

‘Let These Gods Be Paid Due Attention To!’: A New Hieroglyphic Luwian Ligature Sign *ta+tá*

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§ 1. Introduction: the problem of “AUDIRE+MI-ta+ra/i-ru”

In his *magnum opus*, Hawkins (2000: 104) transliterates and translates §32 of the Hieroglyphic Luwian inscription KARKAMIŠ A11b+c as follows:¹

§ 32 *a-wa/i | za-a-zi | DEUS-ní-i-zi | AUDIRE+MI-ta+ra/i-ru*
‘let these gods be heard!’

Yet, the interpretation of the verbal form of this clause, AU-DIRE+MI-ta+ra/i-ru, is not fully clear. As Hawkins (2000: 107) explains, he follows Laroche (1960: 45) in interpreting it as a 3pl.imp.mid. form (cf. Laroche’s translation ‘soient respectés’), but is uncertain about the form’s phonetic interpretation. In CLuwian, the 3pl.imp.mid. ending is attested as *-Vndaru* (3pl.imp.mid. [la]-a-la-aš-ḫa-an-da-ru ‘they must l.’), which is a direct match with the Hittite 3pl.imp.mid. ending *-antaru / -andaru* (e.g. *a-ra-an-ta-ru / a-ra-an-da-ru* ‘they must stand’). We would therefore expect an ending *-Vntaru* in Hieroglyphic Luwian as well, which would be spelled ^oV-ta-ru or ^oV-tá-ru (cf. Rieken 2010 for *-nta-* being spelled both with *ta* and with *tá*). It is for this reason that Hawkins states the following: “It is unclear exactly what the present writing [of AU-DIRE+MI-ta+ra/i-ru, A.K.] can represent. Rhotacism is not expected in inscrip-

1. Note that the first word of this sentence is transliterated by Hawkins (2000: 104) as “*à-wa/i*”, with the older transliteration *à* for sign HH 450. This is clearly a mistake: in the rest of the book, HH 450 is transliterated as *a*.

tions of this period [...], so in *-ra/i-ru* neither *r* would arise from an original *t*. The *-ta* could be part of the verb stem, though most attested forms of AUDIRE (**tumanti-*) show it to be an *-i*-stem [...]. The easiest form to identify as 3 plur. imp. would be if *-ta+ra/i-ru* represented *-(n)tarru*. However this may be, the translation follows Laroche in identifying the form.”

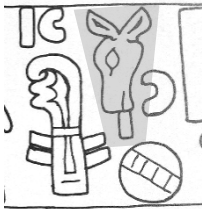
A similar analysis is provided by Sasseville (2021: 145), who reads AUDIRE+MI-*ta+ra/i-ru* as /tummantintaru/, i.e. as a 3pl.imp.mid. form in *-ntaru* of the verb *tummanti-*, with the sign sequence *-ta+ra/i-ru* as representing /-(n)taru/ (this analysis is followed by *eDiAna*, ID 1645). In order to explain the spelling of the intervocalic, single /r/ with two *r*-signs, ${}^{\circ}V+ra/i-rV$, he refers to a parallel case in 3sg.imp.mid. *i-zi-ia+ra/i-ru* (KARATEPE 1 Hu., §50) ‘he must become!’ which is duplicated by *i-zi-ia-rú* (KARATEPE 1 Ho., §50), and therefore must represent /itsiaru/, proving that the spelling ${}^{\circ}V+ra/i-ru$ can occasionally represent ${}^{\circ}Vru$ /. Although this analysis of AUDIRE+MI-*ta+ra/i-ru* as /tummantintaru/ may not be fully excluded, it has a clear drawback: in almost all other attestations of the verb *tummanti-* the latter part of the stem is spelled out phonetically: AUDIRE+MI-*ti-*, cf. e.g. 3pl.pret.act. AUDIRI+MI-*ti-i-ta* (thus attested 3 times) = /tummantinta/. We would therefore rather expect that a 3pl.imp.mid. form /tummantintaru/ would have been spelled **AUDIRE+MI-*ti(-i)-ta-ru* or (with double spelling of the *-r-*) **AUDIRE+MI-*ti(-i)-ta+ra/i-ru*.

