Initial Laryngeals in Anatolian

The fate of the PIE laryngeals in Anatolian has been much debated. Especially the outcomes of *h₁ are controversial. In this article I will look at the outcomes of the PIE laryngeals in Anatolian in initial position only. I will treat the Hittite, Luwian and Lycian evidence, while leaving the other Anatolian languages aside.

*h₁ in Hittite

The common view is that *h₁ in initial prevocalic position is lost without a trace in Hittite.¹ Although at first sight this statement seems to be true, I will return to this matter later on.

The fate of *h₁ in initial preconsonantal position is less clear. Most scholars assume that *h₁ is always lost in this position.² Nevertheless, there are well-known cases where initial preconsonantal *h₁ seems to have left a trace in the form of aC-. The examples cited most often are the weak stems of e/a- ablauting mi-verbs, e.g. 3sg.pres. ėszi : 3pl.pres. asanzı ‘to be’ < *h₁es- : *h₁s-. As these weak stems in aC- are regarded by some scholars as having developed secondarily, we should first look for words in which a secondary origin of aC- is unlikely, and that therefore would show genuine traces of preconsonantal *h₁ in Hittite.

One word that possibly shows such a trace is the oblique stem ama-, 'me'.³ Kimball (1999: 390)⁴ regards this word as a reflex of the PIE oblique form for 'me', *h₁m-, and assumes that the initial a- reflects a vocalized *h₁ before m. She explains the geminate -mm- as due to the following accented vowel.

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² E.g. Melchert 1994a: 66-7, but compare Kimball 1999: 390-2, who assumes vocalization of initial *h₁ to a- before *m and hesitatingly suggests that this happened before stops as well.
³ With acc. ammuk, gen. ammēl, dat. ammuk, abl. ammēlaz.
⁴ Following Beesex (1987: 11-2), pace Melchert (1994b: 297-300) who reconstructs *ēnum and uses the "limited Cop’s Law" to explain the outcome amm- in Hittite. Cop’s Law probably did not operate in Hittite as none of Melchert’s examples (1994b) is convincing.
Although I believe that $amm$—indeed must be traced back to the PIE oblique stem for ‘me’, I have a slightly different interpretation of this form. In my view, the geminant $-mm$—cannot be explained otherwise than as reflecting $^\ast -mn$, so $amm$—goes back to $^\ast h\,m\,n$. This $^\ast h\,m\,n$—must be the zero grade of the stem $^\ast h\,m\,n\,-$ as seen in the gen. $^\ast h\,m\,n\,-$ (GAv. $m\,n\,n\,a\,n\,$, OCS $m\,n\,n\,-$), just as the oblique stem *[t]u-you (sg.)’ is the zero grade of the stem *[t]e-u as seen in gen. *[t]e-tu (Skt. *[t]iva). In $^\ast h\,m\,n\,-$, the sequence *(gnV regularly yielded Hitt. ammV, regardless of whether or not the $^\ast m$ was preceded by a consonant. Therefore, the a-of $amm$—does not necessarily reflect the initial laryngeal. It might as well reflect *(gnV V < $^\ast h\,m\,n\,-$ V. The word therefore cannot be used anymore as an argument in the question whether initial preconsonantal $^\ast h$ left a trace in Hittite or not.

The same is valid for Hitt. anda(n) ‘in(to)’. Although this word is generally reconstructed as $^\ast h\,n\,n\,d\,o\,(n)$ (cGk. ἐνδό ‘inside’, OLat. endo ‘into’), Lyc. ἱτε shows that we have to reconstruct $^\ast h\,n\,d\,o\,(n)$. This preform, however, is not decisive in the question whether initial $^\ast h$ left a trace in Hittite, since $^\ast h\,n\,d\,o\,(n)$ as well as $^\ast d\,o\,(n)$ would vocalize its $n$—to Hitt. anda(n).

Other words in which initial $^\ast h$ seems to vocalize to a—all begin with $^\ast h\,r$—(e.g. aranz ‘they come’ < $^\ast h\,r\,-$entli (cGk. ἀρανζα); of these words it is hard to state whether the $^\ast h$ has left a trace or whether initial r—automatically receives a prothetic a—. The total absence of words beginning with r— in Hittite indicates that initial r—was not tolerated.6

Summing up, there are no convincing examples of words where $^\ast h$ left a trace in initial preconsonantal position in Hittite other than in the weak stems of $^\ast e\,a\,-$ablauting mi-verbs. Moreover, there are a few words where $^\ast h\,C$—unambiguously yields C—. These are summed up by Kimball (1999: 389f.):

5 I owe this insight to Peter Schrijver (p.c.). The other Anatolian languages unfortunately do not give much information on ‘I, me’. In Claw, the word is not attested, whereas the script of Hlaw. is not able to express geminates (l-mu ‘I’). In Lyc. (óm ‘I’ and Lyd. amma, évma ‘I, me’) the PAnat. giminates resonants merged with the single resonants.
6 In my view, the oblique stem $^\ast h\,m\,n$—is also the source of Toch. h-I, me < $^\ast h\,m\,n\,-$.
7 In the Old IE languages, the cluster $^\ast -mn$—was simplified to $^\ast -m$, yielding the ‘classical’ oblique stem $^\ast h\,m$— (Gk. ἔμε-, Arm. im, Skt. m-, etc.).
8 E.g. Melchert 1994a: 134-5.
9 This reconstruction is obligatory for Ofr. and ‘in it’ as well (cf. McCone 1992: 26), whereas both Gk. ἐνδό and OLat. endo could reflect $^\ast h\,n\,d\,o\,(n)$ just as well as $^\ast h\,e\,n\,d\,o\,(n)$, cf. Schrijver (1991: 58-9). See Kloekhorst 2004: 42-43 for a more elaborate treatment of this word in Anatolian.
10 Initial $^\ast r$—was not tolerated in PIE itself either.

Hitt. li(n)k—‘to swear an oath’ has since Sturtevant (1930: 218) been connected with Gk. ἐξέγη ‘to disgrace, to question’, which must go back to PIE $^\ast h\,l\,e\,-$.

Hitt. akki—‘heavy, difficult’ has since Sturtevant (1930: 215) been connected with Hitt. ninink—‘to lift, to move’ and Gk. ἀνηεβά ‘to carry’, which points to a reconstruction $^\ast h\,n\,o\,-$Kb. Kimball (1999: 381) treats this word as an example of loss of initial laryngeal before $^\ast o$-grade, but this does not explain the absence of $^\ast h$ in ninink—. Hence I think Hitt. ninink—preconsonantal $^\ast h$. The preconsonant $^\ast h$- is not listed before the $h$.

Hitt. ji(e)-sija—‘to shoot, to spurt’ has been convincingly connected by Kimball (1987) with Hitt. pēssija-pēssija—‘to throw’, āsija—asija—‘to draw curtains’ and Skt. āṣa- ‘to shoot’, which all indicate that Hitt. ji(e)-sija—must reflect $^\ast h\,s\,-$je-,$\theta$-

A new argument could be the verb pai-pi—‘to give’, of which I have tried to show elsewhere10 that it reflects $^\ast h\,p\,-$ (p) -, an athetic i-present of the root $^\ast h\,ep$— ‘to take, to seize’.

On the basis of these examples we have to conclude that initial preconsonantal $^\ast h$ is regularly lost in Hittite. The seeming retention of $^\ast h$ as $a\,-$ in the weak cases of the $^\ast e\,a\,-$ ablauting mi-verbs ($e\,d\,-$ ‘to eat’, $e\,k\,-$ ‘to drink’, $e\,p\,-$ ‘to seize’, $e\,s\,-\,a\,-$ ‘to be’ and $e\,s\,-\,a\,-$ ‘to sit’) therefore must be explained as a secondary development.

A common view is that these verbs introduced the a— in the weak stem in analogy to the only other $e\,a\,-$ ablauting mi-verb, $e\,s\,-\,a\,-$ ‘to sleep’.11 This, however, is highly improbable. In other IE languages, important verbs as ‘to be’ and ‘to eat’ are seldomly secondarily reshaped in analogy to other verbs. I do not believe that in Hittite a wide-scale leveling within the paradigm of these verbs took place in analogy to one less frequent verb only.

In my view, the only way to explain the secondary retention of the initial $^\ast h$ in these forms is to assume that this retention is due to their own paradigmatic force. At the moment that initial preconsonantal $^\ast h$ was dropped, the strong stems of these verbs must have been $^\ast h\,e\,-$C, in which $^\ast h$ still functioned as a real consonant /l/. The ablaut of these
verbs, /ReC- /RC-, at that point still corresponded to the other ablauting mi-verbs, that (almost)\(^\text{12}\) all showed an ablaut *Ce(RC)- / C(RC)-. When the verbs of the structure /ReC- /RC- were to become /ReC- /RC-, their ablaut became transparent and aberrant. In these cases /RC- was reintroduced analogically into the weak stems, giving /RC- again.

This scenario indicates that up to the time\(^\text{13}\) of the loss of initial preconsonantal *h, prevocalic *h still functioned as a genuine consonant /H/. I would like to argue here that this was still the case in attested Hittite.

In the cuneiform script that the Hittite scribes adopted from the Akkadians, no separate signs are used that denote the glottal stop /t/. In Akkadian, however, the glottal stops could be written with the plain vowel-signs when necessary.\(^\text{14}\) This means that in principle these signs are ambiguous, and could be interpreted as denoting /V/ as well as /V/. In the case of Hittite, however, a transliteration with glottal stops has not been proposed before because it never seemed to be necessary. Still, we sometimes encounter peculiar spelling conventions in Hittite texts that could be better understood when we assume that /V/-signs were used to denote glottal stops as well.

One of these cases is the fact that the spelling of ya-a-tar ‘water’ is always different from the spelling of a-yu-a-tar ‘inspection’. The first word (always written with ya-) is etymologically *ydı̀r, whereas the latter word (constantly written with a-yu-) reflects *hwa-yh-ir (verbal substantive of the verb aw(s)-yu- < *hwa-hu ‘to see’). I therefore interpret ya-a-tar phonologically as /qadaf/, and a-yu-a-tar as /fadaf/. The only difference between the two is the initial glottal stop that reflects *h, written with the sign a.

