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The origin of the phonetic value of the Anatolian hieroglyphic sign *41 (CAPERE/*tà*)

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Abstract: Following Rieken’s 2008 establishment that the Anatolian hieroglyphic sign *41 (CAPERE/*tà*) denoted the syllable /da/, with lenis /d/, Yakubovich (2008) argued that the sign’s phonetic value was acrophonically derived from the Hittite verb *dā-ⁱ/d- ‘to take’. In the present article it is argued that this view can no longer be upheld in view of new proposals regarding the phonetic value of sign *41 (rather [ða]) and the interpretation of Hitt. *dā-ⁱ/d- (rather [t²ā-]). It is proposed that the value of sign *41 has instead been derived from the Luwian verb ‘to take’, *lā-ⁱ/l-, which from a historical linguistic perspective must go back to earlier **ðā-ⁱ/ð-. This acrophonic assignment of the value [ða] to sign *41 must then be dated to the beginning of the 18th century BCE at the latest, which implies that already by that time the Anatolian hieroglyphs were in use as a real script that made use of phonetic signs.****

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1 The phonetic value of sign *41: Rieken’s reinterpretation

The Anatolian hieroglyphic sign  (HH no. *41) has two values. When used logographically, it denotes the concept ‘to take’, and is in that value transliterated as CAPERE. When used phonetically, its standard transliteration is *tà*. This transliteration reflects the fact that for a long time it was thought that *tà* stood in free variation with the two other *ta*-signs, *ta* (no. *100) and *tá* (no. *29), and that all three had the same phonetic value, [ta].¹ However, in a brilliant paper

1 Originally it was thought that also the signs *ta₄* and *ta₅* would have the same phonetic value as *ta*, *tá* and *tà*, but already in 1995, Hawkins formulated the suspicion that *ta₄* and *ta₅* in fact denoted something like [la] and/or [li], with a lateral consonant (Hawkins 1995: 114⁹; cf. also Kloekhorst 2004: 26–7, 39, with footnote 26). Rieken & Yakubovich 2010 have therefore proposed a new transliteration of *ta₄* and *ta₅*, namely *la/i* and *lá/i*, respectively. Although these transliterations are indeed an improvement compared to *ta₄* and *ta₅*, they do not do full justice to the fact that

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from 2008, Rieken was able to prove that this view is incorrect, and that *tâ* is in fact kept distinct from *ta* and *tá*. She convincingly showed that within the Hieroglyphic Luwian corpus only *tâ* alternates with the spelling *ra/i* (so-called ‘rhotacism’), whereas *ta* and *tá* never do. Moreover, *tâ* regularly corresponds to dental stops that in the cognate cuneiform languages Hittite and Cuneiform Luwian are in intervocalic position spelled as singletons (*Vta*), whereas *ta* and *tá* regularly correspond to intervocalically geminate spelled dental stops (*Vtta*) or postconsonantal stops (e.g. the 3pl. pret. ending *-nta*, which in HLuwian is always spelled *-ta* or *-tá*, but never *-tâ*). Rieken therefore concludes that, in contrast to *ta* and *tá*, which represent the syllable /ta/ with the fortis dental stop /t/, the sign *tâ* in fact represents the syllable /da/ with the lenis dental stop /d/.

2 Yakubovich’s problem and solution: HLuw. ‘to take’

In a paper that appeared in 2008 as well, Yakubovich endorses Rieken’s analysis of *tâ* = /da/, but does mention one HLuwian lexeme that at first sight would not fit her analysis: the verb ‘to take’. This verb, which is generally thought to reflect the PIE root **deh₃-*, is in HLuwian spelled both with the sign *tâ* (e.g. 3sg. pres. *tâ-i* ‘he takes’) and with the signs *la* and *la/i/u* (e.g. 3sg. pres. *la-i* ‘he takes’; inf. (“CAPERE”) *la/i/u-na* = [luna] ‘to take’). With Rieken’s analysis of *tâ* as /da/, the spelling *tâ-i* would now have to be interpreted as /dai/, with initial lenis /d-/. According to Yakubovich, the presence of a lenis stop in this word would be unexpected, however: “[s]ince Luvian consistently implemented the fortition of word-initial dental stops, there is no obvious reason why the initial consonant of this root [i.e. PIE **deh₃-*, AK] could undergo lenition in any dialect of Luvian” (2008: 21). However, Yakubovich (2008: 21–3) convincingly solves this issue by reviving an earlier suggestion by Morpurgo Davies & Hawkins (1979: 395–8) and Morpurgo Davies (1987: 211¹⁷): every time the HLuw. verb ‘to take’ is seemingly spelled with word-initial *tâ*, we may in fact interpret this sign logographically, and transliterate it as CAPERE. The true phonetic value of ‘to take’ would then have been *laⁱ/l-*, which is phonetically expressed with the signs *la* and *la/i/u*. Although Hawkins and Morpurgo Davies themselves express doubts about the validity of their own idea (see also the next section),² Yakubovich convincingly

the consonant indicated by these signs does not seem to be entirely equal to the normal lateral consonant [l] that is denoted by the signs *la*, *li* and *la/i/u*.

² Hawkins himself therefore has in CHLI kept the custom of transliterating ‘to take’ both as *la*- and as *tâ*-.

shows that it would nicely fit all attestations of this verb.³ For instance, 3sg. pres. *tà-i* as attested in KÖRKÜN § 8 (transliterated thus in CHLI) may now be read CAPERE-*i*, and can thus be regarded identical to the 3sg. pres. form that in the same inscription is spelled *la-i* (§ 11), in the sense that both can now be interpreted as representing a phonetic form [lai]. In this way, it is not necessary anymore to assume that the HLuw. verb ‘to take’ contained in some of its forms a word-initial lenis dental stop, and Rieken’s interpretation of *tà* as representing the syllable /da/, with lenis /d/, can be maintained.

