\*kés-ti/kes-énti* and, by sound change, in PANat. *\*kés-ti/kis-énti*. While, in Hittite, only the vowel *i* of the weak stem was extended to the strong stem (→ *kís-tsi/kisántsi* <*ki-iš-zi/ki-ša-an-zi*>), in Luwian, the root accent of the strong stem of *\*kás-ti/kis-ánti* also spread to the plural giving *\*kásti/kisanti*. After the Luwian lengthening of vowels in open syllables (Melchert 1994: 76, 132) had taken place, the plural stem *kís-* <*ki-i-š°*> replaced *\*kás-* in the singular. Then, Luw. *kís-* functioned also as the base for the Hittite loanword *kīša(e)-*. Thus, Luw. *kīšamma/i-* ‘combed’ is perfectly in line with the working hypothesis of this article, but, pace Melchert (1994: 152), is not a case of *\*é >  $\bar{i}$* .

An analogous explanation applies to the spelling [(<sup>UZU</sup>*ha'-ap-p*)]*i-i-ša-a-ti*, which is attested alongside eight cases without plene spelling. For its Hittite equivalent *happeššar*, *happešn-*, Melchert (2013) starts from a paradigm with mobile accent: nom./acc. *\*h<sub>2</sub>ép-s* with oblique stem *\*h<sub>2</sub>ep-s-n-*. In addition to other uncontroversial phonological changes, *\*h<sub>2</sub>ép-s* receives an anaptyctic vowel *i* (*\*háppis-*) after the accented syllable in the strong stem. In the weak stem, however, the anaptyctic vowel was inserted before the accented syllable. It then seems to have attracted the accent and developed into *é* in *happés-n-*; cf. Hitt. *teri-*, Luw. *tarri-* (according to Čop’s Law; cf. Čop 1970) < CANat. *\*téri-* < PIE *\*tri-*. This is followed by paradigmatic leveling resulting in the attested Hittite paradigm *happešš+ar*, *happešn-*. In Luwian, the equivalent phonological developments would produce a paradigm nom./acc. *háppis*, obl. *\*háppáss-*, which with paradigmatic leveling could give the stem *\*háppis-* for all case forms.<sup>3</sup> Finally, anaptyctic *i* was lengthened under the accent (*happís-* as attested). Apart from the analogy of the Hittite

<sup>3</sup> The plene spelling of the abl./instr. ending goes back to the contraction of *ó-o* in *\*óyodi* < *\*óyoti* (Rieken 2005) and is generalized throughout all stem classes independent of any secondary accent position.

development, confirmation of the proposed historical derivation comes from the fact that the root syllable never shows plene spelling.

**3.4.** The denominative suffix  $-\bar{i}^{(di)} < *-\bar{e} < *-\bar{e}é < *-\bar{e}yé$  (pl.  $-ai < *-\bar{e}yó$ ; with inherited accented suffix  $*-yé/ó$ ) is found in the 1<sup>st</sup> sg. prt. *la-ḫu-ni-i-ḫa* ‘washed’ (← inf.  $*lāḫuna$  according to Melchert 1993: 120). A similar explanation probably applies to  $|\chi-i-ta-an^?-al-li-i-ti$ , a 3<sup>rd</sup> sg. prs. of a denominative verb from a noun in  $-alla/i-$  (David Sasseville, pers. comm.), and to the 3<sup>rd</sup> sg. imp. *ar-za-zi-i-du* with its variant *ar-š[(a-zi-i-du)]* because of the complexity of its base. In contrast, *tar-ši-i-ta* ‘dried’ contains the homophonous causative-iterative suffix  $*-eye/o-$  (David Sasseville, pers. comm.). Other possible examples of these stem suffixes, either denominatives or causative-iteratives, are the 3<sup>rd</sup> sg. prt. *wa-ri-i-ta* ‘?’, attested in broken context, and 3<sup>rd</sup> sg. prt. *at-ti-i-da* ‘?’.

