

On the Origin of the Indo-European Thematic Present

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Abstract: The Anatolian languages have virtually no attestation of simple thematic verbs in **-e/o-*, but thematic verbs with the suffixes **-īe/o-* and **-ske/o-* are abundantly attested. They were both used to form the present stem. There is no compelling evidence for reconstructing the thematic vowel **-o-* in the active paradigm for Proto-Anatolian. The persistent *e*-vocalism is a feature inherited from Proto-Indo-European. The thematic conjugation originated from the root accented *’-īe/o-* present. After Anatolian split off, the extra-Anatolian branches remaining as a unity underwent the phonological rule that changed **e* to **o* in post-tonic closed syllables, so that the alternation of **’-īe-* and **’-īo-* was introduced into the verbal paradigm. The vowels **e* and **o* of the suffix immediately preceding the endings came to be reinterpreted as a part of the endings, and the new endings with **-e/o-* later spread to the simple thematic active verbs.[†]

Key words: Indo-European comparative grammar, Anatolian languages, sound change, verbal morphology, philology

1. Introduction

It is widely recognized that Proto-Indo-European had morphologically three different verbal stems traditionally referred to as “present”, “aorist”, and “perfect”. These distinct stems expressed differences of grammatical verbal aspect. The present indicates incomplete or ongoing action (imperfective aspect), the aorist completed or punctual action (perfective aspect), and the perfect a resulting state (stative aspect). In the present and aorist, there was a distinction between athematic and thematic stems. The athematic type is characterized by ablaut like 3 sg. **h₁és-ti* ‘is’ vs. 3 pl. **h₁s-énti*, 3 sg. **k₁né-u-ti* ‘hears’ vs. 3 pl. **k₁n-u-énti*, 3 sg. **h₁éd-ti* ‘eats’ vs. 3 pl. **h₁éd-nti*, and so on. The thematic type, on the other hand, shows an invariant stem, which ends in a thematic vowel **e* or **o* as a predesinen-

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tial element. Neither accentual shifts nor vowel alternations are observed, as is seen in 3 sg. **bhér-e-ti* ‘bears’, 3 pl. **bhér-o-nti*, etc. Of these two types, the athematic conjugation is more archaic, but the thematic conjugation became more and more productive in the daughter languages except for Anatolian, where simple thematic verbs are virtually or completely absent.

The origin of the thematic verb with a thematic vowel **-e/o-* has been one of the most controversial issues in the history of Indo-European studies, and a consensus has not yet been found, although recent important works have led to a deeper understanding of the position of the thematic conjugation within the overall verbal system. This study will attempt to clarify the origin of the thematic present by examining new facts that have eluded scholars’ attention and then proposing a new account for its origin.

2. Background

In his classical handbook on Indo-European comparative grammar, Meillet (1903: 183, 227) reconstructed the thematic present conjugation of active verbs as shown in the following paradigm:

active sg. 1	<i>*-ō</i>	pl.1	<i>*-o-me</i> (vel sim.)
2	<i>*-e-si</i>	2	<i>*-e-te</i> (vel sim.)
3	<i>*-e-ti</i>	3	<i>*-o-nti</i>

According to him, the thematic present had virtually the same endings as the corresponding athematic endings (1 sg. **-mi*, 2 sg. **-si*, 3 sg. **-ti*, 1 pl. **-me* (vel sim.), 2 pl. **-te* (vel sim.), 3 pl. **-enti*), and the cardinal difference between the thematic and the athematic conjugations lay in the presence or absence of the thematic vowel **e* or **o*. Scholars who support this traditional view include Szemerényi (1970: 218ff.) and Rix (1976: 250ff.). The most vigorous proponent of this position, however, was Warren Cowgill, who tried to explain the absence of **t* in the thematic active 3 sg. ending *-εt* in Greek and that of **m* in thematic active 1 sg. endings such as Greek *-ω*, Latin *-ō* and Old Irish *-u* by sound changes; cf. Cowgill (1985, 2006). But the sound changes he proposed are not well motivated; cf. Jasanoff (1998: 302–303).¹

A completely different view was presented in the 1930s by Kuryłowicz (1932), Stang (1932) and Pedersen (1938), all of whom suggested a historical relationship of the thematic conjugation to the perfect and mediopassive, and not to the athematic conjugation. But it was Watkins (1969) who first gave a systematic