Another interpretation of the form AUDIRE+MI-*ta+ra/i-ru* has been given by Yakubovich (*ACLT*), who cites this form not as belonging with the verb *tumman-ti^{ti}* ‘to hear’, as assumed by Hawkins and Sasseville / *eDiAna*, but rather as belonging with a different verb, *tummanta^{di}*, which Yakubovich translates as ‘to listen’. The primary reason to assume the existence of this verb is the 2pl.imp.act. form AUDIRE+MI-*ta-ra+a-nu* (ASSUR letter *e* §7), which seems to represent an underlying form *tummantaranu*, in which we indeed find a stem ending in *-a-*. Moreover, this form has a lenited ending, 2pl.imp.act. *-ranu* < **-danu*, whereas *tummanti-* is non-leniting (cf. e.g. 3sg.pret.act. AUDIRE-*ti-ta* (BABYLON 2 §3) ‘he heard’, with unlenited *-ta*). It thus clearly represents a stem that is distinct from *tumman-ti^{ti}*. Note that Waal (2021: 276) translates this verb as ‘to observe’ in the sense of ‘to pay due attention to’: (ASSUR letter *e* §7) *a-wa/i | á-pi | u-zi-na | REL-i | ha-tu+ra/i-na | AUDIRE+MI-ta-ra+a-nu* ‘May you therefore (?) observe your health!’ = ‘May you therefore(?) pay due attention to your health!’. Such a translation would also fit well the context of KARKAMIŠ A11b+c §32: ‘Let these gods be paid due attention to!’, and in that sense Yakubovich’s interpretation of AUDIRE+MI-*ta+ra/i-ru* as a form of /tummanta-/ is attractive. However, the interpretation of the ending of AUDIRE+MI-*ta+ra/i-ru* remains difficult: we are left

with the problem that it is hard to see how the etymologically expected ending *-Vntaru* is expressed in the form AUDIRE+MI-*ta+ra/i-ru* as it is attested: its spelling seems incompatible with the CLuwian and Hittite data.

§ 2. *A closer look at the sign combination ta+ra/i*

To my mind, a solution to the problematic interpretation of the form AUDIRE+MI-*ta+ra/i-ru* could lie in the shape of the sign combination that has generally been read *ta+ra/i*. If we look at the hand copy of this text (Hawkins 2000: plate 17), we indeed clearly see the sign *ta* (the donkey’s head), to the bottom of which a stroke is attached that hangs down vertically (cf. fig. 1).



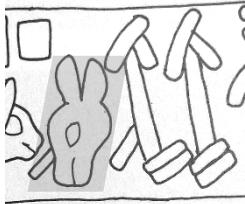
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Fig. 1: the form “AUDIRE+MI-*ta+ra/i-ru*” (KARKAMIŠ A11b+c §32), with “*ta+ra/i*” in grey. Hand copy by Hawkins 2000: plate 17.

Although this vertical stroke is generally interpreted as representing the so-called “thorn” that represents the syllable *ra/i* (hence the transliteration “*ta+ra/i*”), its shape is remarkable. Normally, the “thorn” that represents *ra/i* is attached to the back of a preceding sign, and runs from the middle of the host sign obliquely downwards.² Compare figures 2–8, in which I give all attestations of the

2. Whenever *ra/i* is attached to the signs *la*, *tu*, and *tú*, it is attached to the bottom of the sign and usually has a vertical orientation. Whenever it is slanted, it is less slanted than other instances of *ra/i* (cf. e.g. the orientation of *ra/i* in *tu+ra/i* in the form *ha-tu+ra/i-naⁱ* (ASSUR letter *d* §5) when compared to the orientation of *ra/i* in *ra+a* in the form *ha-tu-ra+aⁱ* (*ibid.*)). Nevertheless, the position and orientation of *ra/i* in *la+ra/i*, *tu+ra/i* and *tú+ra/i* cannot be used as a parallel for the position and orientation of the “thorn” in the sign “*ta+ra/i*” that is the subject of this paper, since the “thorn” *always* shows this position in the sign combinations *la+ra/i*, *tu+ra/i*, and *tú+ra/i*. This is not the case for the sign combination *ta+ra/i*, however, where *ra/i* in almost all cases has the normal position and orientation of *ra/i*. This means that the shape of “*ta+ra/i*” of KARKAMIŠ A11b+c §32 is aberrant and requires an explanation. Note that the specific shape of *tu+ra/i* with *ra/i* attached to the bottom of *tu* can already be found in early texts (e.g. in (L.291.PANIS)*tu+ra/i-pi-sa* in ALEPPO 6 §12, 11th c.

sign combination “*ta+ra/i*” in Iron Age texts that show the normal position and orientation of the “thorn” sign.