Another instructive case can be found in the class of mi-verbs that show a/a-ablaut out of original e/θ. In these mi-verbs, which had the structure *CeRC-, the old e/θ-ablaut yielded synchronic a/a because the *e of the strong stem *CeRC changed to a due to several sound laws (e.g. *hye- > ha-, *eRC > aRCC, *eRH > aRH), whereas in the weak stem the zero-grade *CRC- yielded CRC-, which is written CaRC-.

\(^\text{12}\) Perhaps only the verbs with initial *h or *h had already become *ha(RC)- / *h(RC)-.
\(^\text{13}\) As we will see below, *hR- was retained as /R/- in Panat. The Hitt. loss of preconsonantal initial *h therefore has to be dated after the break-up of Panat., which implies that prevocalic *h, too, was still phonemic in Panat. (*V-).
\(^\text{14}\) Cf. Durham 1976: 105, 109, 117 for the observation that in the Akkadian texts written in Boğazköy the sign / could be used as ‘i, U as ‘u, and A as ‘a.’

Some examples are: harkzi : harkanci ‘to perish’ < *harkg-ii : *harkg-ıtı; karpzi : karpanzi ‘to pick, to pluck’ < *keeper-ii : *kerp-ıtı; karszi : karsanci ‘to cut off’ < *kars-ıtı : *kars-ıtı, etc.

There is, however, only one verb in this class that shows an ablaut /a/-, viz. árski : arsanci ‘to flow’ < *hars-ıtı : *hars-ıtı (< Skt. ársati ‘to flow’). The plene written /Ar/ is singularly clear aberrant when compared to the other verbs of this class, that all have short a in this position. This aberrancy is noted by e.g. Melchert (1994a: 125), who unconvincingly assumes that árs-ıtı shows a generalized zero-grade *ıtı which should have given *ıtı > árs-ıtı. Kimmball (1999: 162) however, just states that *hıtı > árs-ıtı, without explaining the absence of long reflexes in the other verbs of this class (e.g. *áırsıtı).

Besides being the only verb of its class to show an á/a-ablaut, árs-ıtı is also the only verb of its class that is derived from a root starting in *hıtı-. In my view, the combination of these two facts cannot be coincidental. The spelling a-ar-as-ıtı would make perfect sense if we interpret it as ‘a-ar-as-ıtı = /ars-ıtı’. The plene spelling does not indicate length, but is used to spell /a-as-ıtı/. The word a-ar-as-ıtı now can be interpreted as having a short vowel -a-, and then matches all other verbs in its class.

These two examples indicate that *hıtı was retained in initial prevocalic position as /H/ in attested Hittite. I intend to present more evidence in favor of this view elsewhere.

As *hıtıV- is retained as /V/- in Hittite, I am inclined to believe that in the words where *hıtıC- was restored, this cluster has been retained as /RC/- in attested Hittite as well. I therefore think that e.g. the spelling a-sa-an-ıtı ‘they are’ is to be read as ‘a-sa-an-ıtı = /santıtı’, just as e.g. sa-sa-an-ıtı ‘they sleep’ is generally interpreted as /santıtı/ (e.g. Melchert 1994a: 66).

**Conclusions regarding *hıtı**

Summing up, I conclude that *hıtı was retained as /H/ in initial prevocalic position in Hittite. In initial preconsonantal position *hıtı was regularly lost. In some ablauting verbs, however, the laryngeal was reintroduced due to paradigmatic force, and in these cases *hıtıC was retained as /H/ in Hittite.
\*h₁ in Hittite

There is much consensus on the fate of initial \*h₂ in Hittite. It is generally accepted that it was retained in all initial positions. Kortlandt (2003-04), however, argues that \*h₂ (just as \*h₁) was neutralized before *o (i.e. became \*h₁). He nevertheless gives no examples for this development. Finding sure examples of \*h₂o- is difficult, especially as o-grade is not always easy to prove. In the class of the hi-inflected verbs, however, we know for sure that the strong stem had o-grade. It therefore seems to speak against Kortlandt’s theory that we find three hi-verbs beginning with han- < \*h₂o-. However, as he indicates himself, we have to take into account that paradigmatic leveling took place on a large scale in Hittite, and that in these cases \*h₂ may have been retained in analogy to the weak stems (where we find \*h₁C-). These verbs are:

Hitt. hän- / han- ‘to draw (water)’ is perhaps to be connected with Gk. ὀντάς ‘bilge-water’ (Puhvel 1991: 77) and then shows \*h₂on- / \*h₂n-. If we want to save Kortlandt’s theory, we have to assume that in the strong stem \*h₂on-, which regularly became \*h₁on-, the initial \*h₂ is reintroduced on the basis of the weak stem \*h₂o- that regularly became hn- (e.g. 3pl. h(a)nanzı < \*h₂nentı).

Hitt. häs- / haa- ‘to give birth’ is a special case. If it is cognate to Luw. hamsa- ‘descendant’ and Hitt. hasu- ‘king’ (for the latter see below) it must reflect a root \*h₂ems-. This means that the original paradigm must have been \*h₂oms-eı : \*h₂ms-enti. This should regularly (including Kortlandt’s rule) have given \*hsı : \*hananzı. It is clear that different forms of leveling must have taken place to explain the outcome häsı : hananzı.

Hitt. hât- / hat- ‘to dry up’ could perhaps be cognate with Gk. ἀθώον ‘to dry up’ (Puhvel 1991: 248), and would then reflect \*h₂od- / \*h₂d-. It is, however, not totally clear whether this verb is really hi-conjugated, as the only specific hi-form, 3sg.pres. hâtı, is disputed regarding its reading (cf. Oettinger 1979: 408).

Although these three verbs could be regarded as contradicting Kortlandt’s theory, I have found one hi-verb that could agree with his theory.

16 Cf. Rieken (1999: 232), where hanzısa- ‘descendant’ is reconstructed as \*h₁insic-so-ı.
17 Cf. Puhvel 1991: 246-8, with references.

Hitt. änısı- ‘to wipe’ has been connected by Melchert (1988: 212) with Gk. ἀπάγα ‘to crop’, OHG mahan ‘to mow’, which verbs are generally regarded as reflecting \*h₁mehi-. On the basis of this connection, I have argued elsewhere that änısı- must reflect \*hanıms-ë-s-ë. The assumption that the root indeed was \*hanıms-ës- (with initial \*h₂ as indicated by Gk. ì-) in my view is proven by the fact that the weak stem \*h₂ms-ës- regularly yielded Hitt. hănsis-ë, which formed its own paradigm hănnis-ë- ‘to wipe’. So, in my view, the original paradigm \*h₂omns-ë-s-ë, \*h₂ms-ë-enti (an s-extension of \*h₂mehi-) yielded änısı, hănnis-zë through regular sound changes. Both ablaut-stems generalized their own paradigm: änısı- formed the hi-inflected verb änısı-, hănnis- the mi-inflected verb hănnis-ë. Semantically, both verbs stayed identical, both meaning ‘to wipe’. A detailed treatment of the equation of änısı- and hănnis-ë can be found in Kloeckhorst ftch.a.

Besides this verb in which o-grade is expected because of its hi-conjugation, I have found two additional words that perhaps could show a development \*h₂o- > \*h₁o- as well:

Hitt. āra- ‘right, proper’ is connected by Puhvel (1984: 120-1) with Skt. aráma- ‘devotion’, pā ‘right, proper’ and Gk. υπάρχειν ‘to join’, which are derived from a root \*h₂er-. The fact that we are dealing with an o-grade adjective could indicate that the root had o-grade, so \*h₂o- > \*h₂o- > āra-.

Hitt. āruahe- ‘to make obeisance’ is connected by Oettinger (1979: 345) with Gk. ἀπαρή ‘ἀπαρί ‘prayer’ and ἄρομα ‘to pray’ and reconstructed as \*h₂r-ae-ë-e-ë. This cannot be correct, as a verb in

18 Kloeckhorst ftch.b.
19 The Schwabe-ablaut assumed here (\*h₂mehi- besides \*h₂omns-ë-s-) is paralleled by Hitt. tamases that reflects \*demehi-s- from \*demehi-. We find similar instances of Schwabe-ABL in s-extended forms throughout Indo-European: *mjeäs- from *mlehs-; *heäs- from *heiki-; *hegeš- from *hegeš-; cf. Liv. 278, 289, 445.
20 For the development of CRHI- > Carasi- cf. Kloeckhorst ftch.c, where the examples kanessa-ı ‘they know’ < *ghe-s-entı, tamessa-ı ‘they (up)press’ < *ghn-s-entı and kalassı ‘they call’ < *khas-s-entı can be found.
21 As hănnis-ë- ‘to wipe’ occurs in exactly the same contexts as änısı- ‘to wipe’, an equation of these verbs is unproblematic semantically.
22 The Lyc. cognates show o-grade as well: ara- ‘rite, ara- ‘freedom’ and ara- ‘monument’ are unaltered from original er-, as can be seen in the one unaltered form ara-‘. This er- reflects \*er-, as we will see below as well.
23 The connection with Gk. ἀρη ‘prayer’ is semantically satisfactory as well, cf. IBOT 1.30, 1 LAGAL- as ŜIN\*ARUYAAS- as ara- ‘the king makes obeisance to the gods’, KBo 22.2 rev. 30 DINGIR\*ARUYAAS- as ara- ‘he came to make obeisance to the gods’.
-ebje-lo- would end up in the Hitt. tājje-class. Since aruyae, it belongs to the hatrae-class), it must reflect a denominative verb in -o-lo-. The verb therefore cannot be derived from a noun *hīje(r)-y-ebj-, but must be derived from an o-stem noun, which probably had o-grade in the stem: *h2y2o-y-o-. So *h2y2orgje-lo- > *h2orgje-lo- > Hitt. aruyae.-

In all other positions (before *e, *i, *u and consonants) *h2 seems to have been retained initially as Hitt. *h-

Hitt. hanna- ‘grandmother’ < *h2jeno- (~ Lat. anus ‘old woman’, OHG ano ‘grandmother’)
Hitt. hant- ‘forehead’ < *h2ent- (~ Gk. ἀνώ ‘opposed, facing’, etc.)
Hitt. happ-2 to join, to attach’ < *h2ep- (~ Lat. aptus ‘connected, fitting’)
Hitt. hapa- ‘river’ < *h2ebh (~ OIr. aub, abae ‘river’, Lat. annis ‘stream’)
Hitt. hark-2d to hold, to keep’ < *h2erk- (~ Lat. arcère ‘to ward off’, Gk. ἀπέρα ‘to ward off, to protect’)
Hitt. hāss- ‘ashes’ < *h2ehs- (~ Skt. āśā ‘ash’, OLat. āśa ‘altar’)
Hitt. hāssah- ‘hearth’ < *h2ehsah- (~ OLat. āśa ‘altar’, and see ēsah-above)
Hitt. hassu- ‘king’ < *h2ems-u- (~ ON ās ‘god’)
Hitt. ḫēlu- ‘rain’ < *h2elh-thu- (?) (~ Gk. αἰλωνία ‘to moisten’?)