¹ As for the Greek 3 sg. *-εt*, Kiparsky (1967) posits metathesis of word final *-i* with any dental after any vowel, which derives *-εt* from PIE **-e-ti* with the subsequent regular loss of word-final dentals in Greek (**-e-ti* > **-e-it* > *-e-i*). This view is endorsed with restrictions by Cowgill (1985: 99–103, Hackstein (2002: 107–109), Willi (2012) and Hill (2020). It is important to note that Kiparsky’s attempt seeks to account for an idiosyncratic feature of Greek without abandoning the traditional reconstruction. A different historical interpretation of the 3 sg. *-εt* is possible as will be seen below. In any event, the thematic 1 sg. **-ō* does not receive any reasonable account within the traditional framework.

treatment to the resemblance of the endings of the thematic conjugation to those of the perfect and mediopassive in the context of the verbal system as a whole. Watkins (1969: especially chapter 8) submits that the original thematic active endings were 1 sg. $*-h_2o$, 2 sg. $*-th_2o$, 3 sg. $*-e$ and that the re-segmentation of 3 sg. $*-e$ as a suffix $*-e$ + zero-ending brought about the generalization of the thematic vowel $*-e-$ to the rest of the paradigm with the subsequent change $*-e- > *-o-$ before a laryngeal. This process is shown schematically below:

sg. 1.	$*-h_2o$	$*-h_2o$	$*-e-h_2o$	$*-o-h_2o$
2.	$*-th_2o$	$*-th_2o$	$*-e-th_2o$	$*-e-th_2o$
3.	$*-e$	$*-e-\emptyset$	$*-e-\emptyset$	$*-e-\emptyset$

According to Watkins' view 1 sg. $*-o-h_2o$, which later contracted to $*-\bar{o}$ after intervocalic laryngeal loss, accounts for Greek $-\omega$, Latin $-\bar{o}$ and Old Irish $-u$. Likewise, the 3 sg. $*-e$ is retained intact in Greek $-\epsilon$; e.g., impf. ἔφερε '(s)he bore'.² Later in most languages 1 sg. $*-o-h_2o$, 2 sg. $*-e-th_2o$ and 3 sg. $*-e$ were remodeled under influence from the corresponding athematic active endings 1 sg. $*-m$, 2 sg. $*-s$ and 3 sg. $*-t$, as shown below:

sg. 1.	$*-o-h_2o$	$*-o-m$
2.	$*-e-th_2o$	$*-e-s$
3.	$*-e$	$*-e-t$

The endings $*-o-m$, $*-e-s$, $*-e-t$ are well preserved in the daughter languages (e.g., Sanskrit *abharam* 'I bore', *abharah*, *abharat*).

The vocalism o of the 2 sg. $*-th_2o$ in Watkins' reconstruction seems to be based on the parallelism with 1 sg. $*-h_2o$, which, in turn, is posited solely to account for $*-\bar{o}$ ($< *-oh_2o$). However, the reconstruction of $*-h_2$ for the 1 sg. is preferable to $*-h_2o$, because $*-o-h_2$ adequately explains the bimoric $*-\bar{o}$ ($< *-oh_2$) in Germanic (e.g., Gothic *baira* 'I bear' $< *-\bar{o} < *-oh_2$) and the final acute $*-\bar{e}^3$ in Baltic (e.g., Lithuanian *vedù* 'I lead' $< *védūo < *védō < *-oh_2$).⁴ Outside the third person there is no substantial evidence for an apophonic contrast among the thematic active, mediopassive and perfect endings, and so the reconstruction of $*-th_2e$ for the 2 sg. ending is supported by the Greek perfect ending $-\theta\alpha$ and the Tocharian mediopassive endings, A $-tār$, B $-tar$ ($< \text{Common Tocharian } *-\bar{t}ār < *-\bar{t}ar < \text{PIE } *-\bar{t}h_2er$).

There is, however, no evidence for the sound change, 1 sg. $*-o-h_2 < *-e-h_2$, to account for the o -timbre of the thematic vowel in the 1 sg. Jasanoff (1998: 302

² The primary ending $-\epsilon\iota$ is due to the attachment of the *hic et nunc* particle $*-i$.

