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Alwin Kloekhorst

Once more on Hittite *ā*/*e*-ablauting *ḫi*-verbs

Abstract: The theory that Proto-Indo-European knew a "h_2e-conjugation" with an **o*/*e*-ablauting acrostatic paradigm (Jasanoff 1979; Jasanoff 2003) relies heavily on the existence of Hittite *ā*/*e*-ablauting *ḫi*-verbs. In Kloekhorst 2012a I have argued that none of these *ā*/*e*-ablauting verbs can be original. In a reaction to this article, Melchert (2013) raises objections to a number of my arguments and concludes that some of the *ā*/*e*-ablauting verbs must be original and that therefore the Hittite material does support the "h_2e-conjugation" theory. In the following article I will discuss in detail all points on which Melchert and I disagree, and argue that his objections do not hold, and that the Hittite *ā*/*e*-ablauting *ḫi*-verbs cannot be used as evidence in favor of the "h_2e-conjugation" theory.

Keywords: "h_2e-conjugation" theory, acrostatic **o*/*e*-ablaut, Hittite *ā*/*e*-ablauting *ḫi*-verbs, Indo-European verbal system, Hittite verbal system

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After a first proposal in his 1979 article dealing with the Hittite *ḫi*-conjugation, Jasanoff has on several occasions argued for the existence of a PIE "h_2e-conjugation" with an **o*/*e*-ablauting acrostatic paradigm: **CóC-e*/**CéC-n̥ti* (most notably in Jasanoff 2003: 89). According to Jasanoff, this paradigm is best reflected in Hittite *ḫi*-verbs that show *ā*/*e*-ablaut, like *šākk-*/*šekk-* 'to know' < **sókH-*/**sékH-*, a view that has been taken over by a number of scholars, including Melchert.[1] In Kloekhorst 2012a, I have argued, however, that upon close scrutiny none of these Hittite *ā*/*e*-ablauting *ḫi*-verbs can be original: the *e*-grade of the weak stems of these verbs must have been a recent creation. In a reaction to my article, Melchert (2013) states, however, that my "attempt to show that all attested *e*-vocalism in the weak stem of Hittite *ḫi*-verbs is secondary [...] is not credible" (2013: 137). Nevertheless, halfway through his article, Melchert does in fact adopt one of my main arguments, namely that the *e*-grade in the weak stems of the verbs *āk(k)-*^{i}*/ek-* 'to die', *ār-*^{i}*/er-* 'to arrive', *ḫān-*^{i}*/ḫen-* 'to draw (water)', *ḫāš(š)-*^{i}*/ḫeš(š)-* 'to open', *išpār-*^{i}*/išper-* 'to spread out', and *šākk-*^{i}*/šekk-* 'to know' is a secondary, inner-Hittite creation, and that these verbs in fact originally showed an ablaut *ā*/*a*

1 E. g. Melchert 1984: 91; Melchert 1994: 80f.

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(*āk(k)-/akk-*, *ār-/ar-*, *ḫān-/ḫan-*, *ḫāš(š)-/ḫašš-*, *išpār-/išpar-*, *šākk-/šakk-*), which reflects a PIE ablaut **o*/*Ø* (2013: 145f.).[2] I am of course glad to see that Melchert shares my view on this important point, and I think that this is a fruitful starting point for discussing the remaining issues on which Melchert and I disagree. In the following article I will discuss these five points of disagreement and for each make clear exactly what the disagreement is about, and why it is important for the interpretation of the Hittite *ā*/*e*-ablauting verbs.

1 Disagreement A: The original locus of the analogical *e*-grade in *ek-*, *er-*, *ḫen-*, *ḫeš(š)-*, *išper-* and *šekk-*

As we have seen, Melchert and I agree that the *e*-grade in the weak stems *ek-*, *er-*, *ḫen-*, *ḫeš(š)-*, *išper-* and *šekk-* is analogical. We disagree, however, on the question from where this *e*-grade originates. I have argued that in all these verbs the analogical *e*-grade started out in the 3pl.pret. form, and from there spread to other forms of the paradigm (Kloekhorst 2012a: 153–6).[3] Melchert states, however, that "the actual attested distribution of the secondary *e*-vocalism in the *ḫi*-conjugation weak stem does not support the idea that the preterite third plural was a privileged form when it comes to *e*-vocalism" (2013: 142). Yet, the data that Melchert refers to in fact suggest that the contrary is true.

In the case of the verb *išpār-/išpar-*, Melchert states that its only attested *e*-grade form is 2pl.imp. *iš-pé-er-te-en* (KBo 21.14 obv. 8 (MS?)) (Melchert 2013: 146). Yet, it is Melchert himself who in an article dealing with this verb (Melchert forthc.) cites another *e*-grade form, namely the 3pl.pret. form *iš-pé-re-er* (KBo 21.22 obv. 6 (OH/MS)). Since *išperer* stems from an OH/MS text, whereas *išperten* stems from an MS? text, any objective description of the diachronic behavior of the secondary *e*-grade in the verb *išpār-/išpar-* should state that the *e*-grade is first attested in the 3pl.pret. form *išperer*, from where it spread to other forms of the paradigm.[4]

2 Although, according to Melchert (2013: 143f.), this **o*/*Ø*-ablaut has replaced an earlier **o*/*e*-ablaut.

3 Cf. already Oettinger 1979: 55, 112 for the view that the 3pl.pret. form is the original locus of the secondary *e*-grade (albeit that he assumes a different origin of that *e*-grade).

4 On the basis of the spread of the *e*-grade throughout the paradigms of the verbs *ār-/ar-*, *ḫāš-/ḫašš-* and *šākk-/šakk-*, we would expect that also in the paradigm of *išpār-/išpar-* the *e*-grade would have

Both in the paradigm of *āk(k)-*/*akk-* 'to die', and of *ḫān-*/*ḫan-* 'to draw (water)', there is only one form attested with *e*-grade, namely the 3pl.pret. form: *eker* (attested in NH texts), which has replaced original *aker* (attested in OH texts), and *ḫĕner* (attested in younger texts), which replaces original *ḫāner* (attested in older texts). According to Melchert, this fact is "accidental" (2013: 146). It is true that the verb *ḫān-*/*ḫan-* is not well attested, so that we cannot decide whether the fact that only the 3pl.pret. form is attested with *e*-grade is because it was the only form in the paradigm that had *e*-grade, or because it just happens to be the only form with *e*-grade that is attested. In the case of *āk(k)-*/*akk-* this is certainly not the case, however. In NH texts almost the entire paradigm of this verb is attested (cf. the overview of attested forms given in Kloekhorst 2012a: 153), so that the presence of *e*-grade in only the 3pl.pret. form *eker* is significant. Any objective description of the presence of *e*-grade in these paradigms should therefore state that the oldest attested forms that contain an *e* (which in these cases are also the only forms that contain it) are the 3pl.pret. forms *eker* (replacing *aker*) and *ḫĕner* (replacing *ḫāner*).

Also in the paradigm of *ār-*/*ar-* 'to arrive', the oldest form to show *e*-grade is the MS 3pl.pret. form *e-re-er* (HKM 47, 55 (MH/MS)), which has replaced original *arer* (as attested in OS texts). In no other MS form *e*-grade is attested.[5] Only in NS texts do we find other forms with *e*-grade, namely 1pl.pres. *e-ru-e-ni*, 2pl.pres. *e-er-te-ni*, 1pl.pres. *e-ru-en*, besides 3pl.pret. *e-re-er*.[6] The distribution is clear: the oldest form that shows introduction of the secondary *e*-grade is the 3pl.pret. form *erer* (replacing *arer*), and only later on the *e*-grade spread to other forms in the paradigm. Melchert, however, states that "[t]he verb *ār-*, *ar-* 'arrives' shows Pres1Pl *ērweni*, Pres2Pl *ērteni*, Pret1Pl *ērwen*, VblN *erwar* beside Pret3Pl *erer*",[7] and that it therefore "gives no support whatsoever for the idea that the preterite

spread on a larger scale than it now seems to be the case. It is therefore interesting to note that Laroche (1968: 782) and Oettinger (1981: 144, 148) hypothesize that the sign BAR, which is usually read as *pár*, may have had a value pir_x (= per_x) as well, which would mean that NS attestations like 3pl.pres. *iš-pár-ra-an-zi* and 3pl.pret. *iš-pár-re-er* could then also be read *iš-*per_x*-ra-an-zi* and *iš-*per_x*-re-er*, respectively, with *e*-grade. Note, however, that such an assumption would immediately raise the question why a form like *ēpper* 'they seized' is always spelled *e-ep-pé-er* or *e-ep-per*, and never ***e-ep-pár* = ***e-ep-*per_x.