3 Morpurgo Davies’ hesitation: the origin of the phonetic value of sign *41

The reason for Morpurgo Davies to be hesitant about the idea that the verb ‘to take’ would only have the phonetic shape *laⁱ/l-* is the following problem: since “a <tà> syllabic value [of sign *41] is certain, ... it would be difficult to understand the origin of this value if the verb was not *ta-*, but *la-*” (1987: 211¹⁷). She adds, however, that we may assume that “an earlier *ta-* verb in existence at the time when the syllabary was created was replaced by a *la-* verb due to phonetic change or lexical replacement” (*ibid.*). Unfortunately, she does not give a concrete scenario of how and when this change or replacement would have happened.

4 Yakubovich’s adaptation of Morpurgo Davies’ solution

According to Yakubovich, the second part of Morpurgo Davies’ suggestion – lexical replacement – can be made more concrete by reinterpreting it in, as he calls it, “sociolinguistic terms” (2008: 23). Moreover, he places this reinterpretation within the context of a new approach to the origin of the Anatolian hieroglyphic script. Although it was thought for a long time that this script originated in an exclusively Luwian-speaking environment because quite a few signs have phonetic values that seem to be based on the initial syllables of Luwian lexemes (according to the so-called acrophonic principle), Yakubovich argues that some signs may rather have acrophonically received their sound value on the basis of

³ Note that the verb ‘to take’ also knows a reduplicated variant, *lalaⁱ* (cognate with the CLuw. reduplicated stem *lālāⁱ* ‘to take’), which is clearly attested in e.g. 3pl. (“CAPERE”) *la-la-ta* = [lalanta] (MARAŞ 1 § 9). It therefore is not always clear whether forms spelled *41-*la-* should be interpreted as CAPERE-*la-* = reduplicated [lala-] or as (CAPERE)*la-* = unreduplicated [la-]. This problem does not affect the remainder of this article, however.

Hittite lexemes, which would mean that the hieroglyphic script had developed in a mixed Hittite and Luwian-speaking environment (2008: 1–20, with references to earlier literature). To his mind, sign *41 (CAPERE/*tâ*) may be such a case. He proposes that, after an initial stage in which this sign only had the logographic value ‘to take’, “[a]t some early point in the history of the hieroglyphic script, the Hittite verb *dā-* ‘to take’ provided a basis for the acrophonic derivation of [its] phonetic value <da> (vel sim.)” (2008: 23). At a later stage, “[a]fter the convention of reading the hieroglyphic texts in Luvian came about, the sign CAPERE became secondarily associated with Luv. *la(la)-* ‘to take’, and this led to the rise of the (semi-)phonetic spellings CAPERE(-)*la*. But the phonetic values of the Anatolian hieroglyphs had already been fixed by this time, and so the reading <*tâ*> of L 41 remained unaffected” (2008: 24).

In fact, Yakubovich sees sign *41, having the phonetic value /da/ from Hitt. *dā⁻ⁱ/d-* ‘to take’, as an important argument in favor of his postulation that the hieroglyphic script originated in a mixed Hittite and Luwian-speaking environment: it is the first one to be mentioned in a group of four hieroglyphic signs for which in his view an acrophonic derivation based on the sound shape of a specifically Hittite, but not Luwian, lexeme can be suggested (2008: 24–5).⁴

5 A first problem for Yakubovich’s theory

Although tucked away in a footnote, Yakubovich is aware of the fact that the phonetic match between Hitt. *dā⁻ⁱ/d-* ‘to take’ and the hieroglyphic sign *tâ* = /da/ is not perfect (2008: 23²⁶). It is usually thought that in Hittite all word-initial dental stops had become fortis, which would then be applicable to Hitt. *dā⁻ⁱ/d-* as well: /tā-, t-/ (but see section 7 for a refinement of this analysis). This contrasts with Rieken’s discovery that the hieroglyphic sign *41 (CAPERE/*tâ*) does not represent the fortis stop /t/, but rather lenis /d/. This means that the phonetic value of *41 cannot have been directly taken over from the phonetic value of Hittite *dā⁻ⁱ/d-* ‘to take’. Yakubovich tries to bypass this point by leaving open the possibility that *tâ*, just like the sign *ta*, originally denoted a fortis /t/, and that, later on, “<ta> and <tâ> underwent a secondary differentiation” (*ibid.*). He does not offer a concrete scenario as to how and when this would have happened, however.

Already taken on its own, this point makes Yakubovich’s theory on the origin of the sound value of sign *41 weak. In the sections to follow I will argue that

⁴ The other three being *390 = 4/*mi* (after Hitt. *mei(a)u-* ‘four’), *90 = PES/*ti* (after Hitt. *tije/a^{-zi}* ‘to step’), and *56 = INFRA/*kâ* (after Hitt. *katta* ‘down’).

new insights into the phonetics of both the sign *41 (section 6) and the Hittite verb *dā-ⁱ/d-* (section 7) make his theory even weaker. I will therefore offer a new account of this sign's origin (sections 7–12), which has interesting consequences for the origin of the Anatolian hieroglyphic script as a whole (section 13).