³ Underlining is used to represent acute syllables.

⁴ Cf. Jasanoff (1978: 50 footnote 44 and 2003: 60). The same kind of apocope probably also occurred in the 1 sg. mediopassive ending $*-h_2e$ ($> *-h_2$) as claimed by Yoshida (2010: 240–241); cf. Kortlandt (1981), García Ramón (1985), and Villanueva Svensson (2002). The 1 sg. mediopassive endings in Greek $-\mu\alpha\iota$ (primary) and $-\mu\bar{\alpha}\nu$ (secondary) are phonologically explained by the reconstruction $*-h_2$ ($< *-h_2e$), i.e., $*-V\bar{\eta}h_2+i > *-V\bar{\eta}mai > -\mu\alpha\iota$ and $*-C\bar{\eta}h_2+m > *-C\bar{\eta}m\bar{\alpha}m > -\mu\bar{\alpha}\nu$.

footnote 6, 2003: 57 footnote 60), on the other hand, prefers to attribute the *o*-timbre to a rule that changed **e* to **o* in post-tonic closed syllables. This sound change is borne out by other independent evidence. For example, the vowel **o* in Greek γένος ‘race’ and Latin *genus*, which were originally characterized by proterokinetic inflection, is probably also due to this sound change (* $\acute{g}énb_1-s \rightarrow * \acute{g}énb_1-es > * \acute{g}énb_1-os$).⁵ There is much to be gained in Watkins’ groundbreaking study, and his theory of the thematic conjugation has stimulated extensive research into its original status in the parent language. Regarding the original position of the thematic conjugation, I side with Watkins, as against Cowgill. Even the original endings of the mediopassive (1 sg. * $-h_2e$, 2 sg. * $-th_2e$, 3 sg. * $-o$), which were functionally different from the athematic active, were drastically remade in the daughter languages under influence of the corresponding athematic active endings, 1 sg. * $-m(i)$, 2 sg. * $-s(i)$, 3 sg. * $-t(i)$, as represented by Greek -μαι, *-σοι, *-τοι. It is thus a predictable outcome that the original endings of the thematic active, the function of which is quite similar to that of the athematic active, secondarily underwent radical transformations in the prehistory of the individual languages.

3. The Anatolian Evidence

It is well known that the Anatolian languages have virtually no attestation of simple thematic verbs in *-*e/o*- (cf. Lehrman 1985).⁶ In this respect Anatolian languages no doubt preserve an archaic state of affairs, because thematic verbs came to be more and more productively used in the other branches. It is therefore arguable that the thematic conjugation with the thematic vowels *-*e/o*- was created after the Anatolian branch split off from the rest of the IE language family. Unlike the virtual absence of simple thematic verbs, however, thematic verbs with a suffix are abundantly attested in the Anatolian languages. Five types of thematic verbs will be discussed in the following subsections, i.e., verbs in *-ške/a-*, verbs in *-iē/a-*, denominative verbs in *-āi/-ā-*, causatives in *-e/a-*, and Cuneiform Luvian verbs in *-i-/(i)ia-*.

3.1. Verbs in *-ške/a-*

Kloekhorst (2008: 135–6) presents the following table that includes the attested spellings of the suffix *-ške/a-* in Old Hittite original manuscripts together with the reconstructed Proto-Indo-European forms:⁷

⁵ This sound change seems to play an important role toward a deeper understanding of the origin of the thematic vowel **e* ~ **o*. The problem of how it is related to the distribution of the thematic vowels will be extensively discussed in section 6.

⁶ According to Jasanoff (2003: 227), the strongest candidate is Hieroglyphic Luvian pres. *tamari* (< **-adi* < **-ati*) ‘builds’ and pret. *tamata*, which can be compared with Greek δέμω ‘build’ and Germanic **teman* ‘be fitting’.

⁷ The dash in the table means that the relevant forms are not attested in Old Hittite original manuscripts.