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Fig 2: the form *za-za+ra/i-ta+ra/i* (KARKAMIŠ A14a §5), with “*ta+ra/i*” in grey. Hand copy by Hawkins 2000: plate 5.



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Fig 3: the form *i-zi-i-sa-ta+ra/i-wa/i-ma-za* (KARKAMIŠ A6 §15), with “*ta+ra/i*” in grey. Hand copy by Hawkins 2000: plate 33.



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Fig. 4: the form *i-zi-i-sa-ta+ra/i-wa/i-ma-za* (KARKAMIŠ A6 §17), with “*ta+ra/i*” in grey. Hand copy by Hawkins 2000: plate 33.

BCE) as well as in seals from the Empire Period (e.g. Msk. A60, Msk. A65, Msk. B22, Msk. B35, cf. Beyer 2001: 83, 86, 128, 132). This implies that the position of *ra/i* in *tu+ra/i* had been codified already in the Empire Period, supporting the idea that a unified form of the hieroglyphic script existed at that time. It also suggests that it was as a phonetic script already for quite some period before the first attestations known to us, cf. Waal & Kloekhorst forthcoming.



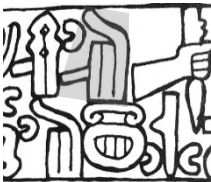
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Fig. 5: the form (DOMUS)*ki-sà-ta+ra/i-sa* (KARKAMIŠ A31 §15), with “*ta+ra/i*” in grey. Hand copy by Hawkins 2000: plate 41.



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Fig. 6: the form INFRA-*ta+ra/i* (TELL AHMAR 5 §9), with “*ta+ra/i*” in grey. Hand copy by Hawkins 2000: plate 96.



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Fig. 7: the form (“*218”) *ta+ra/i-pa-ri+i-ta* (HAMA 4 §10), with “*ta+ra/i*” in grey. Hand copy by Hawkins 2000: plate 213.

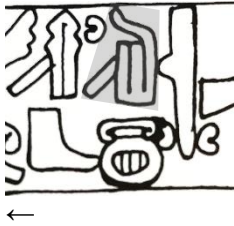


Fig. 8: the form (“*218”) *ta+ra/i-pa-ri+i-ti* (HAMA 4 §12), with “*ta+ra/i*” in grey. Hand copy by Hawkins 2000: plate 213.

The place of attachment as well as the direction of the stroke that is attached to the sign *ta* in the form “AUDIRE+MI-*ta+ra/i-ru*” of KARKAMIŠ A11b+c §32 is clearly different. The question is: is this difference significant? In order to answer this question, we have to look at other cases where the sign *ta* carries a vertical stroke that is attached to its bottom. In the corpus of Iron Age Hieroglyphic Luwian texts, I have found only two other cases where a vertical stroke is attached to the bottom of sign *ta* in the same way as in “AUDIRE+MI-*ta+ra/i-ru*”. Both cases are in the literature transliterated as “*ta+ra/i*”.

§ 3. Another example of *ta* + vertical stroke: KARABURUN §1

In Hawkins’ edition of KARABURUN (2000: 481), its first clause is read and interpreted as follows:

- §1 *za-wa/i ha+ra/i-ni-sà-za tá-ti-zi AVUS-ha-zi ARHA ha-ta+ra/i?*
 ‘This fortress the fathers (and) grandfathers *demolished*.’

However, the form that is read by Hawkins “*ha-ta+ra/i?*” does not contain the canonical shape of *ta+ra/i*, but rather shows a combination of *ta* + vertical stroke at its bottom (cf. fig. 9).



Fig. 9: the form “*ha-ta+ra/i?*” (KARABURUN §1), with “*ta+ra/i*” in grey. Hand copy by Hawkins 2000: plate 267.