6 Rieken's refinement of the phonetics of *tā*

In 2010, Rieken dives again into the phonetic values of the Anatolian hieroglyphic *ta*-signs, this time focusing on *tā*. On the basis of an investigation of a sub-corpus of KARKAMIŠ-texts, she argues that although in some lexemes *tā* stands in free variation with the sign *ta*, this is not always the case: there are also lexemes that are only spelled with *ta*, never with *tā*. In this latter group, the sign *ta* designates consonants that from an etymological point of view are expected to stand in an intervocalic position and to have a fortis character. In the former group, however, the consonants written by both *ta* and *tā* usually stand in post-consonantal position, especially after **n* and *s*, or are the outcomes of original lenis stops that underwent Čop's Law. On the basis of this distribution, Rieken proposes that the difference between the two groups must have been voice, and that exclusive *ta*-spelling represents a voiceless stop [t(:)] (Rieken 2010: 306 calls it "conceivable" that this stop was long, but does not insist on it), whereas alternating *ta/tā*-spelling marks the presence of a voiced stop [d(:)] (with the short variant in consonant clusters, and the long variant in Čop's Law position). As a consequence, the value of *tā*, which represents the lenited dental stop and which is clearly kept distinct from both *ta* and *tā*, cannot have been a voiced stop (as was more or less tacitly assumed in Rieken 2008). She therefore adapts its phonetic interpretation to that of a voiced dental fricative, [ð],⁵ so that it would have been phonetically identical to the Lycian lenis dental consonant *d*, which was a fricative as well, [ð] (~[θ]).⁶

Vertegaal (2019) offers a refinement of Rieken's findings regarding *tā*, by investigating the entire HLUwian corpus. He argues that in some consonant clusters the stop spelled by *ta/tā*-interchange can hardly have been voiced, but must have been voiceless. Moreover, he argues that Rieken's Čop's Law examples are difficult to maintain, and that there therefore is no need any more to assume a long [d:] as the value of *ta/tā*. He therefore comes to a phonetic interpretation that

⁵ The idea that this consonant was voiced is based on the fact that from the end of the 9th century BCE it sporadically turned into [-r] or [-r-], as evidenced by the so-called 'rhotacism', cf. Melchert 2003: 179f., Goedegebuure 2010: 76–9.

⁶ Cf. e.g. Kloekhorst 2008: 125–6 for the value of Lycian *d*.

slightly differs from Rieken's, with *ta* denoting a long voiceless stop [t:], and with alternating *ta/tá* representing a short stop that, depending on its environment, can be voiceless, [t], or voiced, [d]. The phonemic difference between the two consonants would thus be consonantal length, with *ta* representing /t:/ and *ta/tá* = /t/ (albeit with allophonic voicing in certain environments). When it comes to *tâ*, Vertegaal retains Rieken's interpretation of this sign as representing a fricative [ð] (although he notes that phonemically the voice may be seen as redundant, so that we can set up the phoneme as /θ/).

All in all, Rieken's 2010 investigation into the sign *tá* has made clear that *tâ* phonetically represents a voiced dental *fricative* [ð] (which phonemically may have been voiceless), and not a voiced dental *stop*. This is a second problem for Yakubovich's 2008 theory that the phonetic value of *tâ* was acrophonically based on the Hittite verb *dā-i/d-* 'to take': the initial consonant of this verb certainly was a dental stop, not a fricative.

7 A refinement of the phonetic interpretation of Hitt. *dā-i/d-*

In 2010, I published an article dealing with the phonetic interpretation of initial stops in Hittite, in which I observed that in the Old Hittite corpus the verbs *dā-i/d-* 'to take' and *dai-i/ti-* 'to put' are the only lexemes that show consistent word-initial spelling with the sign DA, whereas all other inherited lexemes starting in a dental stop are in principle always spelled with the sign TA. I argued that the deviating spelling of *dā-i/d-* and *dai-i* with the sign DA must be linked to the etymological presence in these lexemes of word-initial clusters of dental stop + laryngeal: e.g. 3sg. pres. *da-a-i* 'he puts' < **d^hh₃ói-ei*, 3pl. pres. *da-an-zi* 'they take' < **dh₃-énti*. Since in Old Babylonian the sign DA is not only used in the value [da], but can also represent *ta*,⁷ with the 'emphatic' dental stop *t*, which phonetically was a

7 Popova 2016 has criticized my view that in the Old Babylonian texts from Alalāḫ VII the sign DA is the primary way of spelling the syllable /ta/ (which I used as supporting evidence for the idea that in Hittite the sign DA can be used to represent the syllable [t'a]). According to her, "Kloekhorst's central idea [about DA representing /ta/] turns out to be unsupported by the available Alalāḫ statistics: in Alalāḫ, DA has no strong association with any phonemic sequence" (2016: 89). However, this is too strong a statement given her own observation that "the number of occurrences of the phonemic sequence /ta/ is not sufficient to draw any valid conclusions about its representation in the Alalāḫ texts" (2010: 84). I agree with Popova that the number of Alalāḫ VII attestations of the syllable /ta/ in non-onomastic material is on the low side (17x in total, of which 11 are spelled DA, 3 are spelled TA, and 3 are spelled ḪI). This is the reason why in Kloekhorst 2010: 236¹⁹ I remarked that if we include personal names containing the syllable /ta/, we get more robust numbers. Using Popova's improved count of the number of attestations

post-glottalized, i.e. ejective, stop [tʰ], I have argued that in these Hittite words the sign DA represents a phonetic value [tʰa]: *da-a-i* ‘he puts’ = [tʰái] < *d^hh₁ói-ei and *da-an-zi* ‘they take’ = [tʰántsi] < *dh₃-énti.⁸

This means that the initial consonant of Hittite *dā⁻ⁱ/d-* ‘to take’⁹ was in fact a post-glottalized [tʰ]. This sound value is even further removed from the fricative [ð] that is denoted by the hieroglyphic sign *41 (CAPERE/tā). It therefore seems fair to say that Yakubovich’s idea that the value of sign *41 = [ða] was acrophonically based on the Hittite verb *dā⁻ⁱ/d-* ‘to take’ = [tʰā-/tʰ-] can hardly be correct: the phonetic distance between the two is just too large.