		PIE	Old Hittite			PIE	Old Hittite
pres. sg.	1	*-s \check{k} ó-	oš-ke-e-mi	pret. sg.	1	*-s \check{k} ó-	-----
	2	*-s \check{k} é-	oš-ke-e-ši		2	*-s \check{k} é-	-----
	3	*-s \check{k} é-	oš-ke-ez-zi		3	*-s \check{k} é-	oš-ke-et
pl.	1	*-s \check{k} ó-	oš-ke-e-ya-ni	pl.	1	*-s \check{k} ó-	-----
	2	*-s \check{k} é-	oš-ke _o -te-ni		2	*-s \check{k} é-	-----
	3	*-s \check{k} ó-	oš-kán-zi		3		oš-ke-e-er

The suffix *-ške-* is consistent throughout the paradigm except in the 3 pl., where the present form is *-škanzi* with *a*-timbre. However, *-škanzi* can go back to **-s \check{k} é-nti* because Proto-Anatolian **en* becomes **an* before a dental as evidenced by Hitt. *anda* ‘in(to)’ in contrast to Lat. *endo* (cf. Melchert 1994: 134). In spite of the lack of positive evidence for **-s \check{k} o-*, Kloekhorst posits ablauting **-s \check{k} e-* and **-s \check{k} o-* for Proto-Indo-European in the above table, following the traditional reconstruction of *o*-timbre for the suffix in the 1 sg., 1 pl. and 3 pl. and the *e*-timbre in the 2 sg., 3 sg. and 2 pl. (e.g. Lat. *senēscō* ‘I become old’, *senēscis*, *senēscit*). From the Hittite standpoint, however, there is no positive evidence that unambiguously shows the thematic vowel **o*. The distribution of *-ške-* and *-ška-* in Old Hittite does not receive a straightforward historical explanation by what would be reconstructed from the traditional Indo-European point of view.

3.2. Verbs in *-ie/a-*

The fluctuation between *-(i)ia-* and *-e-* (*-i-*) in *ie/a-*verbs was previously taken to reflect a contraction of *-(i)ia-* to *-e-* (*-i-*) by Friedrich (1960: 27). However, it was suggested later by Carruba (1966: 79ff.), Watkins (1969: 71) and Oettinger (1979: 27) that Old Hittite *-ie-* was replaced by *-ia-* in later Hittite. Furthermore, Yoshida (2009: 272) pointed out that the contrast between Old Hittite *-ie-* and later Hittite *-ia-* is especially conspicuous in the Hittite law text, where *a-ni-e-ez-zi* ‘carries out’ is attested in an Old Hittite original manuscript, but *a-ni-ia-zi* in a corresponding passage of its Neo-Hittite copy. Likewise, *ú-e-mi-zi* ‘finds’ attested in an Old Hittite original manuscript is copied as *ú-e-mi-ia-zi* in its corresponding later version.⁸

An exhaustive survey of the data shows that the suffix *-ie-* is overwhelmingly employed in Old Hittite. However, there are three Old Hittite verbs in *-(i)ia-* with five occurrences as illustrated below: *pé-eš-ši-ia-mi* KBo 17.3 iv 18 ‘I throw’, *pé-eš-ši-ia-u-e-ni* KUB 35.164 iii 6 ‘we throw’, *ú-e-mi-ia-u-en* KBo 22.2 Vs. 14

⁸ The primacy of Old Hittite original manuscripts in determining the archaic linguistic features is widely recognized. The philological techniques by which the Hittite corpus is periodized into Old Hittite (OH, ca. 1650–1450 BC), Middle Hittite (MH, ca. 1450–1380 BC), and Neo-Hittite (NH, ca. 1380–1175 BC) is discussed in Yoshida (2021a: 198–200). Abbreviations: KBo = Keilschrifttexte aus Boghazköi, KUB = Keilschrifturkunden aus Boghazköi. Relevant forms are followed by philological information regarding their attestation. For example, *pé-eš-ši-ia-mi* KBo 17.3 iv 18 means that *pé-eš-ši-ia-mi* is recorded on line 18 of column 4 in manuscript 3 included in KBo.

‘we found’, *bu-la-a-li-ia-mi* KBo 17.1 iii 22 and 17.6 iii 14 ‘I entwine’. These three verbs, however, largely show *-(i)ie-* even in the Old Hittite period as seen in, e.g. *pé-éš-ši-e-mi*, *ú-e-mi-ez-zi*, *bu-la-a-li-e-mi*. It is important to note that all the Old Hittite verbs in *-ia-* shown above are 1 sg. (3x) or 1 pl. (2x). This situation is very different from the preceding case with the suffix *-ške/a-*, where *-ške-* is virtually consistent throughout the paradigm.