*ē:
Hitt. himma- ‘imitation’ < *h2jm- (~ Lat. imitor ‘to imitate’, Lat. aem-lus ‘rival’)

*ē:
Hitt. huqal-2 ‘to run, to hurry’ < *h2ah1-oit (~ Skt. vāt, Gk. ἀπέρα ‘to blow (of wind)’)
Hitt. huqan- ‘wind’ < *h2ah1-ent (~ Skt. vānt-, Gk. ἀνέρ ‘blowing’, Lat. ventus ‘wind’) (Hitt. huék-2, huk- ‘to conjure’ < *h2uεg (~ Gk. αὐγέω ‘to boast’) Hitt. huēs-2 ‘to live’ < *h2uēs (~ Gk. ἀνέρ ‘to spend the night’)
Hitt. huḫha- ‘grandfather’ < *h2ah1jo (~ Lat. avus ‘grandfather’)

22 I only use here those examples known to me in which Hitt. *h- undoubtedly reflects *h2, i.e. assured by outer-Anatolian *a- (cf. note 26).
23 Öfner 1995: 19 only gives Hitt. huck- ‘to slaughter’ as evidence that *h2 is retained as Hitt. h before y. This is non-probative as the only known cognate of Hitt. huck- ‘to slaughter’ is OP waj-. ‘to stab’ which proves nothing with regard to which laryngeal is reflected by Hitt. h-.

*ē:
Hitt. harlai- ‘(to set in motion’ < h3-oi (~ Gk. ἅλλω ‘to send off’)
Hitt. haltna- ‘clay’ < h3H-na- (~ Gk. ἀλείφιν ‘to anoint’, Lat. linē ‘to smear’)
Hitt. halkesvar ‘produce, supplies’ < *h2gθ-εσρ (~ Gk. ἀλφέαν ‘to bring in as profit’)
Hitt. hanaan- ‘to tie, to bethroth’ < *h2n4on-θ (~ Gk. ἀγγε ‘to tie up’, Lat. angō ‘to throttle’)
Hitt. hamesha ‘spring’ < h2meheθ-sh3 (~ Gk. ἀγογε ‘to cut, to crop’, OHG mäen ‘to mow’)
Hitt. harla- ‘white’ < *h2rgi (~ Gk. ἀργος-θεν ‘having white teeth’, Tocharian ārki “white”)
Hitt. hartakka- ‘bear’ < *h2tka (~ Skt. ḍka, Gk. ἄρκτος ‘bear’)
Hitt. harjanai- ‘to get light’ < *h2gy-o (~ Arm. arew ‘sun’, Skt. ravi-‘sun’)

*ē:
Hitt. hastera ‘star’ < *h2stα (~ Gk. ἀστρά, Skt. står- ‘star’)
Hitt. hatajg ‘to be terrible’ < *h2tajg (~ Gk. ἀτροχα ‘to be bewildered’, Skt. maj- ‘to thrust’)

Conclusions regarding *ē

In the foregoing we have seen that initial *h2 is retained as h- before *e, *i, *u and consonants, but is possibly lost before *o.

*ē- in Hittite

The fate of *ē- is one of the most controversial subjects in Hittite historical phonology. In recent years a number of articles on the subject have appeared. There are basically three theories:
1. *ē- was lost in all initial positions (e.g. Eichner 1988: 128 and implicitly Zellmefelder 1997)
2. *ē- was retained as h- in all initial positions (e.g. Melchert 1987, Kimball 1987, Oettinger 2004)
3. *ē- was sometimes lost, and sometimes retained as h- (Rasmussen 1992)

When looking superficially at the material, both loss and retention appear to be defendable, as both Hitt. a- as well as ha- seem to correspond to outer-Anatolian o-, e.g. Hitt. arki- ‘testicle’ (~ Gk. ἀρετα ‘testicle’), Hitt. aniya- ‘to carry out’ ( ~ Lat. onus ‘burden’), Hitt. arta- ‘stands’ (~ Gk. ἄρτος) vs. Hitt. hāran- ‘eagle’ (~ Gk. ἄργα ‘bird’), Hitt. hastā ‘bone’ (~ Gk. ἄρτα ‘bone’) etc.
Melchert (1987) takes the examples with initial *h- as decisive and assumes that initial *h₁ > Hitt. *h-. The examples with *a- corresponding to outer-Anatolian *o- he explains as reflecting *h₁'o- (e.g. arki- < *h₁'o'rig-; anija- < *h₁'o'ron-).

Kimball (1987) arrives at a similar conclusion and also explains Hitt. *a- that corresponds to outer-Anatolian *o- as reflecting *h₁'o-. She, however, divides the group of words in which Hitt. *h₂- corresponds to outer-Anatolian *o- into two. According to her, the words that match Lyc. Ø- reflect *h₂'e'o- whereas the words that match Lyc. χ- must reflect PIE *h₁'o-.

Rasmussen (1992) argues that the instances where *h₁ seems to give Hitt. *h₂- are as compelling as some instances where *h₁ seems to have disappeared. He concludes that ‘Anatolian manifestly reflects initial *h₁ as both *h₁ and zero’ (59). His ‘vote for chaos’ is methodologically unsatisfactory, of course, but his observations that some etymologies in favor of loss are as convincing as some etymologies in favor of retention of *h₁ are undeniable.

Zeifferder (1997) states that the examples in which Hitt. *a- correspond to non-Anatolian *o- are compelling and that the examples in which Hitt. *h₂- seems to correspond to non-Anatolian *o- could reflect *h₁'o- as well. After rejecting the etymological connection of Hitt. *hapus- with Gk. ὄμω, she implicitly concludes that there are no convincing examples anymore in which *h₁ has been retained as *h₂ in Hittite.

Kortlandt (2003-04) argues, just as Rasmussen, that initial *h₁ is sometimes lost and sometimes retained, but tries to describe a phonetic distribution between these two outcomes. He argues that initial *h₁ (just as *h₂) is neutralized before *o (i.e. becomes *h₁'o), whereas it is retained before *e, and subsequently yields Hitt. *h₂. So he assumes that words with *h₂ reflect *h₁'e'o- whereas words with *a- reflect *h₁'o- (arki- < *h₁'o'rig- and arki- < *h₁'o'ron-).

Oettinger (2004) states that initial *h₁ in principal is retained, but he treats one exception: arīi' 'raises' reflects *h₁'o'roi-ei, in which *h₂ is lost due to the following *a-grade. All other instances of *a- he takes as reflecting *h₁'o-.

As we see, there is little consensus on this matter. I agree with Rasmussen that both loss and retention seem to be defendable, but do not understand why he does not search for a meaningful distribution in phonetic surroundings between these two outcomes. Kortlandt makes a first attempt in describing such a distribution (a different outcome before *e and *o), but I think that other factors play a role as well in whether or not initial *h₁ was retained in Hittite.

First, I want to reject a few etymologies of words that are traditionally seen as possibly reflecting initial *h₂.

Hitt. hālīja- ‘to kneel’ is often connected with Gk. ὄλευν, Lat. ulna, Skt. aratī- ‘elbow’. The reconstruction of these latter words is difficult, but the root probably contained *h₂. The formation of the Hitt. verb is obscure as well. Although at first sight hālīja- seems to reflect merely a -iē- derivation of a root hāl-, its derivatives halīnu- ‘to make kneel’ and halīhali(i)- ‘to genuflect’ show that the stem of these verbs is hāli-. To my mind, this makes a connection with the ‘elbow’-words less convincing.

Hitt. hāpiṣa(ss)- is usually cited as hapus- ‘shaft, penis’ and was connected with Gk. ἀρηστο ‘to marry’ by Watkins 1982. This connection, which implies a reconstruction *hapus-, has been taken over by many scholars. Nevertheless, there are many problems regarding this etymology. As I have shown in Kloekhorst 2005, the formal as well as the semantic interpretation of the word has to be adapted: the stem of the word was not hapus- but hāpiṣa(ss)- and it probably did not mean ‘shaft, penis’, but rather ‘(hollow) shaft, shin-bone’. All in all, the etymological connection with Gk. ἀρηστο and the reconstruction *hapus- must be abandoned.

Hitt. hasdjer- is usually translated ‘twigs’ and in that sense connected with Gk. ἄσκος, Arm. ʿsr ‘twigs’, Goth. as ‘branch’ and reconstructed as *h₁'o-sd- (e.g. Melchert 1994a: 134) or *h₁'o-sd- (e.g. Kortlandt 2003-04: 10, referring to Beekes 1969: 131). In the newest fascicle of HW², however (II: 438f.), hasdjer- is translated as ‘(pflanzlicher) Auffall; Hückel; Unkraut; Gestrüpp; Span (von Tierhorn)’ and it is stated that ‘vielmehr scheint [...] für *h₂'shdjer- eine Grundbedeutung des Zerkleinerns, Abgerissen vorzuherrschen. Daher wäre eine Verbindung zu ḫṣḏ hrs- „abschaben; schleifen; hobeln; polieren“ wahrscheinlicher’. Whether or not this last connection is justified, it is clear that the connection with ἄσκος etc. cannot be upheld.