**3.5.** The Luwian adverbs *ku-wa-ti-i-in* ‘as, how’ and *a-pa-ti-i-i[n]* ‘thus’ taken by themselves would be easily explicable as the combination of the pronominal roots  $*k^w-$  and  $*ob^h-$  with the nominal endings  $*-óyoti > *-\acute{o}di > -\bar{a}di$  of the ablative plus the ablative particle  $*-im > -in$ , as suggested by Goedegebuure (2010: 86f.). The contraction of the two *i* vowels would naturally result in long  $\bar{i}$  as attested. However, we also find semantically identical forms that feature no final nasal but show long  $\bar{i}$  nevertheless: *a-pa-ti-i* ‘thus’ and the corresponding form of the proximal stem *zā-*, i. e. *za-a-ti-i* ‘thus, in this way’. The only way to account for them is to assume an accent shift to the final syllable by analogy with the dat./loc. sg. in  $-\bar{i}$  (as attested in, e. g., *ta-ti-i* ‘for the father’ or *iš-ša-ri-i* ‘in the hand’ and paralleled by Lyc. *A tdi < \*tedi* dat./loc. ‘who, which’ with syncope of the secondarily unstressed root syllable). The same is probably true for the forms underlying *ku-wa-ti-i-in* ‘as, how’ and *a-pa-ti-i-i[n]* ‘thus’ as well, which may have inherited their long  $\bar{i}$  from  $*kuwatī$  and  $apatī$ . As a consequence, we cannot be sure whether the long  $\bar{i}$  comes from the contraction of final  $-i + *-im$  or from lengthening under accent. In either case,  $\bar{i}$  finds an explanation within the known framework.

**3.6.** As per Melchert (2009: 114), Luw. nom. pl. *zi-i-in-z[i]* ‘these’ goes back to  $*koi + -ms- + -oi$ , i. e. the pronominal nom. pl.  $*koi$  (cf. Hitt. *kē* ‘these’) recharacterized by the nominal nom. pl. ending  $-nzi < *-msoi$ , which, in turn, is the generalized ending  $*-ms$  of the acc. pl. recharacterized by the pronominal nom. pl. ending  $*-oi$ . The origin of the plene spelled *i*-vowel is thus the product of the monophthongization of an *i*-diphthong. The stem *zi-i-* was also transferred to acc. pl. *zi-i-in-za*.

Due to its fragmentary context, the meaning of the acc. sg. form *zi-i-da-ni-in* is not clear. Melchert (1993: 284) tentatively suggests that it is a derivative of *zitali-* ‘man’. If so, long  $\bar{i}$  in this word goes back to  $*oi$  or  $*ei$  (cf. *zitali- < \*koi-ti-* or  $*kei-ti-$ , Gusmani 1987/88: 109).

**3.7.** The suffix of the 3<sup>rd</sup> sg. prs. verb form *a-an-ni-i-ti* ‘treats’ is contracted from  $-i-ya < *-ye/o-$  (Melchert 2004: 474). Although attested in a fragmentary context, the form *a-ri-i-it[-]* is very probably a form of the verb *ari(ya)-* ‘raise’. Its plene spelled vowel is therefore also likely to be a contraction product of the change  $-i-ya > \bar{i}$ . Likewise, *ti-i-iḫ-ḫa* ‘?’, also attested in broken context, can be interpreted as a 1<sup>st</sup> sg. prt., derived from  $*tiya-ḫḫa$ .

A clear case of  $-i-ya > \bar{i}$  is *mi-i-ša-an-za* ‘flesh’, which has a by-form *mi-ya-ša-an-za*.

If Kloekhorst’s (2008: 1033, 1036–8) reconstruction of a root  $*tyeh_1-$  ‘end’ (underlying Hitt. *zinnela-* ‘stop, finish’  $< *ti-ne-h_1-/ti-n-h_1-$ , *zē-* ‘cook (intrans.), be cooked’  $< *tyeh_1-$ , *zanu-* ‘cook (trans.)’  $< *tih_1-neu-$ ) is correct, a root connection with Luw. *zīla* ‘subsequently, thereupon’ becomes attractive. The Luwian word could then be easily explained as a dat./loc. of a stem *zīla- < \*ziyāla- < \*tyeh\_1-lo-* ‘end’ *vel sim.*, and the meaning ‘towards (its) end’ would refer to the state

of affairs mentioned in the previous sentence, whence the grammaticalized function as an adverbial connector. This would provide a new example of *-iya-* > *ī*.