5 The MS forms that are attested are 1sg.pres. *a-ar-ḫi*, 2sg.pres. *a-ar-ti*, 3sg.pres. *a-ri*, 2pl.pres. *ar-te-ni*, 3pl.pres. *a-ra-an-zi*, 1sg.pret. *a-ar-ḫu-un*, 3sg.pret. *a-ar-aš* and 1pl.pret. *ar-ú-en*, cf. Kloekhorst 2012a: 153f.

6 Cf. Kloekhorst 2012a: 153f.

7 I do not know which form Melchert refers to when he cites the "VblN *erwar*". Perhaps this citation is based on a false analysis of the word IR-*u̯a-ar* 'oracle inquiry' as attested in KBo 18.19 obv. 17 (cf. Hagenbuchner 1989: 207-9 for this reading and interpretation).

third plural served as a "pivot" form in the spread of the secondary *e*-vocalism" (2013: 146). This statement does not take into account the chronological distribution of these *e*-grade forms, however, and therefore cannot be maintained.

Also in the verb *ḫāš-/ḫašš-* 'to open', the oldest form to show an *e*-grade is the OH 3pl.pret. form *ḫé-e-še-er* (KUB 29.3 i 5 (OS)), which must have replaced original *ḫāšer* (as attested in KUB 35.148 iii 2). In no other OS forms *e*-grade is attested (1pl.pres. *ḫa-aš-šu-e-ni*, 3pl.pres.act. *ḫa-aš-ša-an-zi*). Of course, the number of attestations in OS texts is limited, so that this distribution is not as strong as it is in *āk(k)-/akk-*, *ār-/ar-* and *išpār-/išpar-*, but it certainly does not contradict it either. In NS texts, *e*-grade is not only attested in the 3pl.pret. form anymore, but also in 3sg.pres. *ḫé-e-eš-zi*, 1pl.pres. *ḫé-e-šu-u-e-ni*, 3pl.pres. *ḫé(-e)-ša-an-zi*, *ḫé-eš-ša-an-zi*, and 1pl.pret. *ḫé-e-šu-u-en*. Especially in the case of the 3sg.pres., 1pl.pres. and 3pl.pres. forms we are certain that the *e*-grade was introduced within the history of Hittite, since in older texts these forms are still *ḫāši*/*ḫašzi*, *ḫaššueni* and *ḫaššanzi*, respectively. The chronological distribution of forms in the paradigm of *ḫāš-/ḫašš-* therefore fully supports our conclusions based on *āk(k)-/akk-*, *ār-/ar-* and *išpār-/išpar-*, namely that the original locus of the secondary *e*-grade was the 3pl.pret. form *ḫēšer* (replacing *ḫāšer*), and that it spread from there to other forms in the paradigm.

The verb *šākk-/šakk-* is unfortunately inconclusive. The absence of attestations of pl.pret. forms in OS and MS texts makes it impossible to prove that the *e*-grade originated in the 3pl.pret. form. Yet, it must be remarked that the forms that are attested in OS texts are all pres. forms (1sg.pres. *ša-a-ak-ḫi*, 2sg.pres. *ša-a-ak-ti*, 2pl.pres. *ša-ak-te-e-ni*), and that none of these show *e*-grade, which predicts that the *e*-grade (which in the post-OH period is spreading throughout the paradigm, cf. MS *šekteni* vis-à-vis OS *šaktēni* and NS *šekti* vis-à-vis OS *šākti*) must have been present in one or more preterite forms. Since for all five other verbs in which the *e*-grade is secondary, all evidence points to the 3pl.pret. form as the original locus of the secondary *e*-grade, it seems to me most economical to assume that this was the case for *šākk-/šakk-* as well.

We can conclude that in this case Melchert's rejection of my views on the original locus of the secondary *e*-grade in these verbs is based on the following points:

1. He does not take into account the form *išperer*;
2. he does not take into account the chronological distribution of the *e*-grade forms of the verb *ār-/ar*;
3. he considers the linguistic distributions as found in *ḫān-/ḫan-* and *āk(k)-/akk-* to be "accidental".

If we take all these forms and distributions seriously, however, we can only conclude that the most economical explanation is that in all these verbs the original locus of the secondary *e*-grade must have been the 3pl.pret. form, and that from there it spread to the rest of the paradigm. The importance of this point lies in the fact that it is crucial for determining the analogy that has caused the introduction of the secondary *e*-grade into these originally *ā*/*a*-ablauting paradigms: see 2.

2 Disagreement B: The cause of the introduction of the secondary *e*-grade in *āk(k)-*/*akk-*, *ār-*/*ar-*, *ḫān-*/*ḫan-*, *ḫāš(š)-*/*ḫašš-*, *išpār-*/*išpar-* and *šākk-*/*šakk-*

In Kloekhorst 2012a it was argued that the cause of the introduction of a secondary *e*-grade in the 3pl.pret. forms of these *ḫi*-verbs must have been an analogy to the *mi*-conjugation in the following way. On the basis of *mi*-conjugated pairs like *ašanzi*/*ešer* 'they are/were' or *šašanzi*/*šešer* 'they sleep/slept', the original *ḫi*-conjugated pairs *akkanzi*/*aker* 'they die/died', *ḫananzi*/*ḫāner* 'they draw/drew (water)', etc., were replaced by *akkanzi*/*eker*, *ḫananzi*/*ḫener*, etc., all with introduction of the *e*-grade in the 3pl.pret. form (Kloekhorst 2012a: 153).[8] According to Melchert, however, "[t]he analogy will not work" since "an analogy by which the preterite third plural is reshaped on the basis of the present third plural must predict that the former will match the latter in terms of consonantism" (2013: 141f.). To his mind, the pair *akkanzi*/*aker*, for instance, should therefore be replaced by *akkanzi*/*ekker*, with a 3pl.pret. form *ekker*, containing a geminate *kk* like in the 3pl.pres. form *akkanzi*, and not with a 3pl.pret. form *eker*, containing a single *k*, as is attested.

Yet, Melchert seems to misunderstand the exact mechanism of the analogy I have proposed. According to Melchert, whenever the pair *akkanzi*/*aker* would be

8 Since in the plural forms the *mi*- and the *ḫi*-conjugation use the same sets of endings (the result of a prehistoric influence of the two conjugations on each other, cf. Kloekhorst 2010: 18f.), there is no formal difference between 3pl. forms of the *mi*-conjugation and 3pl. forms of the *ḫi*-conjugation other than the ablaut grade in the preterite form. It therefore seems only natural that in a system in which the *mi*- and the *ḫi*-conjugation are gradually merging into one category, also the difference in ablaut grade at a certain point starts to be eliminated. Note that also Oettinger 1979: 113 has argued that the secondary *e*-grade in these *ḫi*-verbs must have been taken over from the *mi*-conjugation, albeit that he has a slightly different view on the origin of this *e*.

influenced by the pair *ašanzi*/*ešer* in the sense that it would take over the *e*-grade of the form *ešer*, this *e*-grade should actually be taken over into the present stem (*akk-* >> *ekk-*), which is then used to replace the preterite stem (*aker* >> *ekker*). To my mind this is not what happened. It seems obvious to me that the analogical spread of the *e*-grade from the pair *ašanzi*/*ešer* to the pair *akkanzi*/*aker* involves the introduction of the *e*-grade of the *preterite* form *ešer* into the stem of the *preterite* form *aker*. The only outcome of this introduction can have been *eker*, with a single *k*.

We can conclude that in this case Melchert's rejection of my views is based on his misunderstanding of the exact mechanism of the analogy I proposed. I maintain that my scenario is perfectly suitable for explaining the forms that need to be explained, namely the 3pl.pret. forms *eker*, *erer*, *ḫener*, *ḫešer*, *išperer* and *šekker*. I therefore see no reason to alter my view that the secondary *e*-grade in the verbs *āk(k)-*/*akk-*, *ār-*/*ar-*, *ḫān-*/*ḫan-*, *ḫāš-*/*ḫašš-* and *šākk-*/*šakk-* has its origin in the *mi*-conjugation.[9] The importance of this point lies in the fact that Melchert's rejection of the possibility that the secondary *e*-grade in these verbs could have been taken over from the *mi*-conjugation forces him to assume that the *e*-grade instead was taken over from *ḫi*-conjugated verbs, which automatically means that somewhere in Hittite there must have been *ḫi*-verbs that did contain original *e*-grade stems.