Hawkins (2000: 482) explains in his commentary that we would expect the verb of this clause to mean ‘they demolished’ on the basis of the context, and that this verbal form thus should have the shape /hattanta/. The spelling *ha-ta+ra/i* is thus difficult to account for: “collation establishes that the last sign [i.e. the sign below *ta*, A.K.] is simply a vertical line and cannot be read *ta*, but its interpretation is doubtful: explanation as rhotacism of *-ta* is hardly satisfactory, since 3 plur. pret. *-(n)ta* is expected”. Hawkins’ uncertainty about how to interpret this form seems to be reflected in the fact that he transliterates it as “*ha-ta+ra/i?*”, with a question mark following *ra/i*, and that he gives the translation ‘*demolished*’ in italics.

According to Sasseville (2021: 86), the form is rather to be read as *ha-ta-ta*¹, representing /hattanta/ (this analysis followed by *eDiAna*, ID 3588), for which he quotes a personal communication by Craig Melchert: “I suggest (obviously with due reserve) that, having written the first <ta> too large and lacking space for the second, the scribe used | as a kind of ad hoc ditto sign. He did not want to disturb the following *a-wa/i*, which as usual starts its own column and nicely fills it. But in any case, the verb must be read as *ha-ta-ta*”.

This is an interesting interpretation, since it effectively states that this word should not be read as “*ha-ta+ra/i*”, but rather as “*ha-ta+₁*”, in which the combination of *ta* + vertical stroke, i.e. “*ta+₁*”, represents the sequence /tanta/: *ha-ta+₁* = /hattanta/. To my mind, a similar analysis can be applied to the form with which we started this article: instead of reading it as “AUDIRE+MI-*ta+ra/i-ru*”, it can now be read as “AUDIRE+MI-*ta+₁-ru*”. And if in this word, too, the sign combination <*ta+₁*> is to be interpreted as representing the sequence /tanta/, the entire reading of AUDIRE+MI-*ta+₁-ru* could then be /tummantantaru/, which is exactly the 3pl.imp.mid. form that we would expect, consisting of the stem /tummanta-/ following by the ending /-Vntaru/. The fact that the HLuw. 3pl.imp.mid. ending /-Vntaru/ would now be a direct match with both CLuw. 3pl.imp.mid. -*Vntaru* and Hitt. 3pl.imp.mid. -*antaru* / -*andaru* corroborates this interpretation.

§ 4. Consequences

There are some interesting consequences of these interpretations. First, if <*ta+₁*> indeed represents /tanta/ both in <*ha-ta+₁*> (KARABURUN §1) = /hattanta/ and in <AUDIRE+MI-*ta+₁-ru*> (KARKAMIŠ A11b+c §32) = /tummantantaru/, this implies that its use in KARABURUN cannot have been an “ad hoc” practice (*pace* Melchert *apud* Sasseville 2021: 86). Instead, <*ta+₁*> apparently was a sign combination that belonged to the standard sign inventory of

scribes. This idea is supported by the fact that in KARKAMIŠ A11b+c it is clearly a well-executed, deliberate sign combination: there is no reason to assume that the scribe or stone mason of this inscription would have come into any trouble regarding a lack of space (cf. fig. 1 above).

Second, there is no good indication that this sign would be a general “ditto” sign (as proposed by Melchert *apud* Sasseville 2021: 86).³ Throughout the Hieroglyphic Luwian corpus we find sign repetitions quite often (e.g. <pa-pa> or <la-la>), and there apparently was no need to abbreviate such repetitions with the use of a “ditto” sign: as far as I am aware, the vertical stroke is only used with the sign *ta*, representing the specific sequence /tanta/. In that sense, we may view <ta+_v> as a specific ligature.

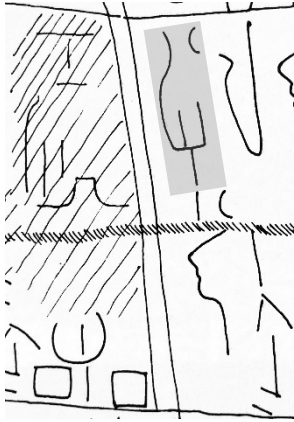
§ 5. *A possible third example of <ta+_v>: MARAŞ 8 §11*

Besides the two cases discussed above, a possible third example of the sign combination <ta+_v> may be found in MARAŞ 8 §11, which in Hawkins’ edition (2000: 253) is read and interpreted as follows:

§11 *a-wa/i(-)ta(-)ia za | PORTA x x x ia x x [...h]a²-wa/i-ta+ra/i-'*
 ‘this gate ...’