Yet another environment of *-iya-* > *ī* can be found in the suffix *-id-*. The sheer number of instances of plene spellings in this suffix shows that they do not occur randomly:

<i>wa-ni-i-ti-i-iš</i>	nom. sg. of <i>wani/īt-iyali-</i> ‘(made) of rock(?)’; cf. the base word <i>uwāniya/i-</i> ‘of a rock-face, cliff’, and <i>uwaniyant(i)-</i> ‘?’ on the same fragment
<sup>NA4</sup> <i>u-wa-ni-i-ta-im-ma-an</i>	nom./acc. sg. n. of part. <sup>NA4</sup> <i>uwanīt-ai-mma/i-</i> ‘petrified’
<i>wa-ar-ḥi-i-ta-ti-iš</i>	nom. sg. of <i>warḥi/īt-ant(i)-</i> ‘?’
<i>ma-al-li-i-ta-a-ti</i>	abl. of <i>malli/ī(t)-</i> ‘honey’
<i>[(ti-)]i-ti-i-ta-a-ti</i>	abl. of <i>tīti/ī(t)-</i> ‘pupil (of the eye)’
<i>[d]a-a-ni-i-ta</i>	nom./acc. pl. n. of <i>dāni/ī(t)-</i> ‘stele’

The accepted analysis of *wa-ni-i-ti-i-iš* is that of an *iyali-* adjective of appurtenance derived from an *id-* stem /wanid-/ ‘stele, rock-face’ (Starke 1990: 187). In addition to the unexpected plene spelling of the suffix in Cuneiform-Luwian, Hieroglyphic-Luwian features the strange neuter acc. sg. form (“STELE”) *wali-ni-za* ‘stele’ (e. g. in TILSEVET §5) with the allomorph *-za* (instead of *-sa*) in the secondary ending. The nom./acc. with *-za* occurs in CEKKE side by side with the oblique stem in /-d-/ (§3 acc. STELE-*zī*? /waniyanza/ and §22 dat./loc. sg. STELE-*ri+i* /waniri/ with rhotacism). It is obvious that what we are facing here is a new example of the analogical spread of the thematic ending *-an* (+ *-za*), which was first recognized by Melchert (2004) for neuter consonant stems and stems in *-ū(d)-*. Parallel to the extension of nom./acc. sg. *\*ḥīru* (with regular loss of final *-d-*) → *\*ḥīruwan* > *ḥīrūn* (with syncope), we may assume that nom./acc. sg. *\*wani* developed into *waniyan* (+ *-za*) and, with syncope, further into *wanīn* (+ *-za*). Moreover, the spread of the long suffix vowel of the nom./acc. *ḥīrūn* to the oblique stem *ḥīrud-* → *ḥīrūd-* by paradigmatic leveling, which was suggested by Melchert (2004), is also present in the oblique stem /wanīd-, as shown by its derivatives *wa-ni-i-ti-i-iš* ‘of rock(?)’ and <sup>NA4</sup>*u-wa-ni-i-ta-im-ma-an* ‘petrified’.<sup>4</sup> Within Hieroglyphic-Luwian, this development is paralleled by the nom./acc. sg. n. forms *sanawi-sa* (neuter stem in *-i(d)-*) vs. *sanawiyān-za* (neuter stem in *-iya-*) as demonstrated by Yakubovich (2016: 465). The same explanation probably also applies to most of the other cases of Cuneiform Luwian /-īd-, although it cannot be entirely excluded that in some cases *-īd-* was taken over only in the oblique stem while the nom./acc. sg. n. in *-i* remained intact as attested for nom./acc. sg. n. *malli*, abl./inst. *maliid-* ‘honey’.