Having narrowed down the number of *h₁-words in Hittite, we now should first look at the words that seem to indicate that initial *h₁ has been lost:

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27This practice is followed by e.g. Melchert 1994a: 235. For a detailed treatment of the assumption that *h₁ yield Ø in Lycian, see below.
Hitt. anija- ‘to carry out’ has often been connected with Lat. onus ‘work’, Skt. onās- ‘load’. These two s-stems are best explained by a reconstruction *hn-ei-nos- (e-grade in the stem because of neuter s-stem and absence of Brugmann’s Law in Skt.33). I therefore reconstruct anija- as *hnjei- (zero-grade root before the *-jei-suffix). Melchert’s attempt (1994a: 85) to plead for a root *hnjeiH- is unconvincing. Firstly, a reconstruction *hnjeiH-es- for Lat. onus and Skt. onās- implies an irregular o-grade in a neuter s-stem-word. Secondly, his reconstruction *dnHjei-30 for anija- is unattractive, as it implies coloring of *e- to a- because of the laryngeal (*erH > arH), after which the laryngeal drops before *-i- to explain the single writing of -n-.  

Hitt. arwa³ ‘to stand’ is cognate with Skt. ārta ‘he has risen’, Gk. ἀρεταί ‘he rose’, Lat. ortus ‘to arise, to come into existence’. The non-apophonic o- in all languages points to a root *hjer-. In Hittite, middles either reflect O-grade (PIE middle) or e-grade (PIE stative).31 The oldest (OS) attestations in the paradigm of arwa³ show short a- in the present (1sg.pres. arhari, 3sg.pres. arta), so this verb probably reflects O-grade: *hjer-31. The verb arwa³ (that is often reconstructed as *hjer-31) clearly has to be separated from Hitt. ăr- ‘to come, to arrive’.32  

Hitt. ari²-¹ / ari- ‘to (up)rise, to raise’ clearly belongs with Hitt. arwa³ ‘to stand’ semantically as well as formally. As I argue in Kloekhorst 1976c.b, the hi-verbs in -ari- go back to *CC-(o)-, having a zero-grade in the root, followed by an ablauting *-oi-/i-/ suffix. As arwa³ reflects a root *hjer-, ari-ari- must reflect *hjer-(o)-.  

Hitt. ārk²-¹ / ark- ‘to mount sexually’ and arki- ‘testicle’ belong with Gk. ἄρκη ‘testicle’, Av. ārka- ‘testicle’, Arm. orjik- ‘testicles’, Alk. herdhi- ‘testicle’. On the basis of Lith. ežilas ‘stallion’, the root is often reconstructed as *hjer³. This word, however, stands beside Lith. dial. ažilas ‘id.’ and therefore is subject to Rozwadowski’s Change, which describes the observation that in Balto-Slavic we often find initial e- where a- was to be expected. It therefore cannot be used as an argument for *hjer- anymore. The fact that, besides Lith. ežilas, all other outer-Anatolian languages show non-apophonic *o, strongly speaks in favor of reconstruing a root *hjer³. This is especially supported by the equation of Gk. ἄρκη with Av. ārka-. As the Av. form shows zero-grade, Gk. ἄρκη is likely to reflect zero-grade as well and then must reflect *hjer³. This reconstruction is also likely for Hitt. arki-, which is corroborated by its consistent short a- (from zero-grade). When active, the verb ārk²-¹ / ark- is hi-conjugated, and therefore must have had o-grade in the strong stem and zero-grade in the weak stem. So ārk- reflects *hjer³, and arki- *hjer³. When middle (e.g. 3sg.pres.midd. argu), the verb shows zero-grade (consistent short a-), and reflects *hjer³.  

Hitt. arma³ ‘to make go, to raise, to move along’ can either be seen as a causative of arwa³ ‘to stand’ (hjer) or of ārk- ‘to come, to arrive’ (hjer). Although the seeming connection with Gk. ἀρμαζεῖν (‘to move’ and Skt. pañāti ‘to set into motion’ seems to point to a reconstruction *hjer-fejmu- (with regular zero-grade root in *-nej-derivations), it cannot be excluded that arma³ reflects *hjer-neu- as well. Perhaps we are dealing with a conflation of the two roots hjer- and *hjer- in this verb.

29 Through this reconstruction Melchert (1994a) tries to explain the -na- of the iterative amniki- as well. He assumes that *enHjei-ske- would yield Hitt. amniki- through syncope of the -jei-suffix. I do not understand why Melchert assumes that *jei-ske-verbs retained that suffix before the *-ské-suffix. To my mind all Hitt. -้า-verbs (other than denominatives) show an iterative in which the *ské-suffix is attached to the unsuffixed zero-grade stem. In my view, *Hjei-ské-s would yield *enamiki-. As -n- regularly disappears before -s-, a remodelling had to be made. I know only one real parallel, namely the iter. of kuen- ‘to kill’. The oldest form is kuyaniki- < *kuyaniki-, which is replaced by younger kuennesi-. The genimate -nn- is perhaps comparable with the germination of root-final stops before *-ské-, e.g. akgkiki- from akgkaka- ‘to drink’, lakkiki- from lákkī- ‘to recline’. The presence of a genimate -nn- in CLuw. cognate amn- ‘to carry out, to treat’ is non-provative as the distribution between singular and genitive resonnats in CLuw. is still unclear.  
31 Skt. 3sg.inj. ārta secondarily received a full-grade *hjer-in-to.  
32 The verb ār- ‘to come, to arrive’ is cognate with Gk. ἀρρεταῖ ‘to come to’ and Skt. vṛdhii ‘to go to’, which point to a root *hjer-. As Hitt. ār- is a hi-verb, it shows original a-grade: *hjer-31.

33 Oettinger 2004 also reconstructs *hjer³ / hjer³ for ārati, ariantas (assuming that it shows a root *hjer³), but argues that the loss of *hjer³ is caused here by Samsare’s Law: laryngeal loss in an o-grade form. So, *hjer³-ei gave arati, whereas *hjer³-ari, which regularly should have become **ariantas, was analogically changed to attested ariantas.  
34 Cf. Derksen 2002.  
35 *hjer³-el > Hitt. ārka is Kortlandt’s main evidence for his assumption that *hjer³ > Hitt. a- (cf. Kortlandt 2003: 203-4: 9).  
36 In this hi-verb the initial laryngeal was not restored (unlike in hām³ / hams- < *hām³, ḫās- / hās- < *hām³-n- and possibly hāt- / āt- < *hātak-30 as treated above) because in the weak stem *hjer³, the laryngeal was lost regularly (namely before resonant) as well. Subsequently, there was no model to restore the laryngeal in the strong stem anymore.
Hitt. arü- ‘high’ perhaps belongs to the root  *h₂er₃- ‘to rise’. ³⁷ It could either reflect  *h₂r₃-se₃- or  *h₂or₃-se₃-.

Hitt. lāman- ‘name’ – Gk. ὤνομα, Lat. nōmen, Skt. nāman- ‘name’.

There are basically two major opinions regarding the reconstruction of ‘name’:  *h₂r₃eh₃-men₃- and  *h₂r₃eh₃-men₃-. Proponents for  *h₂r₃- point to the absence of  *h₃- in Anatolian (Hitt. lāman, H.Luw. ḫ₃a₃-er₃a₃-za₃, Lyc. nom.-acc.pl. alāma ‘name’) and to some evidence in other IE languages (e.g. Gk. (Laconian) inscriptions showing a word ὤνομα as the first part of names). Beekes 1987, however, sums up the evidence for the non-Anatolian languages and concludes that Gk. ὤνομα ‘name’, ὤνομας ‘anonymous’ and Phryg. enōman ‘name’ are decisive and that the PIE form must have been  *h₂r₃eh₃-men₃-. ³⁸ We have to conclude that in Hitt. lāman the initial  *h₂- has disappeared without a trace.

Hitt. ʿunāt₃- ‘land’ is connected by Frisk and Chantraine with Gk. ὄνος ‘ground’, floor’ and Arm. geṭin ‘ground’. This connection is followed by e.g. Rasmussen (1992: 54-5), who reconstructs  *h₄ad₃-n₃-. As he states himself (1.c.): ‘the root must be  *h₃ad₃- [as geṭin shows, so that Gk. ὄνος - must reflect [...]  *h₄ad₃-’. Since a development of  *HuC > Gk. vukC has not been proven (cf. Beekes 1988: 71), this reconstruction is not absolutely doubtful. Nevertheless, the etymology of the stem is convincing. If the root was indeed  *h₄ad₃-, Hitt. ʿunāt₃- would show loss of  *h₂- in this word.

The words that show loss of initial  *h₂- can be divided into two groups: First,  *h₂- seems to have been lost before resonants (ant₁ju₂- < h₃t₄-jel₃-t₁, ara₃t₁- <  *h₄r₂-t₁, ara₃t₂- <  *h₄r₂-t₁, arki₂- <  *h₄r₂-g₁-t₁, arnu₃- <  *h₄r₂-neu₃-, lāman₄- <  *h₄r₃eh₃-m₃n₃- and possibly ara₃- <  *h₄r₂-a₃-?). In this group,  *h₂- seems to have been lost before  *o₃ (arkt₁- <  *h₃or₂-g₁-e₃ and possibly ara₃- <  *h₄r₂-o₃-?).

Now let us look at the words in which initial  *h₂- has been retained.

Hitt. ḥā₃. ³⁹ ‘to believe, to trust’ is perhaps cognate with Lat. ōmēn ‘omen’. It could then go back to a root  *h₂eh₃₁. ⁴⁰ As the verb is mi-conjugated, ḥā₃- must reflect the e-grade stem  *h₂eh₃₁.