3 Disagreement C: The existence of a vowel /ɨ/

In Kloekhorst 2008: 60f. I have argued for the existence of a phoneme /ɨ/, which must have been distinct from the phonemes /e/ and /i/. Whereas the latter two vowels are in principle consistently spelled with *e*- signs and *i*-signs, respectively, the vowel /ɨ/ is spelled both with *e*- and with *i*-signs (which I indicate in broad transcriptions by "*e*/*i*"). The fact that this vowel is spelled both with *e*- and with

9 I now also regard *ašāš-*^{i}/*ašeš-* 'to seat, to settle' as belonging to this group of verbs. Melchert's objection (2013: 140) to my interpretation of the weak stem as /əsɨs-/ is correct: the spelling of this stem as *a-še-š°* is clearly the normal one, whereas the spelling *a-ši-š°* is only marginal. We should therefore assume that the weak stem was /əses-/, with a real /e/. Yet, this weak stem is not the original one. The OH *-ške*/*a*-imperfective form *a-ša-aš-ke-ez-zi* (StBoT 25.3 i 6 (OS)) clearly shows that the original weak stem of this verb was *ašaš-*. I therefore now assume that this verb originally showed the ablaut *ašāš-*^{i}/*ašaš-* (the regular outcome of **h*$_1$*sh*$_1$*ós-*/**h*$_1$*sh*$_1$*s-*?), and that on the basis of e. g. *ašanzi*/*ešer* 'they are/they were' the original pair **ašašanzi*/**ašāšer* was replaced by **ašašanzi*/*ašešer*, after which the secondary *e*-grade spread throughout the paradigm.

i-signs to my mind indicates that it must have been a vowel that phonetically took an intermediate position between /e/ and /i/, and I have therefore chosen to denote it with an /ɨ/. This vowel regularly arises in certain large consonant clusters that contain an *s* (e. g. **dmh*$_2$*sénti* > *tame*/*iššanzi* /tmɨSánt^{s}i/ 'they (op)press'; **h*$_1$*pské*/*ó*- > *appe*/*iške*/*a*- /əpɨské/á-/ 'to seize (imperf.)'), and is sometimes used as a secondary anaptyctic vowel (especially in the weak stems *kare*/*ip*- /grɨb-/ 'to devour' and *šare*/*ip*- /srɨb-/ 'to sip', which I will discuss in detail below, cf. 5.2). It should be noted that the concept of an anaptyctic vowel that is spelled both *e* and *i* is not my own: I have taken over the idea from Kimball (1999: 193).

I am aware of the fact that the postulation of an extra phoneme in principle is a dangerous thing to do: by multiplying phonemic entities one runs the risk of violating Occam's Razor. Yet, I believe that in this case there are good reasons for doing so. Melchert, however, rejects my postulation of a vowel /ɨ/ and gives several arguments for this rejection. I will treat these arguments one by one.

3.3.1 First, Melchert points out that "the cuneiform syllabary employed by the Hittites did not have contrastive *Ce* and *Ci* or *eC* and *iC* signs for all consonants", and that "[a]s a matter of principle, one *cannot* claim a separate vowel /ɨ/ [...] when that vowel is spelled only with ambiguous *Ce*/*i* or *e*/*iC* signs or sequences of them" (2013: 138; emphasis his). I fully agree with Melchert on this point: whenever a syllable is spelled with ambiguous *Ce*/*i* or *e*/*iC* signs, one cannot on this basis alone claim the presence of an /ɨ/, just as one cannot on this basis alone claim the presence of an /e/ or an /i/. One's choice for reading the vowel of such a syllable as /e/, /i/ or /ɨ/ must always be based on arguments other than the spelling. Moreover, Melchert is fully right in stating that if one wants to prove the existence of a vowel /ɨ/ that is a different phoneme from /e/ and /i/, one can only take into account syllables that are spelled with unambiguous *Ce* and *Ci* or *eC* and *iC* signs.

It is therefore a good choice of Melchert's to discuss the verbal stems *tame*/*išš*- 'to oppress' and *gane*/*išš*- 'to recognize', since the signs ME, MI, NE, NI, EŠ, and IŠ are all unambiguous signs. In Kloekhorst 2008: 435f., 823f. and Kloekhorst 2009 it was claimed that both these verbal stems contain a vowel /ɨ/, since they both show spellings with *e*-signs as well as with *i*-signs. Melchert, however, disagrees with this claim, and assumes for both stems the presence of the vowel /e/.

In the case of *tame*/*išš*-, he rejects the postulation of an /ɨ/ because this stem "is always spelled with *e*-vocalism in OS" (2013: 139), for which he adduces the forms *ta-me-eš-šer* (KBo 22.2 rev. 12 (OS)), *t*/*da-me-eš-kat-te-ni* (KBo 22.1 obv. 3, 19 (OS)), and *da-me-eš-ke-u̯a-an* (KBo 22.1 obv. 4 (OS)). He does not cite the form

ta-mi-eš-ša-an-te-eš (KUB 12.43, 10 (OS)),[10] however, which is spelled with the sign MI.

In the case of *gane*/*išš*-, he rejects the postulation of an /i̯/ because "it too shows in OH/OS consistent *e*-vocalism" (2013: 139), for which he adduces the forms *ga-ne-eš-zi* (KBo 6.2 i 38 (OS)), *ga-ne*-[*eš-zi*] (KBo 6.2 + KBo 19.1 iii 38 (OS)), *ga-né-eš-zi* (KBo 22.2 obv. 17 (OS), KBo 6.2 i 43, 46 (OS)) and *ga-né-eš-šer* (KBo 22.2 obv. 18 (OS)). It is crucial, however, that the sign that Melchert transliterates as "*né*" is in fact the sign NI, the normal value of which is *ni*, with *i*-vocalism. Although it is true that in a handful of cases from OS texts it seems to be obligatory to read the sign NI as *né*, with *e*-vocalism,[11] this is by no means a common phenomenon. For instance, the word *nēpiš* 'heaven', which in OS texts occurs 21 times, is always spelled with the sign NE (*ne-(e-)p*°), and *never* with the sign NI = *né*. It is therefore questionable that Melchert, in a discussion on the interpretation of the vowel of the stem *gane*/*išš*-, transliterates the sign NI in the form *ga*-NI-*eš*- as *né* without any justification. A more correct representation of the facts would be to state that the stem *gane*/*išš*- is in OS texts spelled once as *ga-ne-eš*-, and four times as *ga-ni-eš*-.[12]

We must conclude that Melchert's statement that both *tame*/*išš*- and *gane*/*išš*- show in their OS attestations "consistent *e*-vocalism" (2013: 139) is incorrect: both show spellings with *i*- signs as well.

3.3.2 In his treatment of the verbs *tame*/*išš*- and *gane*/*išš*-, Melchert only mentions the Old Hittite evidence, and does not discuss the spelling of these words in Middle and Neo-Hittite manuscripts. Yet, in texts of these periods we find clear examples where the vowels of these stems are spelled with *i*-signs. In the case of *gane*/*išš*-, the spellings *-ni-eš*- and *-ni-iš*- are both attested dozens of times, and in the case of *tame*/*išš*-, we find the spellings *-me-iš*- and *-mi-iš*- just as often as we find *-me-eš*- (cf. the attestations gathered in Kloekhorst 2009). According to Melchert, the MS and NS attestations of these verbs with *i*-signs are useless in proving the existence of a vowel /i̯/, since from the Middle Hittite period onwards there was in Hittite a "confusion of /e/ and /i/ before /s/" (2013: 139).[13] Yet, he

10 Cf. Hethkonk for the dating of this text as "ah.".

11 For instance in the sentence initial chain spelled *ma-a-ni-za* (KBo 6.2 iii 7 (OS)). Since a particle of the shape *=i* is unknown in Hittite, whereas *=e* is known (namely in the function of the nom.pl.c. form of the enclitic pronoun), here there seems to be no other option than to transliterate the sign NI as *né*: *ma-a-né-za* = *mān=e=za* 'when they to themselves'.

12 The two broken forms *ga-ne*-[...] (KBo 6.2 + KBo 19.1 iii 38 (OS)) and *ga-n*[*e*-...] (KBo 6.2 iii 33 (OS)) (not mentioned by Melchert) cannot be used as evidence.