Yet, if we examine the hand copy of this text, we find that in this line, too, the sign combination that is read as “*ta+ra/i*” by Hawkins in fact consists of a *ta* + a verticle stroke that is attached to the bottom of the sign (cf. fig. 10).

3. As Craig Melchert kindly points out to me (pers.comm.), the interpretation of the vertical stroke in <ta+_v> as an *ad hoc* “ditto” sign is also difficult given the fact that a vertical stroke is also used in the value MINUS, with a privative function, e.g. AEDIFICIUM+MINUS = VACUUS, DOMUS+MINUS = DELERE, VIR₂+MINUS = MORI (Hawkins 2024: 410, with references).



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Fig. 10: the form “[...h]*a²-wa/i-ta+ra/i-*” (MARAŞ 8 §11), with “*ta+ra/i*” in grey. Hand copy by Hawkins 2000: plate 107.

In his commentary, Hawkins states about this sentence: “[...h]*a²-wa/i-ta+ra/i-*” has the appearance of being the verb, but of a form difficult to identify” (2000: 255). And indeed, since the clause to which this verb belongs is severely damaged, it is difficult to say anything about this form with certainty. Contextually, this clause is the final clause of the main body of the inscription: the next clause (§12) forms the start of the curse formula. The clauses preceding §11 all contain 1sg.pret. verbal forms and we would thus expect the verbal form of §11 to have been preterite tense as well. Yet, it seems hardly possible to interpret it as a 1sg. form, which may imply that the subject of this sentence is not the author of the text. This opens up the possibility that *za* PORTA ‘this gate’ functions as the subject of this clause, which would mean that “[...h]*a²-wa/i-ta+ra/i-*” is a 3sg.pret. form. We may then assume it represents a rhoticized version of a form / [...h]awa/ittada/, i.e. a 3sg.pret.act. form of an intransitive verb [...h]awa/itta-^{di}. Another option is that *za* PORTA ‘this gate’ is rather the object of the clause, and that “[...h]*a²-wa/i-ta+ra/i-*” belongs with a transitive verb. The subject of the clause should then be someone or something that has already been mentioned in the preceding clause. Unfortunately, the preceding clause (§10) is not easy to interpret, either. Hawkins (2000: 253) reads and translates it as follows:

§10 *a-wa/i* |x² *HWI-ru-ha-ta-za* |x(-)*pu-ti-ha*
 ‘I (-)PUTI-ed the HWIRUHATAZA’

He states that *HWI-ru-ha-ta-za* is “probably obj., acc. sing. N.” (2000: 255). Could this word perhaps have been the subject of §11? If *HWI-ru-ha-ta-za* is indeed a neuter form, this seems difficult: it is contextually not likely (but not impossible!) that a neuter word would be the subject of a transitive verb. Another possibility is to interpret *HWI-ru-ha-ta-za* as a dat.-loc.pl. form ‘to/for the *HWIRUHATA-s*’. This would mean that it is a plural form, possibly of a common gender noun. If this is indeed the case, and if this word represents the subject of clause 11, we would have to assume that “...*h*]a²-*wali-ta+ra/i-*’” is a 3pl.pret. form. This does not seem self-evident when the form is read as “...*h*]a²-*wali-ta+ra/i-*’” with “*ta+ra/i-*”, but becomes a distinct possibility if we read the form as “[...*h*]a²-*wali-ta+₁-*’”, with “*ta+₁*” representing /*tanta*/. It could then be interpreted as /[...]awa/ittanta/, which would morphologically be a clear 3pl.pret.act. form.⁴ We could then interpret §10-11 as follows: “I PUTI-ed to/for the HWIRUHATA-s, and they [...H]AWA/ITTA-ed this gate ...’.

Whatever be the right interpretation of MARAŞ 8 §11, I believe that there is a good change that the form that Hawkins read as “...*h*]a²-*wali-ta+ra/i-*’” can in fact be read “[...*h*]a²-*wali-ta+₁-*’”, which represents a 3pl.pret.act. form /[...]awa/ittanta/, supporting the reading of <*ta+₁*> as /*tanta*/.