8 The prehistory of Luw. *lā⁻ⁱ/l-* ‘to take’

The Hieroglyphic Luwian verb for ‘to take’ has a direct cognate in CLuwian *lā⁻ⁱ/l-* ‘to take’ (e.g. 3sg. pret. *lātta*, 1pl. pres. *lūmni*).¹⁰ The prehistory of these verbs is

of /ta/, we then arrive at a total of 40 attestations of the syllable /ta/, which are 33x spelled DA (82.5 %), 4x spelled TA (9.1 %) and 3x spelled HI (6.8%). According to the rules of Popova (2010: 72), a percentage of 82.5 % should be classified as “weak evidence” for a significant distribution between the choice of a specific sign for the writing of a certain syllable. However, Popova’s assignment of classifications to different percentage ranges (0–75 % = “no evidence”, 75–95 % = “weak evidence”, and 95–100 % = “strong evidence”) is, as she states herself, “arbitrarily” and “intuitively” chosen (2010: 72). To my mind, they are way too strict, and I would opt for, for instance, 0–65 % = “no evidence”, 65–80 % = “weak evidence”, 80–95 % = “good evidence”, and 95–100 % = “strong evidence”. With such a classification, the percentage of 82.5 % would constitute “good evidence” for the hypothesis that the sign DA was the predominant way of spelling the syllable /ta/ in the Old Babylonian texts from Alalakh VII.

8 This interpretation was later confirmed by investigations into the spelling of Hittite dental stops in word-internal position (Kloekhorst 2013; 2020), for which it can be shown that the spelling (-)Vd-da(-) corresponds to etymological clusters of dental stop + laryngeal, whereas the spelling (-)Vt-ta(-) reflects intervocalic *t: e.g. *padda-* ‘to dig’ < *b^hod^hh₂-V^o; *paddan-* ‘basket’ < *p(e)th₂-en-; *piddai-* ‘to flee’ < *pth₁oi-; etc. I have therefore argued that in these lexemes, too, the sign DA represent the value [tʰa], with a post-glottalized dental stop [tʰ] that is the direct reflex of PIE *TH: *padda-* ‘to dig’ = [patʰa-]; *paddan-* ‘basket’ = [patʰan-]; *piddai-* ‘to flee’ = [pitʰai-]; etc.

9 Note that the singular stem of *dā⁻ⁱ/d-* should in principle reflect *doh₃-, which regularly should have yielded Hitt. [tā-], spelled **ta-a-. As explained in Kloekhorst 2010: 207²⁷, I assume that on the basis of the plural stem *dh₃-, which regularly yielded Hitt. [tʰ-], the post-glottalized [tʰ-] spread to the singular stem. In other words, PIE *doh₃-ei/*dh₃-enti first yielded pre-Hitt. *[tʰāē]/*[tʰánti], which was changed to *[tʰāē̄]/*[tʰánti], which regularly yielded Hitt. [tʰái]/[tʰántsi], spelled *da-a-i/da-an-zi*.

10 CLuwian also knows a reduplicated variant, *lālā⁻ⁱ* ‘to take’ (e.g. 1sg. pres. *lālā^{ui}*, 3sg. pres. *lālai*, *lālāi*, 3pl. pres. *lālanti*), which is the direct cognate of HLuw. reduplicated *lala⁻ⁱ* (cf. footnote 3). In the remainder of this article these reduplicated verbs will be left out of consideration.

not fully clear. In the handbooks it is usually assumed that the Luwian verbs ‘to take’ should be directly cognate to Hitt. $d\bar{a}^{-i}/d^{-}$ ‘to take’, which is generally seen as going back to $*doh_3-/dh_3-$, from the PIE root $*deh_3-$ ‘to give’.¹¹ However, the normal outcome of word-initial $*d-$ in Luwian is $t-$, as is clear from words like $*doru-$ > Luw. $t\bar{a}ru-$ ‘wood’, $*dieuot-$ > Luw. $tiyat-$ ‘day-god’, etc. Within the old paradigm that in HLuwian the verb ‘to take’ showed both forms with word-initial $t-$ (spelled with $t\bar{a}-$) and word-initial $l-$ (spelled with $la-$ and $la/i/u-$), the forms with $t-$ were seen as the normal outcomes of PIE $*deh_3-$, whereas the forms with $l-$ were seen as irregular. Compare, e.g. Melchert (1994: 174) who states that Luwian “shows a sporadic change of initial $*d-/$ to $l-/$. One finds both HLuv. (CAPERE) $la-$ and (CAPERE) $ta-$ ‘take’ < $*deh_3-$. CLuv. has only $l\bar{a}-$ ”. Yet, as far as I am aware, no-one has formulated a clear condition for this “sporadic” change of $*d-$ to Luw. $l-$. In a way, this problem has now vanished, however. As we have seen above, it has in the meantime become clear that all HLuwian attestations of ‘to take’ that are spelled with the sign $*41$ can in fact be read logographically, and that the HLuwian verb for ‘to take’ only had the phonetic shape $la^{-i}/l-$, not $**ta^{-i}/t-$. There is thus no need any more to explain the difference between forms with $t-$ and $l-$. At the same time, however, the problem has now become worse: the fact that in both Luwian languages the verb ‘to take’ shows in all its forms initial $l-$ is now a full mismatch to the fact that in other words PIE $*d-$ regularly yields $t-$.