13 For this statement he refers to Melchert 1984: 147–150, where he treats words containing vowels that are spelled both with *e* and with *i* for *š*, like the vowel that occurs between verbal roots and

does not discuss the fact that such a confusion is far from regular. In fact, in the verb *eš-* 'to be', for instance, no such confusion has ever taken place: in texts of all periods it is consistently spelled *e-eš-*, and never ***e-iš-*, ***i-eš-* or ***i-iš-*. The same goes for the verb *šeš-* 'to sleep', which in texts of all periods is in principle always spelled *še-eš-*, and never ***ši-eš-* or ***ši-iš-*.[14] Also the pronoun *šumeš* 'you (pl.)' is in texts of all periods always spelled *šu-me-eš*, and never ***šu-me-iš*, ***šu-mi-eš* or ***šu-mi-iš*.[15] These words therefore behave completely differently from *gane*/*išš-* and *tame*/*išš-*. Anyone stating that all these words contain one and the same phoneme, namely the vowel /e/, has to provide a sound law or another scenario that explains the aberrant spelling of *gane*/*išš-* and *tame*/*išš-* (which, *pace* Melchert, is not limited to MS and NS texts, but manifests itself in OS texts as well, cf. 3.1) vis-à-vis the spellings of *eš-*, *šeš-* and *šumeš*. Until then, we are in my view forced to assume that *gane*/*išš-* and *tame*/*išš-* contain a phoneme that is different from the phoneme present in *eš-*, *šeš-* and *šumeš*. On the basis of the spelling with both *e-* and *i*-signs, I have chosen to call this phoneme /ɨ/.[16]

We can conclude that in this case Melchert's rejection of my views is based on the following points:

1. He does not take into account the OS form *ta-mi-eš-ša-an-te-eš*;
2. he incorrectly reads the OS forms spelled *ga-ni-eš*-as "*ga-né-eš-*";
3. he does not take into account the MH and NH spellings of *gane*/*išš-* and *tame*/*išš-*.

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the *-šk*e/*a*-suffix, °*Ce*/*išk*e/*a-*. To my mind, this latter vowel is a prototypical case of the vowel /ɨ/, cf. Kloekhorst 2008: 769.

14 The spelling *še-iš-* occurs once, in 3sg.pres.act. *še-iš-zi* (KUB 9.34 iii 9 (MH/NS)), but the occurrence of this one form vis-à-vis the dozens of attestations spelled *še-eš-* cannot be compared to the situation of *gane*/*išš-* and *tame*/*išš-*, where the spellings with *i*-signs clearly outnumber the spellings with two *e*-signs.

15 Only once do we find the spelling *šu-um-me-iš* (KUB 26.1 i 2 (NH/NS)), which however is irrelevant when compared to the dozens of attestations of *šu-me-eš* and *šu-um-me-eš*.

16 The reason why *tame*/*išš-* and *gane*/*išš-* contain this /ɨ/ lies in their prehistory. As Melchert (1994: 71) argued, the weak stem *tame*/*išš-* can only reflect the zero-grade stem **dmh*$_2$*s-*. In his view, this **dmh*$_2$*s-* first lost its laryngeal, after which an "anaptyxis [occurred] in the resulting initial **dms-*, which becomes **dmés-*, with accent on the anaptyctic vowel" (1994: 71). Although I have taken over his reconstruction of the weak stem as **dmh*$_2$*s-*, e. g. 3pl.pres.act. **dmh*$_2$*sénti*, I have a different view on its development. To my mind, any sequence of the shape **CRHsV* regularly yields Hitt. /CRɨSV/, with the regular emergence of the vowel /ɨ/ (Kloekhorst 2008: 73; Kloekhorst 2009: 246f.). Note that the presence of the laryngeal is crucial: a cluster **CmsV-* would have yielded Hitt. *CanzV-* (Kloekhorst 2008: 73). The same development as found in **dmh*$_2$*s-* > *tame*/*išš-* is in my view found in *gane*/*išš-* /gnɨS-/, which reflects the zero-grade stem **ǵnh*$_3$*s-*.

If one takes all these forms and spellings seriously, however, there can be only one conclusion, namely that they all point to the presence of a new phoneme, /i̯/. This point is important since below, in 5, it will be argued that the weak stems *kare*/*ip*- and *šare*/*ip*- also contain an /i̯/.

4 Disagreement D: The interpretation and prehistory of the verb *tere*/*ipp*-*zi*

The *mi*-conjugated verb *tere*/*ipp*-*zi* is spelled *te*-RE/I-E/IP-, both in its strong and in its weak stem forms. When it comes to the interpretation of these spellings and the reconstruction of this verb's prehistory, Melchert and I agree on the following points:

1. The spelling with the ambiguous signs RE/I and E/IP makes it impossible to decide on the basis of the spelling alone whether the vowel of the syllable was /e/, /i/ or /i̯/. The choice between one of these vowels must be based on other criteria.
2. This verb reflects the PIE root **trep*-.
3. Since this verb is *mi*-conjugated, we would expect it to have had an **e*/*Ø*-ablaut, **trép-ti*, **trp-énti*.
4. The form **trp-énti* should regularly have yielded Hitt. ***tarpanzi*. Since this is not the synchronically attested 3pl.pres. form, something apparently has happened to it.
5. The *e* that in *tere*/*ipp*- is found between the *t* and *r* must be the result of some kind of anaptyxis.

Despite these agreements, there are also a few points on which we disagree.

4.1.1 According to Melchert (2013: 139f.), the anaptyctic *e* between the *t* and *r* in *tere*/*ipp*- is comparable to the *e* found in Hittite *teri*- 'three', which, together with CLuw. *tarri*- 'id.' goes back to PAnat. **téri*-, a form that in his view must have replaced an earlier **trí*-. Since the *e* in 'three' was accented (cf. the operation of Čop's Law in CLuw. *tarri*- < **téri*-), Melchert assumes that the anaptyctic *e* of *tere*/*ipp*- was accented as well: /térip-/. This analysis cannot be upheld, however. As I have argued in Kloekhorst 2012b, in Hittite an accented /é/ in an open syllable shows plene spelling in ca. 50 % of its attestations: e. g. *ne(-e)-pí-iš* /nébis/ 'heaven', *ge(-e)-nu* /génu/, 'knee', etc. If *tere*/*ipp*- would indeed also contain an accented /é/ in its initial syllable, we would expect it to be spelled *te-e*-RE/I-E/IP- as well as *te*-RE/I-E/IP-. Yet, both the verb itself and its derivative, *tere*/*ippi*- 'ploughed field', never show plene spelling of their *e*; they are always

spelled *te*-RE/I-E/IP-. On the basis of these philological facts we can conclude that the *e* in the initial syllable of *tere*/*ipp*- in fact was unaccented.

How can this now be reconciled with the accentuation of **téri*- 'three', where the *e* is accented? To my mind, the answer must lie in the fact that in this case the *e* is not an anaptyctic vowel. The Lycian form *trisñni* 'three years old (?)' and the Milyan form *trisu* 'thrice' cannot reflect PAnat. **téri*-, since this latter pre-form would have yielded Lyc./Mil. ***teri*-, instead. Therefore, Lyc. *tri*- and Mil. *tri*- can only reflect **tri*-. They thus prove the existence of a PAnat. stem **tri*-, which stood besides the stem **téri*- that is attested in Hitt. *teri*- and CLuw. *tarri*-. Moreover, they prove that an initial sequence **trV*$^{\text{front}}$- was not subject to anaptyxis in the PAnatolian period (otherwise, this **tri*- would not have existed), which means that the **e* in PAnat. **téri*- cannot have been anaptyctic, but instead must reflect a PIE real vowel. I therefore follow Eichner (1992: 69),[17] who argued that **téri*- is in fact an ablaut variant, **tér-i*-, of the stems **tr-i*- and **tr-éi*-.[18]

If these considerations are correct, they automatically mean that the anaptyctic vowel in *tere*/*ipp*- cannot be the result of a PAnatolian development either, but must have been a post-PAnatolian, specifically Hittite innovation. This is an important fact for judging the chronology of Melchert's scenario.

4.1.2 Melchert's chronology of the development of *tere*/*ipp*- runs as follows. Of the PIE ablauting pair **trép-ti*/**trp-énti*, the strong stem **trép*- underwent anaptyxis to */térip-/ already in PAnatolian times. Only after this anaptyxis had taken place, the weak stem **trp*- was vocalized to */tarp-/, after which "[t]he very irregular allomorphy /téripp-/, */tarp-/ was [unsurprisingly] eliminated by generalizing the strong stem" (Melchert 2013: 140).