³⁸ This reconstruction is now supported by my claim to have found the verbal root  *h₂r₃eh₃₁- ‘to call by name’ in Hitt. hann₃₄- and Gk. ὤνομα (see below).
³⁹ This verb often is cited as hāi- (Pulveël 1991: 9) or hāe₂- (Oettinger 1979: 360), whereas the attested forms (e.g. 1sg.pres. hām₃, 2sg.pres. hān₃, 1sg.pres. lāman₃) point to hā₃-. Only 2sg.pres. hān₃ (KUB 26.89, 14' (NH)) could be interpreted as showing a stem hā₃-, but this easily could be a secondary form.

Hitt. hann₃₄- ‘to litigate, to sue’ is connected by Puhvel (1991: 83-4) with Gk. ὤνομα ‘to blame, to treat scornfully’. On the basis of the Greek stem-variant ὤνα-, Puhvel reconstructs  *h₂r₃eh₃₄- for this root. Van de Laar (2000: 232), however, states that Gk. ὤνα- is secondary and concludes that ὤνα- reflects  *h₂r₃eh₃₄-.

In Hititite, hann₃₄- shows middle as well as active forms. It is hard to decide which inflection is original. Although middle forms are abundantly attested in older texts (from OHMS), we also find active forms from MHMS onwards already (2pl.imp.act. hann₄₄ṭett in HKM 57 rev. 23 (MHMS)).

When we take the middle paradigm (hann₃₄-₄₃) as original, we have to follow Melchert (1994a: 51) and reconstruct  *h₂r₃eh₃₄₁-o₃-. ⁴¹ If, however, we take the active paradigm as original (hann₃₄₁-), then hann₃₄- shows the so-called half-consensual faction (i.e. 3sg.pres. hann₄₄ṭatt in 3pl.pres. hann₄₄ṭatt). This fraction-type was explained by Oettinger (1979: 496) as reflecting reduplicated roots ending in laryngeal:  *Ce-št₁-H₁-ér₃₃, when applying this structure to the root  *h₂r₃eh₃₄₁-, we see that we would have to reconstruct hann₄₄ṭatt : hann₄₄ṭatt as  *h₂r₃eh₃₄₁-e₃₁- :  *h₂r₃eh₃₄₁-ér₃₃. These reconstructions would fit the structure of this class perfectly and yield the attested forms by completely regular sound changes.

This analysis would support the reconstruction of the second laryngeal of this root as  *h₂- instead of  *h₃- since the latter would not have disappeared intervocically in the singular.

In both reconstructed forms ( *h₂r₃eh₃₄₁-o₃- and  *h₂r₃eh₃₄₁(o)h₂₄₁-) the initial  *h₂- is followed by an -e₃- so the verb does not contradict Kortland’s view of  *h₂o₃ >  *h₂or₃-.

If the middle paradigm of hann₃₄- was original, we are dealing with a root  *h₂r₃eh₃₄₁-; if the active paradigm was original, the root was  *h₂r₃eh₃₄₁- (Gk. ὤνομα could go back to either root). The latter root form, however, would formally match the root of PIE  *h₂r₃eh₃₄₁-men₃- ‘name’ perfectly. Also semantically a connection with ‘name’ would

⁴⁰ Although in principle  *h₂r₃eh₃₁- is possible as well.
⁴¹ Van de Laar (2000: 232) gives the root as  *h₂r₃eh₃₄₁-, but to my mind  *h₂r₃eh₃₄₁- is equally possible. No Greek form surely reflects a full-grade form (the original middle form probably had zero-grade, ὤνα- <  *h₂r₃eh₃₄₁-o₃-).
⁴² Thus e.g. Oettinger 1979: 514; although he cites hann₄₄-. That the root was hann₃₄- can be seen in e.g. 3sg.pres.midd. hann₄₄ṭattarintarri.
⁴³ Although Melchert follows Puhvel regarding the second laryngeal, and gives a reconstruction  *h₂r₃eh₃₄₁-o₃-.
fit. If the verbal root *hₐnehrₜ originally meant ‘to call by name’ a semantic development to Hitt. ‘to call to court’ and to Gr. ‘to call names’ is quite understandable. If this connection is justified, it would be an extra argument in favor of reconstructing the word for ‘name’ with initial *h₂, (see above). Assuming that the root of the verb was *hₐnehrₜ, implies that the active paradigm of hannat- was original, in spite of the many old attestations of middle forms of hannat-.

Hitt. ḫappid- ‘trade business’, ḫappid- ‘price’, ḫappidant- ‘rich’ are cognate with Lat. opus ‘work’, opulentus ‘rich’, Skt. āpar- ‘work’ āpnicas ‘possessions’. The non-apophonic o and absence of Brugmann’s Law in Skt. indicate that the root was *hₑp-, (Kimball 1987) shows that ḫappid reflects *hₑp-. The word ḫappid, then, seems to reflect *hₑp-er-, and seems to prove that *hₑp was retained before stops. Kimball (1987: 187-8), however, argues that ḫappida- ‘city’ shows that the vowel -a- in ḫappid must be real, and concludes that an original *hₑp-er has been replaced by *hₑp-er-. The adjective ḫappidant- is comparable with Lat. opulentus and reflects *hₑp-en-ont-.

Hitt. ḫaran- ‘eagle’ from ḫaran ‘bird’, (Goth. āra ‘eagle’), Olc. qrn ‘eagle’. As all languages point to non-apophonic o, we should reconstruct *hᵽ₂-er-ən-

Hitt. ḫark- ‘to perish’ from ḫark ‘to slay’ *hₑerg-. As a mi-verb it has e-grade in the strong stem, *hₑerg-ti.

Hitt. ḫarp- ‘to separate oneself’ has been treated extensively by Melchert (thc.), who persuasively connects it with Lat. orbis, Gk. ὕπατος ‘orphan’ from PIE *hₑr₃b. As a mi-verb, the strong stem shows e-grade: *hₑrb-ti.

Hitt. ḫastai- ‘bone’ from ḫast ‘bone’ from ḫst ‘bone’. These words are a clear example of non-apophonic o-, and therefore must reflect *hₑr-. I reconstruct *hₑr(H)-oi-.

Hitt. ḫewu. ḫaignty ‘sheep’ from ḫew ‘sheep’, Lyc. ḫawa- ‘sheep’. Again this word seems to be a clear example of non-apophonic o, and therefore a reconstruction *hₑrgyi- is very probable. The argument that Lyc. ḫawa- ‘sheep’ points to *hₑrgyi- because of its r- is not valid anymore as Rasmussen (1992: 56-9) has eliminated the alleged evidence for *hₑR > Lyc. ḫ. (see below at the treatment of the Lycian outcome of *hₜ). All these examples show retention of initial *h₂ before *e-

The following three words that show retention of *h₂ are in principle ambiguous as to whether they start with *hₑR- or with *hₑR-. Because of the overwhelming evidence that *h₂ is lost before resonants and retained before *e-, I reconstruct *hₑR- here:

Hitt. ḫallam(aj)- ‘to lay waste’ is probably a hi-inflected iterative-durative in -ən(aj)- from an otherwise unattested verb *hall-. The root is connected with Gk. ὄλλαμα ‘to devastate’. Because of the fact that the origin of the suffix -ən(aj)- is not yet clear, we cannot say much on the form of the stem (zero or e/ə-grade). Nevertheless, the connection with Gk. ὄλλαμα indicates that we have to reconstruct a root *hₑllyh-.

Hitt. ḫarnau- ‘birthing seat’ has plausibly been connected with Hitt. ḫartu- ‘descendant’ by Weitenberg (1984: 266), which word he connects with Lat. ortus ‘origin, birth’ (ibid. 235). This etymology has been taken over and elaborated by Ofitsch (1995). She reconstructs *hₑrₜ-neu-, but *hₑrₜ-nou > *hₑrₜ-nou > *hₑrₜ-nou is more likely. 49

Hitt. ḫartu- ‘descendant’ has been connected by Weitenberg (1984: 235) with Lat. ortus ‘birth’. Although in principle a reconstruction *hₑrₜ-tu- is possible, I reconstruct *hₑrₜ-tu-.

The forms treated above all seem to indicate that in *hₑrₜ- and *hₑrₜ- the *h₂ is lost, whereas in *hₑr- it is retained. This means that two words that are traditionally regarded as reflecting initial *h₂ must be interpreted differently:

Hitt. ḫarganau- ‘palm, sole’. This word was seen by Weitenberg (1984: 223) as a cognate of Gk. ὅρμος ‘to stretch’, and reconstructed as ambiguous regarding its interpretation. The word ḫargi- is, however, securely attested in Cluw., so it is very likely that the Hittite word must have been ḫargi- as well. 48

Although the attested forms of this verb do not exclude a mi-inflected -ta-verb derived from (a rather intransarent) stem hallam- as well.

Reflecting a hyperdynamically inflected *GEC-ER, cf. ḫarganau- < *hₑrₜ-nou > below. If Hitt. harnau is cun indeed be etymologically connected with Gk. ὄλλαμα and Skt. āra- as Ofitsch (1995: 25) states, we see a nice distribution between *hₑrₜ-nou > *hₑrₜ-nou > *hₑrₜ-nou > Hitt. ñarnau and Hitt. arnutu.
*h界的-nerg-neu-. This etymology has been generally accepted and is often regarded as the most convincing evidence for the assumption that *h界- is preserved word-initially. Although Weitenberg’s etymology seems impeccable, the evidence that initial *h界C- gives Hitt. arc- (see above) is in my view so overwhelming, that we cannot accept the connection of harganaus- with Gk. ὀψέων anymore. As an alternative I would like to propose a connection with harki- ‘white’.50 The palm and sole of dark-skinned people are distinctly lighter colored than the rest of the body. I therefore reconstruct *h界erg-m-nou-s.51

Hitt. ais- ‘mouth’ ~ CLaw. ās-, Skt. ās-; Lat. ās ‘mouth’. As s-stems always have e-grade in the stem, there are two possible reconstructions, *h界eh1-es- or *h界eh1-es-. The former reconstruction would explain the -i- of the suffix (uncolored because of *h界), but we would then expect to find Hitt. ha-. The latter reconstruction could explain the absence of h- in ais-, but demands that the suffix-vowel, which originally must have been colored by -*h界-, is secondarily replaced by -i- again in analogy to other s-stems (e.g. nepis- ‘heaven’). This analogy does not seem improvable to me, so I reconstruct *h界eh1-es-.52

Conclusions regarding *h界-

On the basis of a treatment of all words that begin with *h界I I conclude the following:

Initial *h界 is preserved before *er (hâ- < *h界el1-er-, hallaniti- > *h界el1-er-, hammi(a)- < *h界el2-hon(i)el-, hâppar- < *h界er1-er-, hâran- < *h界er1-er-, hark- < *h界erg-, harnau- < *h界er-neu-, harp- < *h界erb2-, haru- < *h界er2-er-, hasti- < *h界er2-stel(h)-er-, hâgi- < *h界erg1-).