Yakovovich has therefore proposed to cut the etymological ties between Luw. $l\bar{a}^{-i}/l-$ ‘to take’ and Hitt. $d\bar{a}^{-i}/d^{-}$ ‘to take’ < PIE $*doh_3-/dh_3-$ altogether (2008: 21²⁴). Instead, he argues for an etymological connection between Luw. $l\bar{a}^{-i}/l-$ and Hitt. $l\bar{a}^{-i}/l-$ ‘to loosen, to release, to untie’ (< PIE $*loh_1-/lh_1-$) under the assumption that a “semantic reanalysis of Luv. $la-$ as ‘to take’ possibly originated in the construction $arha la-$ ‘to take off, remove’”. This proposal seems too radical to me: the semantic match between Luw. $l\bar{a}^{-i}/l-$ and Hitt. $d\bar{a}^{-i}/d^{-}$ is perfect, so the default assumption should be that an etymological connection existed between these two lexemes.

A possibility for such an etymological connection is offered by Norbruis in his forthcoming paper on the Indo-European background of Hitt. $d\bar{a}^{-i}/d^{-}$ ‘to take’. After having noted that the Hittite outcome of PIE $*doh_3-/dh_3-$ synchronically was $[t^2\bar{a}^{-}/t^2-]$, with the generalization of the monophonemic outcome of $*dh_3-$ throughout the paradigm (cf. footnote 9, above), he states that “the rather unexpected Luwian outcome $l-$ may be explained by the same development, which suggests that it had already happened by Proto-Anatolian”. In other words, according to

¹¹ See now Norbruis fthc. for the attractive idea that the original meaning of PIE $*deh_3-$ was in fact ‘to take’, which was preserved as such in Anatolian, but was changed to ‘to give’ after Anatolian had split off.

Norbruis, the *l* in Luw. *lā⁻ⁱ/l-* ‘to take’ is not a direct reflex of PIE **d-*, but rather goes back to the PIE cluster **dh₃-*. This cluster would then already in Proto-Anatolian have monophonemicized to a sound that in Hittite yielded [t²-] but in Luwian developed into [l-]. I find this an ingenious proposal since it links the deviant feature of a lexeme in one language (the *l* in Luw. *lā⁻ⁱ/l-*) to the deviant feature of a cognate lexeme in another language (the DA-spellings in Hitt. *dā⁻ⁱ/d-*), explaining both as regularly deriving from a single special cluster (PIE **dh₃-*), the reconstruction of which is, in itself, unproblematic.

Although one may debate on the exact phonetic shape of the PANat. monophonemic outcome of the PIE cluster **dh₃-*, on the basis of the Hittite outcome [t²-] it is clear that it must have been a dental stop + some extra articulation, either post-glottalization (*[t²-]) or pharyngealization (*[d^ϕ-]/*[t^ϕ-]), or the like. In order to explain the initial *l* of Luwian *lā⁻ⁱ/l-*, we have to take into account that, cross-linguistically, there is only one reasonable way through which a lateral approximant can be derived from an earlier dental stop, namely by assuming an intermediate fricative stage: [l-] < *[ð-] (see Kümmel 2007: 78–9 for many parallels for this development).¹² This dental fricative *[ð-] must then in the end derive from PIE **dh₃-*. For instance, it may go back, through an earlier voiceless stage *[θ-],¹³ to an aspirated dental stop *[t^h-],¹⁴ which itself can be derived from an earlier ejective stop *[t²-] < PIE **dh₃-*,¹⁵ although other paths from PIE **dh₃-* to *[ð-] > Luw. *l-* may be possible as well.¹⁶

The crucial point for now is that, cross-linguistically, the only way to maintain the semantically very attractive etymological connection between Luw. *lā⁻ⁱ/l-* ‘to take’ and Hitt. *dā⁻ⁱ/d-* ‘to take’ (< PIE **doh₃-*/**dh₃-*) is to assume that the initial *l* in Luwian derives from a previous voiced dental fricative *[ð-], which ultimately is the regular outcome of the PIE cluster **dh₃-*.

¹² According to Kümmel 2007: 77, in all cases where we are seemingly dealing with a direct development from a dental stop *[d] to [l], it cannot be excluded that this went through an intermediate fricative stage [ð]. Note that a development *[θ] > [l] is attested as well, but far less often (Kümmel 2007: 80), and is usually assumed to go through a stage [j].

¹³ See Kümmel 2007: 43 for the fact that voicing of word-initial fricatives is cross-linguistically well attested.

¹⁴ See Kümmel 2007: 55–67 for the fact that, in general, fricativization of word-initial stops (i.e., standing in a non-leniting position) is rare (unless it is part of a general consonant shift of plosives to fricatives, which is not the case in Luwian), but that this is fairly common for aspirated stops.

¹⁵ Compare the development of **TH* > *T^h* in Sanskrit.

¹⁶ This development seems to have been restricted to the word-initial position: in word-internal position PIE clusters of the shape **TH* have in Luwian merged with PIE plain **T* (Vertegaal fthc.).