My own chronology runs as follows, however. The first significant development that took place in the PIE verb **trép-ti*/**trp-énti*, was vocalization of the **r* in the weak stem, which yielded */tərpánti/.[19] The result is a verb that shows Schwebe-ablaut: */trépti/, */tərpánti/. As we will see in detail in 5.2, such Schwe-

17 I thus withdraw my hesitation for accepting Eichner's scenario as expressed in Kloekhorst 2008: 873.

18 This implies that the basic form of the word 'three' was **tér-i* (cf. the basic form **k*^{w}*ét-ur* 'four'), and that in its adjectival use it was inflected proterodynamically, nom.pl.c. **tr-éi-es* (cf. nom.pl.c. **k*^{w}*et-uór-es*, replacing earlier **k*^{w}*t-uér-es*). The basic root **ter*- is found in e. g. Skt. *tṛtī́ya*- 'third', but also in Mil. *trpplẽ* 'three-fold' (besides *tbipplẽ* 'two-fold', which shows that the absence of *i* in *trpplẽ* cannot be due to a phonological development).

19 In Kloekhorst 2008: 29, I still argued that although the syllabic **r* had a phonetic realization [CəRC] in Hittite, the schwa was only marginally phonemic. In Kloekhorst forthc. a I retract this view: I now do assume that the schwa that arose in the vocalization of syllabic resonants was always phonemic: /ə/.

beablauting paradigms were in Hittite actively eliminated. In the case of */trépti/, */tərpánti/, the Schwebeablaut was solved by reshaping the weak stem through insertion of the vowel /i̯/ in the slot of the vowel of the strong stem: */tri̯pánti/. Later on, the development of an anaptyctic *e* in the sequence **trV*$^{\text{front}}$- yielded the forms /terépt^{s}i/, /teri̯pánt^{s}i/, spelled *te*-RE/I-E/IP-*zi*, *te*-RE/I-E/IP-*pa-an-zi*.

The difference between the two scenarios lies in the chronological relation between the development of an anaptyctic vowel in the sequence **trV*$^{\text{front}}$- and the vocalization of syllabic **r*. For Melchert's scenario it is crucial that the anaptyxis in **trV*$^{\text{front}}$- preceded the vocalization of **CrC*. In my scenario, however, it is crucial that it was the vocalization in **CrC* that preceded the anaptyxis in **trV*$^{\text{front}}$-. As we have seen, Melchert's dating of the anaptyxis in **trV*$^{\text{front}}$- to PAnatolian times does not account for all the facts: the non-Hittite data show that it must have taken place in post-PAnatolian, pre-Hittite times. The exact date of vocalization in **CrC* is difficult to determine, although Melchert (1994: 90) lists the development of PIE **R̥* to **$_e$R* as a PAnatolian one. If this is correct, it automatically proves that his scenario for the development of *tere*/*ipp*- is incorrect, since it has now become impossible that the anaptyxis in **trV*$^{\text{front}}$- preceded the vocalization of **CrC*.

I conclude that in this case the disagreement between Melchert and myself is crucially dependent on the relative chronology of the developments **trV*$^{\text{front}}$- > *terV*$^{\text{front}}$- and **CrC* > /CərC/. As we have seen, the evidence indicates that the development **trV*$^{\text{front}}$- > *terV*$^{\text{front}}$- postdates the development **CrC* > /CəRC/, which is lethal to Melchert's views. My own interpretation of *tere*/*ipp*-, however, is perfectly in line with the relative dating of these developments, and we can therefore conclude that Melchert's objections against my views on *tere*/*ipp*-^{zi} (Melchert 2013: 139f.) do not hold. This point is important as the prehistory of *tere*/*ipp*- will in 5.1 be taken as a parallel for the prehistory of the verbs *karāp*-^{i}/*kare*/*ip*- and *šarāp*-^{i}/*šare*/*ip*-.

5 Disagreement E. The origin of the weak stems of *karāp*-/*kare*/*ip*-, *šarāp*-/*šare*/*ip*- and *ḫamank*-/*ḫamink*-

When it comes to our views on the origin of the weak stems *kare*/*ip*-, *šare*/*ip*- and *ḫamink*-, Melchert and I agree on the following points:

1. The verbs *karāp*-^{i}/*kare*/*ip*- 'to devour', *šarāp*-^{i}/*šare*/*ip*- 'to sip' and *ḫamank*-^{i}/*ḫamink*- 'to bind' are the only *ḫi*-verbs that show an aberrant ablaut. All other

ḫi-verbs synchronically either show an ablaut *ā*/*a* or an ablaut *ā*/*Ø*, which both go back to pre-Hittite **ó*/*Ø*.[20]

2. The special status of *karāp*-/*kare*/*ip*- and *šarāp*-/*šare*/*ip*- has a direct correlation with their aberrant root structure; they are the only *ḫi*-verbs that have the root structure **CRVC*-.
3. The spelling of the vowel of the weak stems *kare*/*ip*- and *šare*/*ip*- with the ambiguous signs RE/I and E/IP makes it impossible to determine on the basis of the spelling alone whether we are dealing with /e/, /i/ or /ɨ/.
4. The vowel of *ḫamink*- must synchronically (at least in Old Hittite[21]) have been an /i/. According to Melchert, this /i/ must have developed out of an earlier /e/, which was raised before the cluster *-nk*- (comparable to the development of **h*$_1$*leng*^{h}- > Hitt. *link*-). I agree with Melchert that this is a possibility, but think that it is equally possibly that the /i/ has developed out of an earlier /ɨ/.[22] In other words, although the vowel of *ḫamink*- synchronically is an /i/, it can in the recent prehistory of Hittite also have been an */e/ or an */ɨ/. In that sense, the vowel of *ḫamink*- is equally unclear as the vowel of *kare*/*ip*- and *šare*/*ip*-: in recent pre-Hittite times it can have been either an */e/, */i/ or */ɨ/.

Despite these agreements, Melchert and I disagree about the nature and the origin of the aberrant vowel of the weak stems *kare*/*ip*-, *šare*/*ip*- and *ḫamink*-. I will first discuss Melchert's views (5.1), then give mine (5.2), and afterwards compare the two (5.3).

5.5.1 According to Melchert, the vowel underlying the weak stems of *karāp*-^{i}/*kare*/*ip*-, *šarāp*-^{i}/*šare*/*ip*-, and *ḫamank*-^{i}/*ḫamink*- is an /e/, which means that these verbs show an ablaut *ā*/*e*: /grā́b-, gréb-/, /srā́b-, sréb-/, and pre-Hitt.

20 Melchert is not fully explicit in his analysis of the Hittite verbs *mall*-^{i}/*mall*- 'to grind' and *išpānt*-/*išpant*- 'to libate', however. In Melchert 2013: 138 he states that these reflect PIE **o*/*e*-ablaut, with which he implies that the weak stems *mall*- and *išpant*- directly reflect pre-Hittite **melH*- and **spend*-, whereas in Melchert 2013: 143f. he states that roots of the structure **TeR(T)*- have in the prehistory of Hittite undergone a replacement of the weak stem **TeR(T)*- to **TR̥(T)*-, which would imply that *mall*- and *išpant*- reflect pre-Hittite **mlH*- and **spnd*-, respectively.

21 In younger texts we do find spellings with *e*-signs as well, *ḫa-me-en-k*°, but Melchert and I agree on the fact that these are due to an inner-Hittite development, namely lowering of OH /i/ before *n*, and therefore have no bearing on the present discussion.

22 If */e/ is raised and fronted before *-nk*-, it seems unproblematic to me to assume that */ɨ/, too, would be fronted before *-nk*-.