§ 6. Different ways to write /*tanta*/?

As was convincingly shown by Rieken 2010 (with minor adaptations by Vertegaal 2019), whenever we find the HLuwian dental stop *t* as the last member of a cluster that is followed by the vowel *a*, it can be spelled both *ta* and *tá*. This includes syllables of the shape [nta], in which the preconsonantal *n* is not spelled: this syllable can be spelled *ta* as well as *tá*. This means that we would expect a sequence /*tanta*/ to have been spelled either *ta-ta* or *ta-tá*.⁵

4. Yakubovich (*ACLI*) reads MARAŞ 8 §11 as “*a-wali-ta za-ia* | PORTA x x x *ia* x x [...]a²-*wali-ta+ra/i-*’”, with “*za-ia* | PORTA”, i.e. ‘these gates’. During the lecture that forms the basis of the article, I therefore considered the possibility that ‘these gates’ should be interpreted as the subject of this clause, implying that the verb should be a 3pl.pret. form, supporting the reading of “*ta+₁*” as /*tanta*/. However, since HLuwian adheres to the τὰ ζῶα τρέχει rule, which states that neuter plurals take singular verb concord (Melchert 2003: 201), this suggestion can no longer be upheld.

5. This sequence may also be spelled *tá-ta* or *tá-tá* if a consonant precedes the first /*t*/ in /*tanta*/ (cf. Rieken 2010 for the fact that *tá* spells post-consonantal /*t*/). The former of these may be attested in the form INFRA-*tá-ta* (AKSARAY §6), if this indeed represents /*tsantanta*/ ‘down’ (thus Yakubovich, *ACLI*).

The combination *ta-ta* is attested in several HLUwian forms,⁶ but as far as I am aware, for none of these a reading /*tanta*/ can be argued for on external grounds: it therefore seems safer to assume that in all these forms the sequence *ta-ta* represents /*tatta*/. The combination *ta-tá* is, as far as I am aware, not attested anywhere in the HLUwian corpus. In other words, at present no cases are known of HLUwian words containing the sequence *ta-ta* or *ta-tá* representing /*tanta*/. To my mind, this gap supports the interpretation of the sign combination <*ta*+*t*> as /*tanta*/.

§ 7. *A new ligature: ta+tá*

Since one of the expected ways in which the Hieroglyphic writing system would write the sequence *tanta* is the sign sequence *ta-tá*, and since the latter is not attested anywhere in the corpus, I would like to propose that the combination <*ta*+*t*> in fact originated as a ligature of *ta* + *tá*. The shape of the sign *tá* is described by Laroche (1960: 21) as an “arm or hand holding a dagger” (“bras ou main tenant un poignard”). Although in the vast majority of attestations of this sign the dagger is clearly pointed, Laroche does cite variant sign forms in which the dagger is represented by a more rectangular looking element that is seemingly hanging down vertically from the hand (cf. fig. 11).



Figure 11: The different variant shapes of the sign *tá* (HH no. 29), cf. Laroche 1960: 21.

We may therefore assume that the vertical stroke in <*ta*+*t*> = /*tanta*/ represents a stylized version of the dagger of the sign *tá*, and originated as schematized in fig. 12.

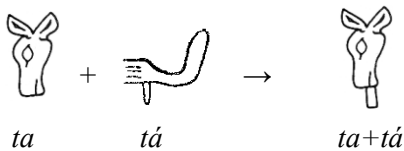


Fig 12: the possible origin of the ligature sign *ta+tá*.

6. These forms are: *ha-ta-ta-na*(URBS) (ARSLANTAŞ §2), ¹*ta-ta-ia* (KULULU lead strip 1 §8), ¹*ta-ta-sa-na* (*ibid.* §9), *ta-ta-ha* (BULGARMADEN §6).

On this basis, I propose to transliterate the combination of $\langle ta+{}_1 \rangle$ as a ligature $ta+tá$, which phonetically represents the sequence /tanta/.