9 A new proposal for the origin of the phonetic value of sign *41

With the recognition that the Luwian verb $lā^{-i}/l-$ ‘to take’ very likely goes back to a prestage $*\check{d}\bar{a}^{-i}/\check{d}-$ with an initial voiced dental fricative [ð], it becomes very attractive to link this to the fact that the synchronic phonetic value of the hieroglyphic sign *41, which logographically represents the notion ‘to take’ (CAPERE), is [ða], with a voiced dental fricative [ð], as well. I therefore propose that the phonetic value of sign *41 (CAPERE/ $t\hat{a}$) is acrophonically based not on Hittite $d\bar{a}^{-i}/d-$ ‘to take’, as Yakubovich (2008) has it, but rather on its Luwian cognate $l\bar{a}^{-i}/l-$, albeit on a preform of this verb, which had the phonetic shape $*\check{d}\bar{a}^{-i}/\check{d}-$. The possibility of such a scenario had in fact already been mentioned by Morpurgo Davies, who, as we saw above as well, stated that the seeming mismatch between the value of the sign $t\hat{a}$ (which at that time was thought to be [ta]) and Luw. $l\bar{a}^{-i}$ may be solved by assuming that “an earlier $ta-$ verb in existence at the time when the syllabary was created was replaced by a $la-$ verb *due to phonetic change* or lexical replacement” (1987: 211¹⁷; emphasis mine). I now propose that this “phonetic change” was not from $*t\bar{a}^{-i}/t-$ to $l\bar{a}^{-i}/l-$, but rather from $*\check{d}\bar{a}^{-i}/\check{d}-$ to $l\bar{a}^{-i}/l-$.

10 Dating the development of $*\check{d}\bar{a}^{-i}/\check{d}- \rightarrow l\bar{a}^{-i}/l-$

It is not easy to assign an absolute date to the moment that the verb ‘to take’ developed from $*\check{d}\bar{a}^{-i}/\check{d}-$ into $l\bar{a}^{-i}/l-$. The oldest HLuwian attestations of ‘to take’ that are spelled with the sign la and therefore certainly contained an initial [l-] stem from the 9th century BCE: e.g. 2sg. pres. $la-si$ (ISKENDERUN § 6), 3sg. pres. $la-i$ (KÖRKÜN § 11), 1sg.pret. $la-ha$ (MARAŞ 13, l. 2-3), (CAPERE) $la-ha$ or CAPERE- $la-ha$ ¹⁷ (MARAŞ 4 § 4, 12), 3pl. pret. (“CAPERE”) $la-la-ta$ (MARAŞ 1 § 9). From a purely Hieroglyphic Luwian point of view, the development of $*\check{d}\bar{a}^{-i}/\check{d}-$ to $l\bar{a}^{-i}/l-$ could thus have taken place any time before the 9th century BCE. It would theoretically even be possible that this development took place sometime during the period that HLuwian texts are attested, which implies that it cannot in principle be excluded that logographically written forms of the verb ‘to take’ dating to before the 9th century BCE represent an underlying stem $\check{d}\bar{a}^{-i}/\check{d}-$. For instance, the 3sg. pres. form CAPERE- i from the 12th century BCE text KÖTÜKALE (§ 5) could then in principle represent a form [ðai]. In fact, this would, theoretically, reopen

17 I.e., phonetically [lalaha], with the reduplicated stem $lala-$.

the possibility that such attestations should be interpreted phonetically after all, i.e. with reading this form not as CAPERE-*i* but rather as *tā-i*, i.e. “*ḏa-i*” = [ḏai].¹⁸

Although from a purely Hieroglyphic Luwian point of view this idea may have some appeal, it is difficult to maintain when taking Cuneiform Luwian into account. As we have seen, the CLuwian verb ‘to take’ is *lā-i/l-*, with an initial *l-* as well, and it is *a priori* attractive to assume that this *l-* has the same origin as the *l-* of HLUw. *la-i/l-*. This means that both should derive from an earlier **ḏ-* through a single, shared sound law. The alternative, i.e. assuming that HLUwian and CLuwian independently underwent a development from earlier **ḏ-* to *l-*, requires the postulation of two separate sound laws, and is therefore less economic and thus violates Occam’s Razor.

This means that the development of **ḏ-* to *l-* must be dated back to at least before the oldest attested CLuwian texts, which stem from the 16th century BCE. As a consequence, it is best to assume that in HLUwian texts, the oldest of which date to the 14th century BCE, all forms of the verb ‘to take’ spelled with sign *41 should be read logographically, CAPERE-, and that they represent an underlying form starting in *l-*.

11 A Proto-Luwian sound law?

As is well known, although Hieroglyphic Luwian and Cuneiform Luwian are closely related dialects, they are sufficiently distinct from each other to view them as separate linguistic entities. Moreover, the relationship between the two cannot have been a matter of one of them deriving from the other (cf. Melchert 2003: 171–2), which means that both must go back to a common ancestor: Proto-Luwian. Since the difference between the two dialects is minimal, however, we can date Proto-Luwian to not much more than a handful of generations before the oldest attested Cuneiform Luwian texts (16th century BCE). Elsewhere I have therefore argued that Proto-Luwian may be dated to ca. the 18th or 19th century BCE (Kloekhorst fthc.).