In one out of the five cases, i. e. (“STELE”) *wali-ni-za* ‘stele’, the unexpected case form in *-inza* indicates that a specific morphological development must be underlying. In another case, *mali(t)-* ‘honey’ < *\*mēlit-*, we expect the stress to be on the first syllable because of the application of Čop’s Rule (Čop 1970). In two more cases, the plene spelling of both the first and second syllable (*tīti(t)-* ‘pupil of the eye’ and *dāni(t)-* ‘a cult object’), makes necessary an explanation for the plene spelling of at least one syllable in terms of something other than stress. The combined morphological and phonological explanation for the emergence of the suffix *-īd-* suggested above provides exactly this. For one case only, there is no independent evidence for the origin of long *-īd-* proposed here.

**3.8.** Following Carruba (1982) and Melchert (1990: 199–201), nine words with plene <*i*> in the ending were convincingly interpreted as nom. or acc. forms of adjectives with the appurtenance suffix *-iyali-*, i. e. with *\*-iyis*, *\*-iyin* and *\*-iyinzi* respectively (see Melchert 1993: s.vv.). Cf.:

<sup>4</sup> This makes unnecessary Melchert’s (2004: 472 fn. 2) own forced explanation invoking a restoration of the stem final dental *wanid-* parallel to *zarza* ‘heart’ < *\*zard-sa*, which has a completely different phonological shape.

- [hu-]i-it-wa-a-li-i-iš KUB 35.49 iv 13' 'alive'
- [LÚlu-u-la-h]i-i-iš KUB 35.49 iv 15' 'of the mountain-dwellers'
- ta-a-ti-i-iš KUB 35.49 iv 14', ta-ti-i-iš KUB 35.46, 6', da-a-ti-i-in-zi KBo 29.55 i 6 'paternal'
- AMA-i-iš KUB 35.46, 6', AMA-i-in KBo 13.260 ii 30 'maternal'
- GÉME-i-iš KUB 35.46, 6' 'of a female servant/slave'
- [m]u-ut-ti-i-iš KBo 7.68 (+) 69 ii 13' 'having power'

Most of them (with the exception of AMA-i-in and [m]u-ut-ti-i-iš) are attested in the second and third ritual of the <sup>MUNUS</sup>ŠU.GI 'Kuwatalla. In the same group of texts we also find five attestations of unexpected plene spellings with <i> of endings with *i*-mutation:

- [i-iš-ša-r]i-i-iš 'hand' (KUB 35.46 iv' 2')
- [ku-wa]-[an]-na-ni-i-in 'eyebrow' (KBo 29.10 ii 6')
- [ma-aš-ša-na-al-li]-i-in 'divine' (KBo 29.10 ii 7')
- du-ú-pa-im-mi-i-iš 'struck' (KUB 32.8(+)) 5 iii 28')
- la-al-pí-i-in= 'eyelash' (KUB 32.8(+)) 5 iii 14')<sup>5</sup>

Two pairs of them come from the same fragment and can be clearly regarded as mistakes in terms of postulated function of the plene spelling since they occur beside multiple examples without plene <i> attested in parallel contexts of the same ritual. What we observe in the first group of examples is an earlier attempt to render faithfully the reflexes of \*-iyis, \*-iyin and \*-iyinzi, which contain either a disyllabic sequence or, more probably, vowel length.

Later copyists became confused and, by hypercorrection, added plene <i> in the mutation syllable of the words of the second group. This was probably prompted by the other plene spellings in the same text that the scribes may not have understood properly and interpreted as an attempt to represent the vowel quality instead of quantity. Zsolt Simon (pers. comm.) kindly draws my attention to the fact that the extra <i> in [i-iš-ša-r]i-i-iš 'hand' is rather compressed compared to the surrounding signs and seems to have been squeezed in secondarily. This may also be interpreted as an indication of the lack of confidence on the side of the scribe.