An important difference between **-ške/o-* verbs and **-ie/o-* verbs is the position of the accent. While the **-ške/o-* verbs had fixed accent on the suffix, the **-ie/o-* verbs had two types: one with the accent on the suffix and the other with the accent on the root. This difference is crucial. The persistent *e*-vocalism in the paradigm of verbs in *-ške/a-* as seen in the previous section is due to the accent being fixed on the thematic vowel. On the other hand, the *a*-timbre of the suffix *-(i)ia-* in the Old Hittite verbs shown above, i.e., *pé-éš-ši-ia-mi*, *pé-éš-ši-ia-u-e-ni*, *ú-e-mi-ia-u-en* and *bu-la-a-li-ia-mi* (2x) is explained by a phonological rule that changes Proto-Anatolian **e* to *a* in Hittite in post-tonic open syllables before sonorants (Proto-Anatolian **e* > Hittite *a/* ____ .R, cf. Yoshida 2010: 391 and Yoshida 2016: 375).⁹ As for *pé-éš-ši-ia-mi* and *pé-éš-ši-ia-u-e-ni*, the preverb *pé-* was undoubtedly accented because of its *e*-vocalism; pre-tonic **e* in closed syllables changes to *i*. The spelling of *ú-e-mi-ia-u-en* (< **au-hém-je-*) speaks for an accented root because it is written with *e*-vocalism.¹⁰ The final example *bu-la-a-li-ia-mi* is a denominative verb derived from *bulāli-* ‘distaff’. The scriptio plena *-a-* in *bu-la-a-li-ia-mi* suggests accentual retraction from **-ié-mi* under the influence of the corresponding noun.¹¹ These verbs in *-(i)ia-* are a precious archaism which resisted the analogical influence of the prevailing type with accented **-ié-* (> *-ie-*).¹² In sum, as in the case of the *-ške/a-* verbs, there is no positive evidence for

⁹ This rule is a more restricted version of the rule suggested by Warren Cowgill, who does not refer to the condition “before sonorants”; cf. Melchert 1994: 137. The modified version also works with 1 pl. and 2 pl. active present endings, *-uani* and *-tani* (cf. Yoshida 1997), the oblique stem of *u*-stem adjectives such as *āššauaš* (< **h₁és-ey-os*) ‘good’ and the oblique stem of *i*-stem adjectives such as *šallaiāš* (< **sélH-ej-os*) ‘great, large’.

¹⁰ This interpretation is further supported by single *-z-* in the pres. 3 sg. *ú-e-mi-zi* KBo 6.2 iv 12 attested in an Old Hittite original manuscript. The single *-z-* therein is due to affrication of **d*, which was produced by the second lenition rule that operated between unaccented vowels in Proto-Anatolian. As for the lenition rules that operated in Proto-Anatolian, see Eichner 1973: 79–82, 100 footnote 86 and Morpurgo Davies 1982/83: 262. The first lenition rule operated after an accented long vowel or diphthong. These two lenition rules are collapsed into the single rule in moraic terms, i.e., Proto-Anatolian lenition occurred after unaccented mora; cf. Adiego (2001) and Yoshida (2011). The other 3 sg. present verbs that show single *-z-* in Old Hittite are discussed in Yoshida (1998) and Yoshida (2017).

¹¹ Just as 3 sg. *ú-e-mi-zi* discussed above, 3 sg. *[b]u-la-a-li-e-z[i]* KBo 25.100 Rs. 2’ (attested in an Old Hittite original manuscript) with single *-z-* confirms that the accent was not on the suffix.