¹⁸ We have seen above that Yakubovich’s argument against a phonetic reading of forms of this verb spelled with the sign *41 is the idea that, in Luwian, all dental stops in word-initial position are expected to have developed into fortis stops (spelled with the sign *ta*), and not into lenis stops. It has now become clear that this does not go for the PIE word-initial cluster **dh₃-*, which through time yielded the voiced dental fricative *[*ḏ-*] (which thus was phonetically identical to the outcome of word-internal lenis dental stops, [*-ḏ-*]), that later on developed into [*l-*] (a development confined to the word-initial position).

If the initial *l*'s of HLuw. *la⁻ⁱ/l-* 'to take' and CLuw. *lā⁻ⁱ/l-* 'id.' have a single origin, as argued in the preceding section, we should reconstruct a Proto-Luwian verb **lā⁻ⁱ/l-*, which contained an initial **l-*, as well. As a consequence, the sound law **ð- > *l-* that is responsible for its initial consonant should then be dated to pre-Proto-Luwian times. We cannot be certain whether this phonetic development took place relatively recently (i.e. only one or two generations before Proto-Luwian breaks up into its two daughter dialects), or that it in fact goes back further in time. This makes it problematic to assign an absolute date to it. If we would take a very minimalistic point of view, i.e. with dating Proto-Luwian to its last possible date (i.e. around the end of the 18th century BCE), and assuming that the development of **ðā⁻ⁱ/ð-* to **lā⁻ⁱ/l-* took place very recently before that (i.e. only one or two generations), we would arrive at the mid-18th century BCE as the latest date that speakers of pre-Proto-Luwian could still have used the paradigm **ðā⁻ⁱ/ð-* to refer to 'to take'. However, it cannot in principle be excluded that the development of **ðā⁻ⁱ/ð-* to **lā⁻ⁱ/l-* took place earlier in time, for instance in the 19th century BCE or even well before that.¹⁹

12 Dating the acrophonic assignment of [ða] to sign *41

If it is indeed true that the phonetic value [ða] of the hieroglyphic sign *41 (CAPERE/*tā*) is acrophonically based on pre-Proto-Luwian **ðā⁻ⁱ/ð-* 'to take', the assignment of this value to sign *41 must be dated to before the development of **ðā⁻ⁱ/ð-* to Proto-Luwian **lā⁻ⁱ/l-*, i.e. before the mid-18th century BCE at the latest. Moreover, since the phonetic value of sign *41 [ða] did not change to [la] when the corresponding verb 'to take' phonetically changed from **ðā⁻ⁱ/ð-* to **lā⁻ⁱ/l-*, we must assume that at that moment in time the value [ða] had already been fixed to such an extent that it was retained as such. This requires that this value was in use for quite an amount of time, which pushes the date of the acrophonic assignment even further back in time, at least to the beginning of the 18th century BCE (although an earlier date certainly cannot be excluded).

A slight problem to this scenario could be that in order for sign *41 to retain its value [ða] after the verb **ðā⁻ⁱ/ð-* had changed to **lā⁻ⁱ/l-*, this value should also be present in other lexemes than in 'to take'. In the attested HLuwian texts, sign *41

¹⁹ Unfortunately, no Lycian cognate of Luw. **lā⁻ⁱ/l-* is known, so that we cannot know whether the development of **ðā⁻ⁱ/ð-* to **lā⁻ⁱ/l-* affected Lycian as well. If so, this development should be dated to pre-Proto-Luwic times, i.e. before the 21st–20th century BCE (cf. Kloekhorst fthc. for this date), which would push the acrophonic assignment of the value [ða] to sign *41 (see section 12) further back in time with several centuries.

(*tâ*) is in its phonetic value virtually exclusively used to indicate intervocalic [ð], the outcome of the PANat. lenis dental stop */t/. However, as Vertegaal (fthc.) has argued, the Proto-Luwian value of this consonant probably was not [ð]. According to Vertegaal, the fact that in Cuneiform Luwian the outcome of PANat. lenis */t/ is in intervocalic position virtually always spelled with the sign TA (and not with DA), indicates that in this language it was a voiceless consonant, probably [t]. Since intervocalic voicing is cross-linguistically very common whereas intervocalic devoicing is not, Vertegaal cogently argues that the voiceless character of CLuw. [t] should be reconstructed for Proto-Luwian as well: *[t]. This implies that HLuw. [ð] is the result of a later, specifically HLuwian development from *[t] through voicing and frication. If this is correct, it would mean that in Proto-Luwian times the phonetic value of the initial consonant of ‘to take’, *[ð-], is quite different from the value of the intervocalic lenis stop *[t]. It is therefore difficult to see how in this period in time sign *41 could have been used in other lexemes: there simply are no other words that are expected to contain a consonant *[ð].²⁰

To my mind, this problem can be bypassed as follows. Although Vertegaal is surely right in interpreting the virtual consistent TA-spelling of the CLuw. outcome of PANat. lenis dental */t/ as an indication that this sound was voiceless, it does not necessarily imply that it was a stop. We may assume that it was in fact a voiceless fricative, [θ]. This value would bring it more in line with HLuw. [ð], and would imply a Proto-Luwian reconstruction *[θ]. Moreover, since the Lycian outcome of PANat. lenis */t/ is a fricative as well, [ð] (~[θ]?), we may now even project the reconstruction *[θ] back to Proto-Luwic and view the frication found in HLuwian and Lycian as the result of a shared development.²¹

If this is correct, then pre-Proto-Luwian possessed a word-initial voiced dental fricative *[ð-] (in the verb *ðā-*i*/ð- ‘to take’) next to a word-internal voiceless dental fricative *[-θ-] (the outcome of PANat. lenis */t/). Since both consonants are confined to a certain position in the word, it seems unproblematic to me that synchronically they functioned as allophones of each other.²² This then would have prompted the usage of the logographic sign *41 ‘to take’, which was

²⁰ In word-internal position, PIE clusters of the shape **TH* seem to have merged with plain **T* (cf. footnote 16), and thus did not develop into *[ð].