Confirmation for this hypothesis can be found in cases of unexpected plene spelling of the *i*-vowel within Hittite contexts. Instances of these are:<sup>6</sup>

- :ku-ra-a-im-mi-i-iš 'cut' (KUB 51.27 i 7')
- ši-wa-an-ni-e-eš '?' (KUB 35.146 iii 8')
- [NINDA]lu-wa<sup>7</sup>-am-me-i-en (a bread) (KUB 25.50 ii 8)
- [NINDA]la-at-ta-ri-i-en (KUB 25.50 ii 9)
- ku-wa-ra-am-mi-e-eš (KBo 30.168 Rs. 9)

If the Hittite scribes wished to render the words of the Luwian texts, which belong to a foreign language, with special accuracy (see section 1), this could easily result in a hypercorrect spelling by means of an extra <i> vowel sign. On the phonological level, it was not meant to represent a long vowel, but a "proper" /i/, while on the morphological level, plene <i> was used to emphasize the correct Luwian form with *i*-mutation. This explanation would be valid for the attestations of both the second group of words in this section and :ku-ra-a-im-mi-i-iš in Hittite context.

In contrast, we may associate the other four spellings of the latter group containing *e*-signs with Yakubovich's (2010: 326–33) scenario of the hypercorrect spread of /e/ in Luwian loanwords in order to avoid non-standard "Luwian" *i*-vocalism in Hittite texts. Thus, the diffusion

<sup>5</sup> Two more words stem from the same corpus (KUB 35.13, 20' and KBo 9.41 i 5' and *ibid.* 6'), but since neither meaning nor context are known, nothing can be drawn from them.

<sup>6</sup> Courtesy Zsolt Simon.

of /e/ does not only affect lexemes as Yakubovich (2010: 326–333) had suggested, but also grammatical morphemes.

If this is correct, both types of unexpected plene spelling, with <i> and <e>, are due to hyper-correction, the former in avoidance of wrong Luwian, the latter by shunning putative Luwianisms.

The adjectival interpretation of three items is not assured due to their fragmentary contexts, but there is also no counter-evidence. Three more are fragmentary themselves:

- *tar-ga-aš-ša-na-al-li-i-i*[š] ‘of(?) a muleteer’
- [ ]*x-zu-ú-wa-ni-i-iš* ‘?’
- *wa-ni-i-ti-i-iš* ‘of rock(?)’
- *za-ši-i-in*(-)?
- *pa-ri-i-it*[-] ‘?’
- *pa-ri-i-ĩ*[-] ‘?’

**3.9.** Two more contexts of plene <i> in mutation syllables need consideration. They are due to specific phonological and graphic conditions, respectively.

While the following words are to be classified as *iyal/i*-adjectives as well, their bases end in a vowel (-a- or -u-). With Melchert (1990: 201f.), it is safe to assume that, in this specific environment, the extra <i> sign does not represent vowel length at all, but rather the glide between the first vowel and the mutation vowel (/ -ayi- / or / -uyi- /):

- *a-ar-ra-i-in-zi* ‘long’
- *ku-um-ma-i-in-zi* ‘pure’
- *pár-la-i-in* ‘front (?)’
- *wa-ar-pa-i-in-zi* ‘of enclosure’
- *wa-aš-ḥa-i-iš* ‘sacred’
- *i-wa-ru-ú-i-eš* ‘of *iwaru*-’

The same phenomenon is observable in other morphological contexts as well, e. g. in the 3<sup>rd</sup> pl. imp. *ap-pa-ra-i-in-du* ‘?’.