Initial *h界 is lost before *o: ârki ‘to mount sexually’ < *h界org-er and perhaps aru- < *h界er-er-

50 I am glad to see that Eichner apud Tremlay (1999/2000: 217) has a similar opinion on harganaus.
51 In this way, Hitt. harganaus shows the regular nominative of hystereodynamic nouns, *CtC-Dr-s. A connection with Gk. ὀψέων implies a structure *CC-Dr-s, cf. Melchert 1987: 22, who reconstructs an original paradigm *h界erg-m-nou, *h界erg-nou-es and has to assume that the zero-grade stem of the oblique cases was generalised. A full-grade *h界erg- is attested by Skt. ārjuna- ‘light, white’ (contra Skt. rjaujat- ‘silver-coloured’, which word shows an irregular vṛddhi from *pudatā ‘silver’, cf. Av. arzatua- ‘silver’ < *h界erg-er-). Together with Gk. ἀγγρος ‘silver’ and ἀγγρος ‘silver-shining’, Skt. ārjuna- also proves the existence of a PIE u-stem *h界erg-u-, on the basis of which *h界erg-m-nou-s > Hitt. harganaus can be formed.
52 Thus already Kortlandt 2003-04: 10.


The fate of initial *h界 before stop cannot be proven. The alleged example hapus- ‘penis’ is false (the word is to be read as hapûsas(s)- ‘shaft, shin-bone’), and the alleged example happir ‘price’ probably had a real vowel between h- and -pp-.

Hittite developments

The developments of the initial laryngeals in Hittite can be summed up thus.53


Luwian developments

I will not treat the Luwian evidence extensively here. The communis opinio that the developments of the laryngeals in Luwian are the same as in Hittite. This is true for the following positions: *h界e- > Luw. ha- (*h界ent- > Luw. hant: ‘face, front’), *h界o- > a- (*h界omahs- > ammss- ‘to wipe’), *h界e- > ha- (*h界egi- > hâgi- ‘sheep’). For *h界o- and *h界C- I know of no examples. In some positions, however, Luwian may show different developments. I would like to refer to Kloekhorst 2004, in which I treated the outcome of *h界 in HLuw. There I concluded that *h界 was retained as a synchronic phoneme /l/ in all initial positions (i.e. before vowel as well as before consonant). One slight adjustment to this conclusion must be made: the new etymology of CLuw. piyâ-pai- and HLuw. piyâ- ‘to give’ < *h界g-er-o(i)-55 implies that initial *h界 before stops was lost without a trace in Luwian.56 The retention of initial *h界 before resonants as /l/ in my view is still proven by e.g. HLuw. á-mâh- ‘mine’ < *h界mâl-eo-. In the same article, I showed that the HLuw. word for ‘name’, á-tawrû,ma-zâ has to be interpreted phonologically as ñlaman- žal, which implies that initial preconsonantal *h界 appears as /l/ in HLuw.

53 T = any stop, R = r, t, m, n, l, u.
54 Unless R = r, than we find a-.
56 If HLuw. á-tawrû- ‘self’ indeed is connected with Skt. átmâ-, it might reflect *h界d-t-ru-.
The Luwian outcomes are the following:

\[ \text{*h}e \rightarrow \text{ʔa} \quad \text{*h}o \rightarrow \text{ʔa} \quad \text{*h}R \rightarrow \text{ʔR} \quad \text{*h}T \rightarrow \text{T} \]
\[ \text{*h}e \rightarrow \text{ʔa} \quad \text{*h}o \rightarrow \text{ʔa} \quad \text{*h}R \rightarrow \text{ʔR} \quad \text{*h}T \rightarrow \text{ʔa} \]
\[ \text{*h}e \rightarrow \text{ʔa} \quad \text{*h}o \rightarrow \text{ʔa} \quad \text{*h}R \rightarrow \text{ʔR} \quad \text{*h}T \rightarrow \text{ʔa} \]

**Lycian**

The outcome of the PIE laryngeals in Lycian has most recently been discussed by Michaela Zinko (2002). Her conclusions are the following: 1. \( *h_j \) disappears in all positions; 2. \( *h_j \) turns up as Lyc. \( \chi \) and \( q \) (without a clear distribution between the two), and as \( g \) (when lenited); 3. \( *h_j \) is lost in all positions. I cannot agree with Zinko’s views. Firstly, her assumption that \( *h_j \) is lost in Lycian is based on Kimball 1987, whose reasoning has been proven false by Rasmussen (1992: 56-9, see below). Secondly, her view that \( *h_j \) has been split into two phonemes (\( \chi \) and \( q \)) without a clear conditioning is against the principles of historical linguistics.

Zinko’s views seem for a large part to be based on the views put forward by Melchert in 1994a. Melchert, too, assumes that \( *h_j \) and \( *h_j \) are lost without a trace in Lycian, but assumes a three-fold split of \( *h_j \) in Lyc. of which he gives the following condition: “\( \chi \) is the regular outcome of \( *h_j \), with fronting to \( q \) before front vowels and further to \( k \) between(!) front vowels” (1994a: 304-5). He further assumes that Lyc. \( g \) is the outcome of \( *h_j \) in lenition position. Although Melchert gives a conditioning for the split of \( *h_j \), his formulation is not satisfactory. The problem concentrates around the words containing \( q \). Most of these words are difficult to interpret, but whenever an interpretation seems clear, the word does not follow the conditions Melchert gives. The clearest example is the name of the Stormgod, *Trqqt-. According to Melchert (1994a: 307), it reflects \( *thrjoent \) in which \( *h_j \) yielded \( q \) before a front vowel that is not extant anymore in the Lycian paradigm, but might be visible in Mil. nom.sg. *Trqqt-. This ending \( -iz \), however, is clearly secondary, and to my mind cannot be used as a starting point for the generalisation of \( q \) throughout the paradigm instead of expected \( \chi \) (-\( h \)e- should give \( \chi \)a-).

It is clear that the fate of the PIE laryngeals in Lycian is in need of a re-evaluation.

**Lyc. \( q \)**

First I will concentrate on the issue of the phonetic interpretation of the sign \( q \). In the older literature, the consonant was regarded as labialized (hence the transliteration \( q \)). Nowadays, however, scholars like Starke (e.g. 1990: 140f.) and Melchert (1994a: 306) regard \( q \) as the reflex of \( *h_j \) and therefore believe that it cannot have had a labial feature. The reasons for interpreting \( q \) as a labialized consonant are, however, convincing. Already Arkwright (1899: 66), who observes that \( q \) is never followed by the vowel \( u \) (unlike e.g. \( k \) and \( \chi \)), states that “possibly the sound of \( u \) was already inherent in the letter”. The absence of a cluster \( -q\theta \) (whereas the cluster \( \chi\theta \) and \( -k\theta \) are both attested several times) supports this. Also Pedersen (1898: 98) interprets Lyc. \( q \) phonetically as labialized (as \( [\chi\theta] \)), but does so on the basis of etymologies that nowadays are generally rejected. This is recognized by Rasmussen (1974) but he states that other phenomena indicate that Pedersen’s assumption regarding the phonetic interpretation of \( q \) is basically right. He shows that the nasalized vowels \( n \) and \( m \) are assimilated to a following consonant: in the Lycian texts we often find \( -nt- \) (284x), but \( -mt- \) only once; we find \( -nt- \) three times but never \( *nt- \). This is in agreement with the fact that we often find \( -mp- \) (20x) but never \( *mp- \).57

So, according to Rasmussen, it is indicative that the sequence \( -mq- \) occurs 12 times whereas the sequence \( *mp- \) is never attested. Rasmussen concludes that \( q \) must phonetically have been labialized and assumes that \( q \) denotes \( [\chi\theta] \).58

Melchert (1994a: 306) strongly speaks against a labialized interpretation of Lyc. \( q \). He states that ‘none of the alleged evidence for a labiovelar articulation can withstand scrutiny’. He does not, however, explain the phonetic behavior of Lyc. \( q \) (never attested before \( u \) and \( b \), and \( m\theta q \) instead of \( m\theta q \)). Although each piece of evidence on its own could indeed be ascribed to chance (and therefore would be non-probative), the force is in the combination of them, which in my view, strongly indicates that \( q \) indeed was labialized. As we will see, this interpretation fits etymologically as well.

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57 We only find \( *mp- \) in compound words where the \( -h \) belongs to the prefix and \( p- \) is the first consonant of the stem.

58 Although I do accept Rasmussen’s conclusion that \( q \) was a labialized sound, I cannot accept his reconstruction of a fourth PIE laryngeal \( *h\theta \), which he does on the basis of etymologies that connect Lyc. \( q \) with Hitt. \( b \).
The Lycian words that contain \( q \) are almost all difficult to etymologize. Most of the etymologies that have been proposed presuppose a correspondence between Lyc. \( q \) and Hitt./Luw. \( h \).