²¹ This would nicely fit the fact that the PANat. lenis velar stops */k̄/, */k/ and */k^w/ had already in Proto-Luwic been lenited to **j*, *∅ and **y*, respectively, which undoubtedly happened through an initial stage of frication, *[x̄], *[x], *[x^w]. The frication of these lenis velar stops can then be seen as paralleled by the frication of the lenis dental stop.

²² As was mentioned above (section 6), Vertegaal (2019) has argued that also synchronically in HLuwian voice may be a redundant feature, and that intervocalic [ð] may phonemically be interpreted as /θ/.

used to write the verb **ðā⁻ⁱ/ð-* and thus had become associated with the word-initial phonetic value [ða], for word-internal syllables of the shape [-θa-] as well.²³ When at a certain point in time, somewhere in the pre-Proto-Luwian period (in the mid- 18th century BCE at the latest), word-initial **ð-* regularly developed into **l-*, the custom to use sign **41* for writing word-internal [-θa-] must have been so pervasive, that the sign did not follow the verb ‘to take’ in changing its phonetic value to [la]. Instead, it remained being used for phonetically writing the word-internal dental fricative, which ultimately caused the split between the logographic value of sign **41*, CAPERE, and its phonetic value [ða]~[θa]. Although the word-internal fricative denoted by sign **41* (*tā*) was in Proto-Luwian times still voiceless, [-θ-], after the split-up of Proto-Luwian into its two daughter dialects, sometime in the (pre-)history of HLuwian, it underwent voicing to [-ð-] (as is clear from the fact that, later on, it underwent rhotacism),²⁴ with which the value of *tā* was narrowed to [ða].

13 Consequences for dating the origin of the Anatolian hieroglyphic script

All this would mean that at the beginning of the 18th century BCE, but possible even well before that time, Anatolian hieroglyphic signs (in this case **41*/CAPERE) already could have a phonetic value (in this case [ða]~[θa]), which means that we can speak of a real script. Moreover, if it is indeed true that sign **41* retained its value [ða]~[θa] also when the verb on which this value was based underwent a phonetic change from **ðā⁻ⁱ/ð-* to **lā⁻ⁱ/l-*, this implies that at that moment in time this sign was used often enough for phonetically writing word-internal [-θa-] that this sound value was fixed to the sign and was disconnected from its logographic value. This requires that at that moment in time the script was already relatively intensively used for phonetic writing.

Such a scenario would not fit Yakubovich’s ideas according to which the Anatolian hieroglyphs first started to be used as a real phonetic script around 1400

²³ Note that Vertegaal (2019) has argued that the sign *tā* spells both voiceless [t] and voiced [d], and that these sounds are kept distinct from *ta* which spells a long [t:]. This implies that *tā* is neutral to voice, which would be a good parallel for *tā* = [ða]~[θa].

²⁴ Cf. footnote 5. I know of no way to exclude the possibility that the voicing of Proto-Luwian **[-θ-]* to **[-ð-]* took place within the attested period of HLuwian (albeit that it must have been effected by the end of the 9th century BCE, when the first cases of rhotacism occur). This would mean that, theoretically, in early HLuwian texts the sign *tā* could still have had the phonetic value [θa].

BCE (Yakubovich 2008; 2010: 285–99).²⁵ They would, however, perfectly fit Waal’s proposal that “Anatolian hieroglyphs were used to convey messages already from the end of the third/beginning of the second millennium [BCE] onwards” (Waal 2012: 311). We would now have to add that, at least from the beginning of the 18th century BCE onwards but possibly already well before that time, these messages conveyed by the Anatolian hieroglyphic script did not only consist of logographic writing but contained phonetic writing as well.

14 Conclusions

This article has assessed Yakubovich’s proposal that the Anatolian hieroglyphic sign *41 (CAPERE/*tà*) acrophonically derived its phonetic value from the Hittite verb *dā⁻ⁱ/d-* ‘to take’. Following recent insights according to which the phonetic value of sign *41 was in fact [ða] (Rieken 2010) and the phonetic value of Hittite ‘to take’ was in fact [t²ā-/t²-] (Kloekhorst 2010), it has been argued that this proposal cannot be maintained: the phonetic distance between [ð] and [t²] is just too large. It is instead argued that sign *41 may have received its phonetic value [ða] from the Luwian verb ‘to take’ that synchronically has the shape *lā⁻ⁱ/l-*, but which must have regularly derived from earlier *ðā⁻ⁱ/ð- (the *ð- of which ultimately goes back to PIE *dh₃-). Since the development of *ðā⁻ⁱ/ð- to *lā⁻ⁱ/l-* probably took place in pre-Proto-Luwian times, the acrophonic assignment of the value [ða] to sign *41 must be dated to before that time, at the latest to the beginning of the 18th century BCE (but possibly even earlier). This implies that at that moment in time the Anatolian hieroglyphs were already in use as a real script that made use of phonetic signs, which, if correct, has important consequences for dating the origin of the Anatolian hieroglyphic script.

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²⁵ Moreover, they remove an important argument in favor of Yakubovich’s 2008 view that the Anatolian hieroglyphic script originated in a mixed Hittite and Luwian-speaking environment.

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