*/hmắng-, hméng-/, which regularly developed into /hmáng-, hmíng-/.[23] The *ā*/*e*-ablaut that these verbs display is in Melchert's view the regular outcome of PIE **ó*/*é*, which was the ablaut of the PIE "h_2e-conjugation",[24] i. e. the category that in his opinion underlies the Hittite *ḫi*-conjugation. Although these three verbs are the only verbs in Hittite that directly reflect this PIE **ó*/*é*-ablaut, an additional argument for assuming that this ablaut must have existed is the fact that it is necessary to explain the analogic introduction of *e*-grade in the verbs *āk(k)-*/*akk-*, *ār-*/*ar-*, *ḫān-*/*ḫan-*, *ḫāš-*/*ḫašš-*, *išpār-*/*išpar-* and *šākk-*/*šakk-*. In order to explain why all *ḫi*-verbs other than *karāp-*, *šarāp-*, and *ḫamank-* synchronically show the ablaut patterns *ā*/*a* or *ā*/*Ø* < PIE **o*/*Ø*, Melchert (2013: 144) assumes two large secondary developments. First, in "h_2e-conjugated" verbs of the structure **CVR(C)-*, the weak stem **CéR(C)-Vº* was at a certain point in time (in PIE?) replaced by **CR̥(C)-Vº* (with zero-grade in the root and accent shift to the ending, a development parallel to the treatment of the weak stems of **o*/*e*-ablauting nouns as assumed by Schindler 1972). After this replacement, the weak stem **CR̥(C)-Vº* regularly ended up as Hitt. *CaR(C)-Vº*. Second, in "h_2e-conjugated" verbs of the structure **CVC-*, the weak stem **CéC-Vº* was at a certain point in time (in PIE?) replaced by **CeC-Vº* (with retention of the *e*-grade in the root, but also with an accent shift to the ending, a development parallel to the treatment of the weak stems of **o*/*e*-ablauting nouns as assumed by Schindler 1972). After this replacement, the weak stem **CeC-Vº* regularly developed into pre-Hitt. *CiC-Vº*, after which the stem *CiC-* was replaced by *CaC-* in analogy to the stems in *CaR(C)-*.

A few remarks are in order. First, the additional argument for assuming the existence of **o*/*e*-ablauting paradigms in Hittite, namely that they are necessary for explaining the secondary introduction of an *e*-grade in the *ā*/*a*-ablauting verbs *āk(k)-*/*akk-*, *ār-*/*ar-*, *ḫān-*/*ḫan-*, *ḫāš-*/*ḫašš-* and *šākk-*/*šakk-*, has in 2 been argued to be invalid. Secondly, Melchert's scenario indeed offers an explanation why *karāp-*/ *kare*/*ip-* and *šarāp-*/*šare*/*ip-* show an /e/ in their weak stem (*o*/*e*-ablauting verbs of the structure **CRVC-* did not undergo any change to their weak stem **CRéC-Vº*, whereas verbs of the structure **CVR(C)-* and **CVC-* did), but it in fact does not explain why *ḫamank-*/*ḫamink-* shows an */e/ in its weak stem. This verb is of the root structure **CVRC-* and its weak stem should there-

23 Although the strong stem of *ḫamank-* is always spelled *ḫa-ma-an-kº*, with a short *a*, it must go back to an original **ḫamānk-*, with a long *ā* (Kloekhorst 2012a: 157[23]; thus also Melchert 2013: 141), according to the sound law OH /āCCV/ > MH/NH /aCCV/ (Kloekhorst 2008: 98).

24 The present of the "h_2e-conjugation" is reconstructed by Melchert as **CóC-h₂ei*, **CóC-th₂ei*, **CóC-e*, **CéC-meH*$^?$, **CéC-(H)e*$^?$, **CéC-n̥ti*$^?$ (after Jasanoff 2003: 71, 89), whereas the aorist is reconstructed as **CóC-h₂e*, **CóC-th₂e*, **CóC-e*, **CóC-me-*, **CóC-(t)e-*, **CéC-r̥(s)* (adapting Jasanoff 2003: 151, cf. also Jasanoff 2013: 108).

fore, according to Melchert's own account, have undergone a substitution from **h*$_2$*méng*^{h}*-V°* to **h*$_2$*mng*^{h}*-V́°*,[25] which, according to Melchert 2013: 141, should regularly have yielded ***ḫamank-V́°*. In other words, Melchert's scenario only explains two out of three cases. Thirdly, Melchert does not make explicit what the cause of the development **CéR(C)-V°* > **CR̥(C)-V́°* and **CéC-V°* > **CeC-V́°* is. He only refers to the fact that Schindler (1972) has postulated such developments for the **o*/*e*-ablauting acrostatic nouns. Yet, in these nouns, these developments[26] can easily be explained by analogy. On the basis of the mobile inflected gen.sg. forms of the structure **CRC-és*, which show zero-grade in their root and accent on the ending, an acrostatic gen.sg. form of the structure **CéRC-s* could be reshaped to **CRC-és*, with zero-grade in the stem and accent on the ending as well. Such an analogical model is absent for the "*h*$_2$*e*-conjugation" verbs, however: within the "*h*$_2$*e*-conjugation" theory there are no original *h*$_2$*e*-conjugated verbs that have a zero-grade in their weak stem and desinential stress.

5.5.2 My own account to explain the weak stems of *karāp-*^{i}*/kare/ip-*, *šarāp-*^{i}*/šare/ip-*, and *ḫamank-*^{i}*/ḫamink-* is the following. Since all other *ḫi*-verbs show an ablaut that reflects PIE **o*/*Ø*, we should first investigate the possibility that these verbs can be explained by such an ablaut as well. We therefore must answer the question whether it is possible that the weak stems *kare/ip-*, *šare/ip-*, and *ḫamink-* reflect PIE zero-grade formations.

In the case of *ḫamink-*, one's answer to this question depends on one's view on the development of the sequence **CmnK* in Hittite. According to Melchert (2013: 141), such a sequence should have yielded Hitt. *C(a)mank-* (e. g. 3pl.pres. **h*$_2$*mng*^{h}*-énti* should have yielded Hitt. ***ḫamankanzi*), showing a development comparable to **CnK* > Hitt. *Cank* (e. g. **ḱnk-énti* > Hitt. *kankanzi* 'they hang'). Yet, in Kloekhorst 2008: 87, 279 it was argued that **CmnK* regularly developed into Hitt. *Cmink*, which would mean that the 3pl.pres. form *ḫaminkanzi* is the regular outcome of a PIE zero-grade formation **h*$_2$*mng*^{h}*énti*. The development **CmnK* > Hitt. *Cmink* can to my mind be directly compared to the development **(C)lnK* > Hitt. *(C)link* as found in e. g. **h*$_1$*lng*^{h}*énti* > *linkanzi*, the 3pl.pres. form of the verb *li(n)k-*^{zi} 'to swear' < **h*$_1$*leng*^{h}*-*, and the development **(C)nnK-* > Hitt. *(C)nink-* as found in **nnK-énti* > *ninkanzi*, the 3pl.pres. form of the verb *ni(n)k-*^{zi}

25 Note, however, that in the last paragraph of his article, Melchert (2013: 148) suddenly introduces the cover term "*TRe(R)T*" to describe the root shape of the weak stems **g*^{h}*réb*^{h}*-*, **sréb*^{h}*-* and **h*$_2$*méng*^{h}*-*, with which he apparently means to say that the weak stem **h*$_2$*méng*^{h}*-* was treated as a **CRVC*-root, and not as a **CVRC*-root, and therefore was left unchanged.

26 If they have taken place at all. Cf. Kloekhorst forthc. b, in which I argue against the existence of **o*/*e*-ablauting acrostatic nouns.

'to quench one's thirst'. Since *li(n)k-^{zi}* and *ni(n)k-^{zi}* are *mi*-verbs, and since all *mi*-verbs show an original **e*/*Ø*-ablaut, there can be no doubt that these verbs originally inflected **h$_1$léng^h-ti*, **h$_1$lng^h-énti* and **nénK-ti*, **nnK-énti*, respectively (unfortunately, the etymology of *ni(n)k-^{zi}* is unclear, cf. Kloekhorst 2008: 607). If we would follow Melchert's assumption that a sequence **CnK* unconditionally yielded *Cank*, we would expect these verbs to have yielded Hitt. *li(n)kzi*, ***lankanzi* and *ni(n)kzi*, ***nankanzi*, respectively, instead of attested *li(n)kzi*, *linkanzi* and *ni(n)kzi*, *ninkanzi*. Of course, one could assume that the strong stem of these verbs has been generalized throughout the paradigm, but I do not see a motivation for such a development.[27] Moreover, if this would have happened, why are there no traces at all from the original weak stem ***lank*- and ***nank*-, not even in the participle, *-ške*/*a*-imperfective, or *nu*-causative? I therefore regard it as extremely unlikely that the regular outcome of **h$_1$lng^{h}énti* and **nnK-énti* was ***lankanzi* and ***nankanzi*. Instead it must have been *linkanzi* and *ninkanzi*, respectively, showing the development **(C)RnK* > Hitt. /(C)Rink/.