¹² The suffix-accented type is reflected in deverbatives such as *kar-pi-i-e-mi* ‘take up’ and *kar-pi(-i)-ez-zi* and in denominatives such as *ši-it-ta-ri-ez-zi* ‘seals’. The root-accented

positing $*-i\bar{o}-$ with the o -timbre in the verbs in $-i\bar{e}/a-$.¹³

3.3. Verbs in $-āi-/ā-$

As per Melchert (1984: 39f.) and Melchert (1997: 133f.), many Hittite denominative verbs in $-āi-/ā-$ reflect $*-ēh_2-i\bar{e}/o-$, which is the factitive $*-ēh_2-$ extended by the denominative suffix $*-i\bar{e}/o-$. Contra Oettinger (1979: 358) and Kloekhorst (2008: 132), this interpretation seems to be supported by the following two facts. First, the direct relation of this type to factitives in $-ab\bar{b}-$ is undoubted as exemplified by doublets such as *armaḥḥ*- (< $*-ēh_2-$) ‘make pregnant, impregnate’ vs. *armā(i)-* (< $*-ēh_2-i\bar{e}/o-$) ‘be(come) pregnant’ or *kuṛruyaḥḥ*- ‘summon as witness’ vs. *kuṛruyā(i)-* ‘bear witness’. Second, comparative evidence from Lycian and Cuneiform Luvian points to the existence of this type in Proto-Anatolian. The sequence of $-adi$ in Lycian *χttadi* ‘harms’ and Cuneiform Luvian $-āti$, which show a lenited dental and a -vocalism, are accounted for by assuming $*-ēh_2-i\bar{e}-ti$ with retracted accent after the base type in $*-ēh_2-$ ($*-ēh_2-i\bar{e}-ti > *-āi\bar{e}di > *-āi\bar{i}di > *-āidi > -ādi$).¹⁴ The syncope of unaccented pre-desinential vowels observed in the prehistory of Lycian $-adi$ and Cuneiform Luvian $-āti$ and also of the 3 pl. Lycian *χttaiti* and Cuneiform Luvian $-ainti$ ($*-ēh_2-i\bar{o}nti > *-āi\bar{o}nti > *-āi\bar{e}nti$ (Lycian) $> -aiti$ / $*-āi\bar{e}nti$ (Cuneiform Luvian) $> -ainti$) confirms that the accent was not on the thematic vowel.¹⁵

In their reconstructed paradigms (Oettinger 1979: 358 and Kloekhorst 2008: 132), there is a point with which both Oettinger and Kloekhorst are in agreement, i.e., the distribution of the suffixes $*-i\bar{e}-$ and $*-i\bar{o}-$ in their paradigms, which is exactly the same as what would be expected from the standpoint of the traditional Proto-Indo-European reconstruction. But as we have discussed in sections

type is reflected in the deverbative *ū-e-mi-ia-u-en* and the denominative *ḫu-la-a-li-ia-mi* discussed above. The contrast between the two types is also retained in Cuneiform Luvian. Note, for example, the double $-tt-$ in the ending of *ka-lu-ti-it-ti* ‘makes the rounds of’ (< $*-i-ti < *-i\bar{i}-ti < *-i\bar{e}-ti$), which shows the accented $*-i\bar{e}-$. On the other hand, the single $-t-$ in the ending of *a-an-ni-ti* ‘carries out’ (< $*-i-di < *-i\bar{i}-di < *-i\bar{e}-di < *-i\bar{e}-ti$) is a result of the Proto-Anatolian second lenition rule, which operated between unaccented vowels. Furthermore, the Lydian third person present in $-id$ points to the unaccented suffix $*-i\bar{e}-di$ (< $*-i\bar{e}-ti < *-i\bar{e}-ti$) according to Melchert (1992: 48f.).

Melchert (1997: 132f.) argues that the retracted accent in denominatives ($*-i\bar{e}- \leftarrow -i\bar{e}-$) must be analogical to the root-accented type represented by Hittite *uemiēzzi*. Besides such a factor, however, morphological influence from the original noun cannot be ignored, as exemplified by Hittite *ḫu-la-a-li-ia-mi* discussed above (cf. *ḫulāli-* ‘distaff’).

¹³ Although $-er$ is a canonical 3 pl. preterite active ending, there are at least three 3 pl. preterites in $-ar$: *ū-e-mi-ia-ar* ‘they found’ KUB 17.10 i 37, *ḫa-a-ni-ia-r=a-at* ‘they drew it’ Bo 6472, 12, *ša-pa-si-ia-ar* ‘they scouted’ Maşat-Höyük Brief 6, Rs. 22. They are all root-accented $i\bar{e}/o$ -verbs. The vocalism a in $-iar$ is most straightforwardly explained by the inner Hittite sound change by which post-tonic $*-er$ becomes $-ar$ in Hittite. A detailed analysis of the 3 pl. preterites in $-ar$ is found in Yoshida (2021b).