Another group of unexpected plene spellings with <i> is found in the position after <u> and <ú> representing either the labial glide or the labial element of /k<sup>w</sup>/ or /ḫ<sup>w</sup>/. For Hittite, Kloekhorst (2014: 134–61) was able to show that plene spellings with <e> such as <Cu-(u)-e-eC> and <Ci-(i)-e-eC> in this position are used to make up for the lack of signs <we> and <ye> (as opposed to existent <wa> and <ya>). Thus, the spellings <Cu-(u)-e-eC> and <Ci-(i)-e-eC> are functional equivalent to <Cu-wa-aC> and <Ci-ya-aC>, respectively. Although Kloekhorst (2004: 430–4) seems to be hesitant to transfer the principle to <i>, it does apply to it as well (in spite of the existence of <wiš>). As a matter of fact, it offers a convincing explanation for the following spellings with <i> where no long *ī* vowel is to be expected:

- *ku-i-iš*, *ku-i-in* ‘who’
- *ḥa-a-u-<sup>˘</sup>e-eš* ‘sheep’
- *ḥa-a-ú-i-iš* ‘sheep’
- [*ḥa-a*]-*ú-i-iš* ‘sheep’
- *da-a-u-i-iš* ‘eye’
- *da-ak-ku-ú-i-iš*, [*da*]-<sup>˘</sup>*ak/an*-*ku-ú-i-in* ‘dark’
- [*ḥu*]-*i-it-wa-a-li-i-iš* ‘alive’ (first plene <i>)

Accordingly, the adverb *za-(a)-ú-i-in* ‘here’ is ambiguous. It may be just another example of the last group, but also a case of the contraction -(i)ya- > *ī*, if it is a combination of *za-(a)-ú-i*



‘here’ + *-an* ‘in’ (cf. *pariyan* ‘beyond’ from *pari* ‘forth, away’ + *-an* ‘in’; for *-an* < \**én(i)* see Yakubovich: forthcoming). Also in the verb forms *ú-i-it-t[a-ri]* and *ta-ra-a-u-i-it-ta* the plene spelling with <i> after the signs <u> and <ú>, respectively, does not allow for any conclusions on the length of the vowel /i/.

An important repercussion of the evidence scrutinized in the last two sections is that there is no reason to assume that the *i*-mutation vowel was long (contra Melchert 2003: 187f. and Rieken 2005: 171). The plene spellings attested in the mutated endings find various, but plausible and coherent explanations in their respective contexts.

4. There are several cases of plene spelling with <i> that have not been discussed in the previous sections, because nothing can be said about their origin due to the lack of a convincing etymology or morphological analysis. It may, however, be emphasized that in each single case the plene spelling is found in open syllable and no other plene spelling occurs in the word. Therefore, nothing forbids us to assume that the position of the stress was on the plene written syllable, which would then be regularly lengthened. Cf.:

- *hal-li-i-na-i*, [*hal-*]*li-i-na-i*, *hal-li-i-n[a-i]* (factitive suffix *-īna<sup>(i)</sup>*)
- *pár-ta-ri-i-na-li-ti*
- *mi-i-lu-uš-ga-an*
- <sup>GIŠ</sup>*hi-i-e[l-lu-wa]*, <sup>GIŠ</sup>*hi-i-lu[-wa]*
- <sup>GIŠ</sup>*ti-i-ra-na*
- *n]a-di-i-en-ta*
- *hi-i-ša-a[l-]*, *hi-i-ša[(-a)l-]*

5. The second and much shorter part of this article deals with the plene spelling with the vowel sign <e>. The use of the sign is surprising given that the phonological system of Luwian as established does not contain a vowel /e/. However, there are 20 instances of <e> in the corpus. Interestingly, 10 out of these occur in the context of the sequence <Ci-e-ya><sup>7</sup> instead of expected <Ci-ya> or <Ci-i-ya>, which normally represents the adjectival or verbal derivational suffixes of the shape \**-ye/o-* (e. g. *na-a-ni-e-ya* ‘of the brother’ and *a-ni-e-ya-an-t[i(-)]* part. of *an(n)i(ya)-* ‘carry out, treat’). In a single case we find <Ci-e-a> with omission of the palatal glide (*wa-ri-e-a*). If the choice of <e> is more than just a spelling convention, it should mark an allophone of /i/ that may have arisen by a kind of dissimilation process next to the palatal glide.