§ 8. Conclusions

We can conclude the following. The verbal form “AUDIRE+MI-*ta+ra/i-ru*” (KARKAMIŠ A11b+c §32) ‘they must be paid due attention to’ does not contain “*ta+ra/i*” but rather a sign combination $\langle ta+{}_1 \rangle$, i.e. “AUDIRE+MI-*ta+{}_1-ru*”. The verbal form “*ha-ta+ra/i*” (KARABURUN §1) ‘they demolished’ likewise does not contain “*ta+ra/i*”, but rather $\langle ta+{}_1 \rangle$, i.e. “*ha-ta+{}_1*”. In both cases, the sign combination $\langle ta+{}_1 \rangle$ is best explained as representing /tanta/: /tummantantaru/ and /hattanta/, respectively. A similar interpretation would fit the broken form “[...h]a²-wa/i-*ta+ra/i-*” (MARAŞ 8 §11), which is rather to be read as “[...h]a²-wa/i-*ta+{}_1-*”, with which it can be interpreted as a 3pl.pret.act. form /[...]a²wa/ittanta/ ‘they x-ed’. The vertical stroke in these signs (cf. fig. 13) is not an “ad hoc ditto sign” (*pace* Melchert *apud* Sasseville 2021: 86).

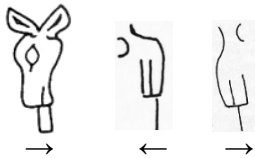


Fig 13: The three known cases of $\langle ta+{}_1 \rangle = ta+tá$, representing /tanta/, in KARKAMIŠ A11b+c §32, KARABURUN §1, and MARAŞ 8 §11, respectively.

Instead, we may rather interpret the signs as ligatures of $ta + tá$, which arose as sketched in fig. 12 above. I therefore propose to read this sign as $ta+tá$, and phonologically interpret it as representing /tanta/.

§ 9. Bibliography

ACLT1 = YAKUBOVICH, I. 2007–2009. *Annotated Corpus of Luwian Texts*. (URL: web-corpora.net/LuwianCorpus).

BEYER, D. 2001. *Emar IV. Les sceaux. Mission archéologique de Meskéné-Emar. Recherches au pays d’Aštata* (Orbis Biblicus et Orientalis 20). Göttingen: Vandenhoeck & Ruprecht.

eDiAna = HACKSTEIN, O., MILLER, J. L., RIEKEN, E., YAKUBOVICH, I. (eds.), 2016–. *Digital Philological-Etymological Dictionary of the Minor Ancient Anatolian Corpus Languages*. (URL: www.ediana.gwi.uni-muenchen.de).

HAWKINS, J.D. 2000. *Corpus of Hieroglyphic Luwian Inscriptions. Volume I: Inscriptions of the Iron Age*. Berlin/New York: De Gruyter.

HAWKINS, J.D. 2024. *Corpus of Hieroglyphic Luwian Inscriptions. Volume III: Inscriptions of the Hittite Empire and New Inscriptions of the Iron Age*. Berlin/Boston: De Gruyter.

LAROCHE, E. 1960. *Les Hiéroglyphes Hittites. Première Partie: L'Écriture*. Paris: Centre National de la Recherche Scientifique.

MELCHERT, H.C. 2003. “Language”. In: H.C. Melchert (ed.), *The Luwians*. Leiden/Boston: Brill, 170–210.

RIEKEN, E. 2010. “Das Zeichen <ta> im Hieroglyphen-Luwischen”. In: Y. Cohen, A. Gilan and J.L. Miller (eds.), *Pax Hethitica. Studies on the Hittites and Their Neighbours in Honour of Itamar Singer*. Wiesbaden: Harrassowitz, 301–310.

SASSEVILLE, D. 2021. *Anatolian Verbal Stem Formation. Luwian, Lycian and Lydian*. Leiden/Boston: Brill.

VERTEGAAL, A. 2019. “The spelling and phonology of the dental stops in Hieroglyphic Luwian”. *Kadmos* 58, 1–31.

WAAL, W.J.I. 2021. “A new interpretation of the opening lines of the Assur Letters. Including a discussion of the Hieroglyphic Luwian lexemes *hatura-*, *api* and *(*205)atun(i)-*”. *Zeitschrift für Assyriologie* 111(2), 263–281.

WAAL, W.J.I. and KLOEKHORST, A. forthcoming. “The use of the Anatolian hieroglyphic writing system in the Hittite period, the Old Assyrian period, and possibly beyond”. To appear in a forthcoming *Festschrift*.