I thus propose that the sound law **CnK* > Hitt. *Cank* needs a small refinement: if the consonant preceding the *n* is a resonant, **RnK*, the outcome is *Rink* (note that it cannot be determined whether this outcome went through an intermediate stage */Renk/, */Rink/ or */Rɨnk/: the result would always be /Rink/). The postulation of this rule is to my mind the only way in which we can account for the weak stems of the verbs *li(n)k-^{zi}* and *ni(n)k-^{zi}*, and an additional advantage of it is that the weak stem *ḫamink*- can now be reconstructed as **h$_2$mng^h*-, with a zero-grade. This means that the verb *ḫamank*-/*ḫamink*- can be regarded to originally have shown the same PIE ablaut as all other *ḫi*-verbs, namely **o*/*Ø*.

The answer to the question whether also *kare*/*ip*- and *šare*/*ip*- can directly go back to zero-grade formations is straightforwardly no. The phonologically expected outcomes of the zero-grade stems **ǵ^{h}rbh$_1$*- and **srb^h*- are ***karp*- /gərb-/ and ***šarp*- /sərb-/, respectively. Yet, it is important to realize that within the paradigms of these verbs the weak stems ***karp*- /gərb-/ and ***šarp*- /sərb-/ would have shown Schwebeablaut when compared to their strong stems, *karāp*-/grə́b-/ and *šarāp*- /srə́b-/. This fact is relevant since we know that Hittite did not tolerate Schwebeablaut, and actively eliminated it. For instance, the verb **lóg^h-ei*,

27 An anonymous reviewer suggests the possibility that *linkanzi* is created by analogy with the type *ḫarninkanzi* (the 3pl. form of the verb *ḫarni(n)k-^{zi}* 'to destroy'). Yet, the origin of the nasal infixed verbs ending in *-ni(n)k*- is far from clear, and such a suggestion is therefore gratuitous. Cf. Kloekhorst 2008: 152-5 for a scenario regarding the prehistory of the Hittite nasal infixed verbs, where it is claimed that the weak stems of these verbs go back to earlier **CRnnK*-, which through the development **-nnK*- > *-ninK*- yielded *CaRnink*-.

**lg*^{h}*-ént-* 'to knock out' should regularly have yielded Hitt. *lāki*, **alkant-* (/lā́gi/, */əlgánt-/), but was analogically reshaped to *lāki*, *lagant-* (/lā́gi/, /ləgánt/). Similarly, **nóh*$_2$*-ei*, **nh*$_2$*-ént-* 'to fear' should regularly have yielded Hitt. *nāḫi*, **anḫant-* (/nā́hi/, /ənHánt-/), but was analogically reshaped to *nāḫi*, *naḫḫant-* (/nā́hi/, /nəHánt-/). These two examples concern verbal roots with an initial resonant, the weak stem of which undergoes a reshaping of **aRC-* /əRC-/ to *RaC-* /RəC-/. The question now is, what would happen to roots of the shape **CRVC-*, i. e. with an internal resonant? The only verb with a root shape **CRVC-* other than *karāp-*^{i} and *šarāp-*^{i} is *mi*-conjugated *tere*/*ipp-*^{zi}, which reflects PIE **trep-*. As we have seen above, in 4, the prehistory of this verb is blurred by the development **trV*$^{\text{front}}$- > *terV*$^{\text{front}}$-, which took place at some moment in the prehistory of Hittite. Yet, there can be no doubt that the PIE paradigm **trép-ti*, **trp-énti* first regularly yielded pre-Hitt. */trépti/, */tərpánti/, a paradigm that shows Schwebeablaut. As was argued above, this Schwebeablaut was solved by reshaping the weak stem through insertion of the vowel /ɨ/ in the slot of the vowel of the strong stem, which yielded */trɨpánti/. Alternatively, we could argue that, in analogy to the position of the /e/ in the strong stem */trep-/, the /ə/ of the weak stem */tərp-/ changed its position to */trəp-/ (comparable to */əlg-/ » /ləg-/ and */ənH-/ » /nəH-/), after which the sequence */trəp-/ regularly developed into /trɨp-/ (raising of the mid-central vowel /ə/ to the high-central vowel /ɨ/ in the sequence */CRəC/). Later on, the pre-Hitt. paradigm */trépti/, *trɨpánti/ underwent the development of an anaptyctic *e* in the sequence **trV*$^{\text{front}}$-, the result of which was the paradigm /terépt^{s}i/, /terɨpánt^{s}i/, spelled *te*-RE/I-E/IP-*zi*, *te*-RE/I-E/IP-*pa-an-zi*.

The development of PIE *trépti*, **trpénti* to pre-Hitt. */trépt^{s}i/, */trɨpánt^{s}i/ provides the scenario by which we can explain *karāp-*^{i}/*kare*/*ip-* and *šarāp-*^{i}/*šare*/*ip-* as originally **o*/*Ø*-ablauting, and thus as being exactly the same as all other Hittite *ḫi*-verbs. The PIE paradigms of these verbs, **ǵ*^{h}*róbh*$_1$*ei*, **ǵ*^{h}*rbh*$_1$*énti* and **srób*^{h}*ei*, **srb*^{h}*énti*, first regularly developed into */grā́bi/, */gərbánti/ and */srā́bi/, */sərbánti/, i. e. paradigms with Schwebeablaut. In order to solve this Schwebeablaut, the weak stem forms of these verbs were reshaped either by direct insertion of an /ɨ/ in the slot of the vowel of the strong stem, or by changing the position of the */ə/ of the weak stem in analogy to the vowel of the strong stem, after which a phonetically regular raising of */CRəC/ to /CRɨC/ took place, yielding the weak stems /grɨb-/ and /srɨb-/, respectively. Either way, these developments resulted in the attested non-Schwebeablauting paradigms /grā́bi/, /grɨbánt^{s}i/ and /srā́bi/, /srɨbánt^{s}i/, spelled *karāpi*, *kare*/*ipanzi* and *šarāpi*, *šare*/*ipanzi*.[28]

28 To be sure, the exact nature of the vowel that is used to eliminate the Schwebeablaut in the weak stems */tərp-/, */gərb-/ and */sərb-/ cannot be independently determined. Since in

5.5.3 Let us now compare Melchert's and my own account for explaining the synchronic aberrant ablaut of the three verbs *karāp-^{i}/kare/ip-*, *šarāp-^{i}/šare/ip-* and *ḫamank-^{i}/ḫamink-*.

Melchert assumes that these three verbs are the only ones that have retained the original PIE ablaut that underlies all *ḫi*-verbs, namely **o*/*e* (an ablaut that as such is unattested in the verbal system of any other IE language). In order to explain the fact that all other Hittite *ḫi*-verbs in fact show an ablaut that reflects PIE **o*/*Ø*, Melchert must assume a massive prehistoric replacement of *e*-grade weak stems by zero-grade weak stems, according to the substitution rules **CéR(C)-V°* » **CR(C)-V́°* and **CéC-V°* » **CeC-V́°* » *CC-V́°*. It is problematic, however, that he does not explain the exact mechanism of these substitutions. What was their motivation? What analogical model stood at their basis? Moreover, the scenario sketched by Melchert in fact predicts a different outcome for *ḫamank-^{i}/ḫamink-*.

In other words, Melchert assumes three secondary developments (**CéR(C)-V°* » **CR(C)-V́°*, **CéC-V°* » **CeC-V́°*, and **CeC-V́°* » *CC-V́°*, all three of which are unmotivated and for the first two of which no analogical model is provided) that in the end only explain two out of the three problematic verbs.

My own account to explain the aberrant ablaut of these three verbs is to assume that they in fact go back to the same ablaut as found in all other *ḫi*-verbs, namely **o*/*Ø* (an ablaut that is well-attested in the verbal systems of other IE languages, namely in the categories that derive from the PIE perfect). In order to explain the weak stem of *ḫamank-^{i}/ḫamink-*, a new sound law is proposed, namely **RnK* > **Rink*. This sound law does not only explain the stem *ḫamink-*, but also accounts for the synchronically aberrant weak stems of the *mi*-verbs *li(n)k-^{zi}* and *ni(n)k-^{zi}*. In the case of *karāp-^{i}/kare/ip-* and *šarāp-^{i}/šare/ip-*, a development is proposed by which a pre-Hittite sequence */CəRC-/ in Schwebeablauting paradigms is reshaped to /CRɨC-/. This development does not only explain *kare*/*ip-* and *šare*/*ip-*, but also accounts for the synchronically aberrant weak stem of the *mi*-verb *tere*/*ipp-^{zi}*.

In other words, my account assumes two new developments (a sound law and a secondary development with a clear motivation) that not only explain all three aberrant *ḫi*-verbs, but also explain the aberrant ablaut patterns of a number of *mi*-verbs, which are otherwise unaccounted for.