An allophonic interpretation is probable also for the attestations of <e> in the neighborhood of /h/, which is a typical lowering context;<sup>8</sup> cf. *ši-e-ḫu-wa-en-zi še-e-wa*, *ḫu-u-e-ḫu-u-i-ya*, and *ḫi-e-ru-un*. Obviously, lowering of /i/ precedes the regular loss of /h/ before the labiovelar glide in *še-e-wa* (for the loss see Melchert 1994: 258).

Finally, <e> occurs three times in *da-a-i-e-ni* ‘?’ and once in *ši-wa-an-ni-e-eš* ‘?’. The status as Luwian is dubious in either case (cf. Melchert 1993: 201 and Rieken 1999: 37 contra Melchert 1993: 195). Perhaps the spelling with <e> in this phonetic context, which is unusual for Luwian, indicates a Hittite origin of the two words.

Based on the plene spellings with <e>, we may thus conclude that Luwian /i/ had an allophone [e], which occurred within the diphthong /iya/ [eya] and before and after /h/.

<sup>7</sup> After the <e> in *lu-ri-e-x* (KBo 8.130 iii 2’) two horizontal wedges that may belong to a <ya> can still be seen.

<sup>8</sup> It also causes the lowering of /u/ to [o] in Luwian (Melchert 2010) and to /o/ in Hittite (Rieken 2005 and Kloekhorst 2014, with references). A second option for *ḫi-e-ru-un* would be the lowering of /i/ before /r/, which is a lowering context for /u/ in Hittite as well.

**6 Summary.** More than 20 years ago, Melchert (1994: 27) brought forward the hypothesis that the scribes in the Hittite capital used the same spelling rules for Luwian as they did for Hittite. In the previous sections, this assumption has been put to a test by scrutinizing all data available for plene <i> in Luwian texts. It was shown that, with our improved knowledge of spelling rules in Hittite and Luwian historical phonology and grammar, Melchert's hypothesis was confirmed and can be used as a reliable basis for the investigation of plene spellings with other vowel signs. In general, plene <i> in Luwian marks a long vowel /ī/, which arises from original or anaptyctic /i/ under the accent (attested in open syllables; section 3.1 and 3.3), by sound change \*ē > ī (section 3.2), by contraction of two e-vowels via \*ē > ī (section 3.4) and contraction of two i-vowels (sections 3.5 and 3.8), through monophthongization of the diphthongs \*oi and probably \*ei (see sections 3.6 and 3.2), and by syncope of iya > ī (section 3.7). In support of the hypothesis, new etymologies (e. g. zīla) and morphological analyses (suffixes -īd- and -tīl-, ending -īn) were proposed. However, in addition to the phonological and morphological contexts listed above, spelling peculiarities after vowels (section 3.9), the relevance of origin and transmission, and other sociolinguistic factors for the use of plene <i> and <e> were taken into account (section 3.8). As a result, it became clear that the vowel /i/ in the i-mutated endings is short. Plene spellings in this morphological context find various other explanations that allow us to attribute them to the derivation with the suffix of appurtenance \*-ye/o-, to certain phonological conditions and to hypercorrection.

Plene spelling with <e> indicates an allophone [e] of the phoneme /i/ that is limited to the context of the diphthong /iya/ and the position before and after /h/ (section 4).

The rules for the occurrence of spellings with a plene <i> and <e> extrapolated from the corpus are not always applied with the same degree of strictness, but the evidence for a meaningful usage of this graphic device is clear enough not to discard it hastily.

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Элизабет Рикен. Инлаутные написания *plene* с <i> и <e> в клинописных лувийских текстах

Гипотеза Мелчерта о том, что клинописная «орфография» хеттского была передана клинописному лувийскому хеттскими писцами, была проверена на написаниях *plene* с <i>. Уточненные представления об исторической грамматике лувийского подтверждают данную гипотезу. Новые объяснения даются ряду случаев написания *plene* с <i>. Кроме того, ограниченность применения *plene* описывается при помощи набора четких правил.

Ключевые слова: написания *plene*, лувийская фонология, лувийское *zila*