Lyc. \textit{qa}(n)- ‘to destroy’ is often connected with Hitt. \textit{hanna}- ‘to summon to court’ (already Pedersen 1945: 26-7). This connection is, however, semantically not quite satisfactory.

Lyc. \textit{qebeli}a- ‘? ’ is regarded by Neumann (1974: 109) as a divine name and connected with the Hittite divine name \textit{Hapalija}a-, which is connected with Hitt. \textit{hapa} ‘river’. This interpretation is based on formal similarity only. The clear connection between Lyc. \textit{yba}(l)- ‘to irrigate’ and Hitt. \textit{hapa} ‘to bewater’, however, is not favorable to the etymology.

Lyc. \textit{qele}a- ‘a divine name’, is hesitantly connected by Neumann (1979: 270) with Hitt. \textit{Halki} ‘Grain-god’. He admits that this is done on the basis of a slight formal similarity only.

Lyc. \textit{qlu} ‘court yard, precinct’ is generally connected with Hitt. \textit{hila} ‘court yard’. This equation is stronger than the other ones, but still just a possibility.

Lyc. \textit{Traqqit} ‘Storm-god’ is clearly connected with Luw. \textit{Tarahunt}- ‘Storm-god’. This etymology is evidently weak.

We see that all of the Lycian words containing a \( q \) only \textit{Traqqit}; has an evident etymology. It seems worthwhile to look more closely at the name of the Storm-God in the other Anatolian languages.

The Hittite rendering of the logograms \textit{U} and \textit{ISKUR} ‘Storm-god’ is not fully known. The dat.-loc.sg. \textit{ISKUR-unni} shows that it probably was \textit{Tarahunda}.

The Luwian words are better known. In CLuw., we find the phonetic spelling voc.sg. \textit{Tarhunza} and gen.adj. \textit{tarhuntassa}a(e). The phonetic complements to the logographic writings are instructive as well: nom.sg. \textit{U-anza}, voc.sg. \textit{U-an}, dat.-loc.sg. \textit{U-unii}. All in all, we have to conclude that CLuw. had an ablauting paradigm nom.sg. \textit{Tarhanka}, obl. \textit{Tarahunt}-. The HLuw. forms are mostly written logographically as well. The phonetic complements point to a thematic stem \textit{Tarhunza}a, as we see in e.g. nom.sg. \textit{TONITRUS-hu-u-zA-SA}.

It is clear that the CLuw. forms are the most archaic. They reflect an original participle of the verb \textit{tarhu}- ‘to overpower’, and go back to \textit{*thr2-\textsc{u-\textsc{en}}-s, *thr2-\textsc{u-nt}-}.

The proponents of the idea that Lyc. \( q \) is not a labialized consonant regard \textit{Traqqit}- as reflecting \textit{*thr2-\textsc{en}-} (e.g. Starke 1990: 140f.; Melchert 1994a: 306), i.e. a participle of the verb \textit{*terh2-}. They point to the fact that in Hittite besides the verb \textit{tarhu}- ‘to overpower’ a verb \textit{tarh}- is found as well, with precisely the same meaning (e.g. Melchert 1994a: 306: ‘that PA possessed both \textit{*terh2-} and \textit{*terh2-\textsc{en}}- is made likely by Hitt. \textit{tarh}- beside \textit{tarhu-/taruh}-’).


In the paradigm of \textit{tarh}-, the sequence \textit{ta-ra-} is traditionally interpreted as denoting \textit{tarh}-. The AH-sign, however, can in principle be read \textsc{UH} as well. There is nothing against transliterating \textit{ta-Vh}- as \textit{tarh}-. Moreover, there are contexts in which such a transliteration seems obligatory. In e.g. KBo 4.2 i 52 we find \textit{ta-Vh-zi}, whereas two lines below, in ibid. 54 \textit{ta-hu-du} is written. The latter form (of the verb \textit{tarhu}-) indicates that the first form is to be read as belonging to the verb \textit{tarhu-/taruh}- as well: \textit{tar-uh-zi}.\footnote{See e.g. Tischler 1991: 157, who has the same considerations, but still concludes ‘es ist jedoch traditionell üblich, tar-AH/*UH-Jiz als tar-ah-zi zu transliterieren’.

When we look at the attestations of \textit{tarh}-, it is surprising that there is not a single form that must unambiguously be read as \textit{tarh}- . Spellings with \textit{ta-ra-ah-} are completely lacking, whereas \textit{ta-ra-uh-} is found in OS already. The only forms that seem to show an unambiguous root \textit{tarh}- are 1sg.pret.act. \textit{ta-ra-ha-un} and 1pl.pret.act. \textit{ta-ra-e-n}. If we compare these forms, however, to the paradigm of \textit{eku-/aku}- ‘to drink’, we find there: \textit{e-ku-un} and \textit{e-ku-e-n} (instead of expected \textit{eku-un} and \textit{eku-en}). So \textit{ta-ra-un} and \textit{ta-ra-e-n} could easily be from the stem \textit{tarha}- as well. Moreover, it is remarkable that forms like 3pl.pres.act., which we would expect to be /tarhanzi/, are never written \textit{**tar-ah-an-ci}, but...
always tar-Vh-ha-anzi. The same goes for the participle: we never find *tar-ha-an-, but always tar-Vh-ha-an-.

So formally, it is possible to conclude that all forms that are traditionally transliterated as tarah⁶⁰ in fact have to be read as tarah⁶¹ and that we are therefore dealing with a Hittite verb tarhu-haruh- only.⁶²

Semantically, such a conclusion also makes sense. All forms (alleged tarh- as well as tarhu-haruh-) mean ‘to overcome, to overpower’. The PIE root *serh₂₂, however, means ‘to cross’ only (Lat. tráns ‘past, over’, Skt. tar ‘to cross’). A meaning ‘to overpower’ is only found in u-derivatives, Skt. śavrati (*sr̥h₂₂-er) ‘to overpower’.

Formally, the alternation tarhu-haruh- is comparable with the alternation tarkeṣi / taruki ‘he dances’ and ekazzi / eukzi ‘he drinks’. In the latter two verbs, the -kw-/uk-alternation is interpreted as different ways of writing the phoneme /k/’, the labialization of which spreads over the consonant: /kʷ/ → /k/. In my view, we therefore have to assume that the alternation -hu-/uh- has to be interpreted too, as different ways of writing a phoneme /h/’ → /h/. This indicates that tarhu-haruh- has to be interpreted phonologically as tarah-‘/.

All in all, I conclude that there was only one verb in Anat., tarhu-/ tarah- ‘to overpower’. It thus becomes very unlikely that Lyc. Trqgkt- is derived from *trh₂₂gnt- as a root tarh- is further unknown in Anatolian. In my view, Lyc. Trqgnnt- cannot be equated with Cluw. Tárhaunza < *trz₂₂gnnt-⁶³. This implies that in this word Lyc. q reflects *h₂₂gnt, which strongly points to a labialized pronunciation.

On the basis of this etymology (the only one of the q-words that could be regarded as evident) and on the phonetic behaviour of q, I conclude that q was a labialized consonant that reflects PAinan. *h₂₂’ < PIE *h₂₂m.⁶⁴

This means that the traditional etymologies of the other q-words that equate q with Hitt. h must all be false. My view that Lyc. q reflects *h₂₂gnt may, however, support one of the etymologies proposed by Rasmussen (1974). Although Rasmussen implausibly assigns a PIE phoneme *h” that yielded Hitt. h and Lyc. q, his proposal to connect Lyc. qa- ‘to destroy’ with Gk. áetron ‘to deceive, to damage’ may be correct, although Hitt. ūannu- ‘to summon to court’ clearly has to be separated from these words (for an etymology of the latter word see above). Gk. áetra reflects a root *h₂₂jne-, which would yield PAinan. *h₂₂’ > Lyc. qa-

Moreover, I would like to propose a new etymology for qla- ‘courtyard, precinct’. On the basis of the new interpretation of q, we have to assume that qla reflects *h₂₂l(UNCT)leḥ₂₂, which would formally and semantically fit in perfectly with Gk. ουλή ‘courtyard, precinct’, which reflects *h₂₂leḥ₂₂. I therefore reconstruct qla- as *h₂₂l-leḥ₂₂.

*ḥ₂₂- in Lycian

With the interpretation of Lyc. q as a labialized consonant reflecting PIE *h₂₂m, the awkward split of *h₂₂ into h and q as proposed by Melchert and Zinko can be abandoned. On Melchert’s claim that *h₂₂ yields Lyc. k between front vowels I have no opinion. As this conditioning by definition only works in word-internal position, it falls outside the scope of this paper.

The view that *h₂₂ regularly yields Lyc. χ in unleniting and g in leniting position is generally accepted and evidently true. Well-known examples like Lyc. lsg.pret.act. χa → CLuw. -hha, Hitt. -hun < *h₂₂e, Lyc. χina- ‘grandmother’ > Hitt. hana- ‘grandmother’ < *h₂₂eno- and, for the lenited position, Lyc. lsg.pret.midd. -qaɡa → Hitt. -haha < *-h₂₂eɡa, Lyc. χaga- ‘grandfather’ → CLuw. ḫaha- ‘grandfather’ < *h₂₂eh₂₂-o- prove this.

The development of *h₂₂ > Lyc. χ is probably not valid for all positions, however. Just as in Hittite, *h₂₂ was probably neutralized to *h₁ before *o.⁶⁵ This development can possibly be seen in the Lycian words ara- ‘rite’, arawa- ‘freedom’ and arawatže- ‘monument’. These words are connected with Hitt. āra- ‘proper’, which in turn is connected with Skt. arāmaṇi- ‘devotion’, ṣrā- ‘right, proper’ and Gk. ἀριστον ‘to join’ and must reflect *h₂₂or-o- (see above). In Lycian, the original *o-grade

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⁶⁰ A similar case is the Hittite verb lāhu-, láh- ‘to pour’. The stem láh- is often regarded as showing an u-less present besides láh-ur. Of the verb láh-, however, CHD cites only lpl.pres. lāuṣu, lsg.pret.act. láhun, lahanu and 2sg.imp.act. láh. Of these forms, lāuṣu, láhun and lahanu could belong to the verb lāhu- as well (cf. lpl.pres. olāuṣi and lsg.pret. ekāun from ekā-lāhu- ‘to drink’). This leaves only 2sg.imp. láh as undoubted evidence of a verb láh-. In my view, this is too small a basis for postulating an u-less verb láh- besides láhu-. We rather interpret all forms as belonging to láhu-. If indeed (as I will argue below) in PAinan. already a phoneme /h/’ existed, it is perhaps possible that it lost its labialization in final position: */h₂₂/’ > láh.