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all three verbs the vowel is spelled with the ambiguous signs RE/I and E/IP, we cannot be sure whether it was /e/, /i/ or /ɨ/. I hope that from the scenario I have presented above it is clear why I have interpreted the weak stems *tere*/*ipp-*, *kare*/*ip-* and *šare*/*ip-* as /terɨp-/, /grɨb-/ and /srɨb-/, respectively.

Comparing the two, I think it is fair to say that my account uses the lowest number of assumptions and at the same time has the largest explanatory power. According to Occam's Razor, it should therefore be preferred over Melchert's one. As a consequence, Melchert's claim that *ḫamank-*^{i}/*ḫamink-*, *karāp-*^{i}/*kare*/*ip-*, and *šarāp-*^{i}/*šare*/*ip-* can only be explained by reconstructing a PIE ablaut **o*/*e* cannot be maintained: there is an alternative, more preferable way for explaining their synchronically aberrant ablaut patterns.

6 Context and consequences

Comparative linguistics is in essence a simple discipline. There is only one principle: the reconstruction that uses the lowest number of assumptions in order to explain the largest number of linguistic facts is the one to be preferred (Occam's Razor). Whenever comparative linguists disagree on a certain topic, the disagreement therefore does not concern this method, but rather the question which linguistic facts are relevant for the topic under discussion, and what these linguistic facts actually are. This also goes for the debate on the reconstruction of PIE **o*/*e*-ablauting verbal paradigms.

Already in the 19th century, it was known that in several IE languages some verbs form presents with an *o*-grade in the root, and that some of these stand besides *e*-grade or zero-grade presents in other languages (e. g. the verbal root **melH-* 'to grind', which shows an *o*-grade present in Lith. *málti*, Goth. *malan*, an *e*-grade present in OIr. *melid*, OCS *meljǫ*, and a zero-grade present in Arm. *malem*, MW *malu*). Since by that time it was already generally accepted that the PIE athematic present inflected **CéC-ti*, **CC-énti*, i. e. with radical *e*/Ø-ablaut, the *o*-grade forms did not fit the standard reconstruction of PIE presents. It was therefore initially argued that the *o*-grade in presents like Lith. *málti* and Goth. *malan* must have been of a secondary origin. For instance, Gärtchen (1905) claimed that the **o*-grade was taken over from nouns of the type **CoC-o-*, whereas Brugmann (1913: 189–92) proposed that the **o*-grade was taken over from the causative/iterative formation **CoC-éie-*.

A new approach to the subject was given by Meillet (1916), who argued that the *o*-grade need not have been secondary at all. To his mind, the reconstruction of the PIE athematic present as having only *e*- and zero-grade forms needed to be revised and, on the basis of these *o*-grade presents, should be reconstructed as having *e*/*o*/Ø-ablaut (although he did not make explicit which grade originally belongs to which form). Also Stang (1942: 40–2) did not believe that the *o*-grade in these presents was of a secondary origin. Yet, unlike Meillet, he did not think

that the *o*-grade should be included in the reconstruction of the PIE athematic present. Instead, he pointed out that all *o*-grade presents have semantics like 'to hit', 'to stab', 'to dig' or 'to grind', and thus can be viewed as having an intensive meaning.[29] He therefore proposed that all these *o*-grade presents must be compared with the Sanskrit intensive formation of the type *jaṅghanti* < **g^{wh}en-g^{wh}on-ti* (*o*-grade assured by the non-palatalization of the preceding **g^{wh}*).[30] Whenever we find *e*-grade presents of a verbal root that also shows *o*-grade presents (e. g. OIr. *melid*, OCS *meljǫ* < **melH-* besides Lith. *málti*, Goth. *malan* < **molH-*), these *e*-grade forms must then reflect the normal athematic present (comparable to Skt. *hánti*, *ghnánti* < **g^{wh}én-ti*, **g^{wh}n-énti*).

Let us compare Meillet's explanation of the existence of *o*-grade presents to Stang's one. Meillet has to assume an extra ablaut grade for the athematic present, without explaining where in the paradigm this ablaut grade was situated and why this ablaut grade is only visible in a limited number of attested verbs. Stang, however, does not reconstruct new entities, but instead makes use of paradigms that were already established on other grounds, and at the same time he can explain exactly why the *o*-grade is only found in the verbs in which it is attested: because these have an intensive meaning. In other words: Stang's account uses the least assumptions but has the largest explanatory power, and should, according to Occam's Razor, therefore be preferred.

Of course, when new data become available that have a bearing on a problem, it may happen that the original solutions need to be revised. In this case, the discovery of Hittite *ḫi*-verbs that showed an ablaut *ā*/*e* (like *šākk-^{i}*/*šekk-*), which descriptively speaking reflected PIE **o*/*e* (**sókH-*/**sékH-*), was clearly such an event. It therefore is only natural that Jasanoff (1979) revived Meillet's 1916 theory of *e*/*o*/*Ø*-ablauting presents, and reshaped it into a theory according to which PIE possessed two athematic presents, namely one with the endings **-mi*, **-si*, **-ti* and **e*/*Ø*-ablaut (the 'classical' athematic present), and one with the endings **-h$_2$e*, **-th$_2$e*, **-e* and **o*/*e*-ablaut (the so-called "*h$_2$e*-conjugation").[31] Since this "*h$_2$e*-conjugation" theory offered an explanation both for the existence of *o*-grade presents besides *e*-grade presents (e. g. **molH-* besides **melH-*) and for the Hittite

29 Refining the semantic classification of these verbs as given by Gärtchen 1905.

30 Cf. Hiersche 1963: 157 for a similar view.

31 Although in Meillet's concept of the *e*/*o*/*Ø*-ablauting present the zero-grade is a basic grade, within Jasanoff's theory it is not originally part of the "*h$_2$e*-conjugation", but at a certain point in time is only secondarily taken up into it due to a tendency by which original *e*-grade weak stem forms are substituted by zero-grade forms.

ā/*e*-ablauting *ḫi*-verbs (e. g. *šākk-*/*šekk-*), it clearly had a larger explanatory power than Stang's intensive formation theory.

As is well known, Jasanoff has over the years expanded his "h_2e-conjugation" theory into a large new theory on the PIE verbal system (best described in Jasanoff 2003), the core of which at least has been adopted by several scholars, including Melchert. Yet, during the years that the "h_2e-conjugation" theory was evolving, also our knowledge of Hittite evolved tremendously. Especially in the field of dating texts great progress was made, which allowed a much more detailed description of the internal development of Hittite. Also our knowledge of its historical phonology and morphology increased greatly. As I have argued in Kloekhorst 2012a, this evolving knowledge has brought us two main new insights on the Hittite *ā*/*e*-ablauting *ḫi*-verbs. First, the majority of these verbs (*āk-*/*ek-*, *ār-*/*er-*, *ḫān-*/*ḫen-*, *ḫāš-*/*ḫešš-*, *išpār-*/*išper-*, *šākk-*/*šekk-*, to which I now also add *ašāš-*/*ašeš-*, cf. footnote 9) originally were not *ā*/*e*-ablauting at all, but in fact showed an ablaut *ā*/*a* (< PIE **o*/*Ø*), the *a*-grade of which was replaced by a secondary *e*-grade within the period of attested Hittite. Second, the three remaining verbs (*karāp-*/*kare*/*ip-*, *šarāp-*/*šare*/*ip-* and *ḫamank-*/*ḫamink-*) are not *ā*/*e*-ablauting either, but instead show in their weak stem the vowel /i̯/, which in all three cases emerged in an original zero-grade form. I therefore concluded that Hittite does not offer evidence for a PIE **o*/*e*-ablaut anymore; instead, all *ḫi*-verbs in fact reflect a PIE ablaut **o*/*Ø*. As we have seen above, Melchert (2013) agrees with my first point, but has raised several objections to my second point. I have tried to show in the present article, however, that Melchert's objections simply do not hold, and I therefore see no reason to alter my 2012 conclusion.

Whether Jasanoff's "h_2e-conjugation" theory can in the future still be maintained as the solution for the existence of *o*-grade presents like Lith. *málti* and Goth. *malan* will have to rely on an assessment of its benefits for explaining other, non-Anatolian linguistic facts – a topic that I cannot treat within the context of the present paper. Personally, however, I fear that with the disappearance of the Anatolian evidence for a verbal **o*/*e*-ablaut, the tip of the balance of Occam's Razor might swing away from Jasanoff's "h_2e-conjugation" theory back to Stang's intensive formation theory.

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Abbreviations

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