⁶² The assumption that *h₂₂gnt > Lyc. q implies that none of the instances of Lyc. qb- reflect *h₂₂gnt- (with *Cy > Lyc. Cb). The only etymologically clear word, qbehl- ‘to irrigate’, is cognate with Hitt. ḫaḫi - ‘to bewater’ < *h₂₂j(h)b₂₂-, whereas the stem ḫa-, frequently found in names, derives from ḫepat.

⁶³ As Kortlandt assumes neutralization of the PIE laryngeals before *o in Armenian and Albanian as well (cf. Kortlandt 1984 and 1986: 43f), this development was at least pre-PAnat. and probably PIE.
can be seen in the one attestation erawazije-64 ‘monument’, which proves that the other Lycian words with ara- show a-umlaut from original era- < *h₃or-.65

*₃h₄ in Lycian

Another controversy regarding the fate of the PIE laryngeals in Lycian is the outcome of PIE *₃h₄. Kimball 1987 argued that *₃h₄ was lost in Lycian, on the basis of the etymology epirjepeti ‘sells’ ~ Hitt. happiriṣazi ‘trades’ < *₃h₄ep-. She further concludes that all forms where Hitt. ha- matches both non-Anatolian o- and Lyc. xa-, Kimball therefore reconstructs *₃h₄o- (e.g. Hitt. ḥāqi- ~ Lyc. ḥawī- ‘sheep’ < *₃h₄eŋi-). This conclusion has been widely followed by Anatolists.66 The connection between Lyc. epirjeti and Hitt. happiriṣa-, however, is not justified. It was given for the first time by Laroche (1958: 171-2), who translates epirjepeti as ‘sells’ (“vendrasi”), but does not give a contextual reason for such a translation: he only refers to the formal similarity with Hitt. happiriṣa- ‘to sell’. Rasmussen (1992: 56-9) therefore treats the context of epirjepeti and shows that a translation ‘sells’ is not quite likely and that any conclusions based on this form alone therefore are unreliable. The main argument for the view that *₃h₄ was lost in Lycian thus vanishes and therefore the need to reconstruct *₃h₄ whenever Lyc. xa- matches Hitt. ha-, disappears as well.

Nevertheless, there are still many scholars that retain this view and some alleged new examples of *₃h₄ > Lyc. ₀- have been given. E.g., Melchert (1989: 43) connects Lyc. ἐπενελίταιτε with Hitt. ḥappiṇantia-hh- (< *₃h₄ep-) and therefore translates ‘acts as a salesman’. This interpretation seems to be especially prompted by the etymological connection. Oettinger (2001, 84-6) connects Lyc. ἐτρει- ‘lower’ with Hitt. hantijara-, which he translates as ‘niedrig’, and reconstructs *₃h₄d’ero- with *₃h₄ because of the correspondence between Hitt. h- and Lyc. ₀-. He further connects this *₃h₄d’ero- with Skt. ḍhaḥara- ‘lower’ and Lat. inferiius ‘low’. Not only the translation of the Hitt. word is questionable (‘niedrig’ is just a possibility), the reconstruction is as well: Lat. inferiius can only reflect *₃hd’ero- or *₃hd’ero-. A pre-form *₃hd’ero- would have given Lat. *₃unferus.

Despite these new efforts to prove that *₃h₄ was lost in Lycian, I am still unconvinced of it. On the contrary, I believe that we can find some real reflexes of *₃h₄ in Lycian.

To my knowledge, there are three words in Lycian that show a reflex of *₃h₄:

Lyc. ḥawī- ‘sheep’ is generally connected with Hitt./Luw. ḥāqi- < *₃h₄eŋi- (for an etymological treatment see above).

Lyc. ḥerēti, name of a dynasty, has very plausibly been identified by Starke (1987: 26569) as the Lycian word for ‘eagle’.67 This means that it is connected with Hitt. ḥāram- ‘eagle’, and reflects *₃h₄e₄ən- (for an etymological treatment see above).

Lyc. ḥalāma- ‘name’ (nom.-acc.pl.) is cognate with Hitt./Luw. ḥu₄₄አ₄-Marza = ḫāman-az and Hitt. ḫāman ‘name’. I reconstruct *₃h₄ne₄₄mn- (for an etymological treatment see above).68

From these words, we can conclude first of all that *₃h₄ is preserved as Lyc. xa- before *₄e. The question is, however, whether ḥawī is a-umlauted from original *₃je₄-, or whether ḥerēti is e-umlauted from original *₃herēti. Although the evidence is scanty, I assume that the original outcome of *₃he₄- is Lyc. xa- because e₄-umlaut is far less regular than a₄-umlaut. This implies that *₃he₄- first gave PANat. ḥor-, which became Lyc. xa-, as opposed to PIE *₃he₄-, which gave PANat. ha- > Lyc. xa-.

My view that Lyc. ḥalāma reflects *₃h₄ne₄₄mn- implies that initial *₃h₄ yields Lyc. a- before resonants. As we will see below, (restarted) initial preconsonantal *₃h₄, too, yields Lyc. a-, which implies that *₃h₄ merged with *₃h₁ in initial preconsonantal position. As the outcomes of *₃h₄C- merged with the outcome of *₃h₁C- in the other Anatolian languages as well (Hitt. ḫC-, Luw. ḫ₄CRT-), I assume that this merger was PANat. already (via PANat. ḫ₄RCT-).

64 Contra Melchert 1992: 50; erawazije- cannot be the result of e₄-umlaut from older aravazije-, as the e₄-umlaut skipping two syllables is unparalleled in Lycian. It therefore must be an archaic form showing that the original stem was era-. The only way to connect this stem with Hitt. ēre- is to reconstruct *₃HR-.

65 On the umlaut in Lycian see Melchert 1992.


67 The interpretation of ḥerēti as ‘eagle’ is not based on formal similarity only: ‘bezeichnete andererweise bildet dieser Dynast auf seinen Münzen die Göttin Athene mit Adler statt mit Eule ab’ (Starke 1987: 26569).

**h₁** in Lycian

The general opinion is that **h₁** is lost in Lycian without a trace. This indeed seems to be the case in initial prevocalic position: Lyc. esic 'he is' < *h₁es-ti-. Lyc. es-be 'horse' < *h₁ek-yo-. For the initial position before consonants, the evidence seems to be contradictory.⁶⁹

Lyc. pije- 'to give' in my view reflects **h₁p-i-.⁷⁰ So here initial **h₁** was lost without a trace.

Nevertheless, there are some other words where **h₁C-** seems to have become **aC-**:

Lyc. abità- 'possession' is according to Melchert (1993: 3) a calque on Gk. τὰ ἀνά, ἦ αὐσαία and must reflect the old participle of the verb 'to be', i.e. **h₁s-ent-**.

Lyc. app- 'to seize' cognate with Hitt. app-/app- 'to seize'. According to Melchert (1994a: 313) app- must be a generalized weak stem, which implies a reconstruction **h₁p-**.

For these forms we must assume that, just as in Hittite, the **h₁** was restored on the basis of strong forms that at that time still had a full grade **h₁eC-**. This restored **h₁-** yielded a- before consonants.

Lyc. allta-alltra- 'person, self' must be cognate with HILuw. allta/- anlta- 'person, soul'. Hajnal (1995: 244-5) connects Lyc. allta-/alltra- with Skt. ātmān- 'self'. As HILuw. allta/- anlta- must reflect **h₁l-t-ro-**, this reconstruction is likely for Lyc. as well. Because in this case restoration of the initial **h₁** on the basis of a full grade is less likely (there are no full grade forms of this word attested in any Anatolian language), we might have to assume that allta- reflects **h₁l-g-t-reh₂-**.

On the basis of these examples I conclude that initial preconsonantal **h₁** regularly was lost before stops. Whenever a restoration of this **h₁** took place because of paradigmatic pressure, it yielded Lyc. a-. Unfortunately, there are no good examples of **h₁** before resonants. Because of the fact that in Hittite as well as in Luwian the sequences **h₁R-** and **h₁R-** have merged, it is likely that this happened in Lycian as well. We therefore would expect that **h₁R-** would have given Lyc. aR-.

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⁶⁹ Lyc. ēna, enu, amu 'T' is sometimes regarded as showing a- from **h₁C-** (e.g. implicitly Beekes 1987: 9). The form amu, however, must be a-umlauted from original enu. In my view, Lyc. ēna, enu is on a par with Hitt. ama-ni- 'me' and reflects **h₁gn-**. In this form, the -m- vocalizes to Lyc. ēm-.

⁷⁰ Cf. Kloekhorst fthc.b.

⁷¹ Zero-grade **h₁t-** as in Skt. obl. tmd-:. A full-grade **h₁t-h-t-** (Skt. nom.sg. ātmā) would have yielded HILuw. **h₂t-.**
Furthermore, on the basis of the fact that the Hittite sequence -hu- can alternate with -uh- (tarmuzi besides tarmuzi ‘overpowers’) in the same way as -ka- sometimes does with -uk- (tarmuzi besides tarmuzi ‘dances’) I assume that in Hittite we are dealing with a synchronic phoneme /h/ (parallel to /k/). As Lycian also possesses a synchronic labialized phoneme q (phonetically /kʰ/) from the same source, I assume that the PIE sequence *h₂u₂ already became a PAAN phoneme /h/ which had an unaccentuated variant (Hitt. -hhy-) and a lented variant (Hitt. -hys- as in lähyy ‘pours’).

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