¹⁴ Cf. Cuneiform Luvian 3 sg. pres. $-iti$ (< $*-i\bar{e}-ti$).

¹⁵ Cf. Cuneiform Luvian 3 pl. pres. $-ianti$ (< $*-i\bar{e}-nti$).

3.1 and 3.2, there is no indisputable evidence for positing $*\hat{s}ko-$ or $*\hat{i}o-$ with the o -timbre in pre-Hittite. In this respect, it is undoubtedly consistent and attractive to reconstruct $*\hat{e}h_2\text{-}ie-$ with the persistent $*\hat{i}e-$ for the paradigm of Hittite verbs in $\hat{a}i\text{-}/\hat{a}-$, as shown below:

	Pres.		Pret.			
Sg.	1. $\hat{a}mi$	< $*\hat{a}\text{-}ia\text{-}mi$	< $*\hat{e}h_2\text{-}ie\text{-}mi$	$\hat{a}nun$	< $*\hat{a}\text{-}ia\text{-}nun$	< $*\hat{e}h_2\text{-}ie\text{-}n+\eta$
	2. $\hat{a}(i)\hat{s}i$	< $*\hat{a}\text{-}ie\text{-}si$	< $*\hat{e}h_2\text{-}ie\text{-}si$	$\hat{a}\hat{i}\hat{s}$	< $*\hat{a}\text{-}ie\text{-}s$	< $*\hat{e}h_2\text{-}ie\text{-}s$
	3. $\hat{a}izzi$	< $*\hat{a}\text{-}ie\text{-}ti$	< $*\hat{e}h_2\text{-}ie\text{-}ti$	$\hat{a}\hat{i}t$	< $*\hat{a}\text{-}ie\text{-}t$	< $*\hat{e}h_2\text{-}ie\text{-}t$
Pl.	1. $\hat{a}ua/eni$	< $*\hat{a}\text{-}ia\text{-}uani$	< $*\hat{e}h_2\text{-}ie\text{-}ueni$	$\hat{a}uen$	< $*\hat{a}\text{-}ia\text{-}uen$	< $*\hat{e}h_2\text{-}ie\text{-}uen$
	2. $\hat{a}tta/eni$	< $*\hat{a}\text{-}ie\text{-}tani$	< $*\hat{e}h_2\text{-}ie\text{-}teni$	$\hat{a}tten$	< $*\hat{a}\text{-}ie\text{-}ten$	< $*\hat{e}h_2\text{-}ie\text{-}ten$
	3. $\hat{a}nzi$	< $*\hat{a}\text{-}ia\text{-}nti$	< $*\hat{e}h_2\text{-}ie\text{-}nti$	$\hat{a}er$	< $*\hat{a}\text{-}ie\text{-}r$	< $*\hat{e}h_2\text{-}ie\text{-}r$

The suffix $*\hat{i}a-$ in the 1 sg. and 1 pl., where the endings begin with sonorants, is derived from $*\hat{i}e-$ by the same phonological rule that explains the Old Hittite verbs in $\hat{i}a-$ shown in section 3.2, that is, Proto-Anatolian $*e >$ Hittite $a/\text{ } _ .R$.¹⁶ After the 1 sg. $*\hat{e}h_2\text{-}ie\text{-}mi$ and 1 pl. $*\hat{e}h_2\text{-}ie\text{-}ueni$ became $*\hat{a}\text{-}ie\text{-}mi$ and $*\hat{a}\text{-}ie\text{-}ueni$, this rule changed them to $*\hat{a}\text{-}\hat{i}a\text{-}mi$ and $*\hat{a}\text{-}\hat{i}a\text{-}uani$, which, then, contracted to $\hat{a}mi$ and $\hat{a}uani$ after the loss of intervocalic yod. On the other hand, the relevant rule did not apply to the forms in $\hat{a}i-$ in the 2 sg. and 3 sg. because their endings do not begin with sonorants. In the 2 pl., there are no attestations of the regular outcomes of the rule, pres. $\dagger\hat{a}ittani$ ($\dagger\hat{a}itteni$) and pret. $\dagger\hat{a}itten$. The actually attested 2 pl. pres. $\hat{a}ttani$ ($\hat{a}tteni$) and 2 pl. pret. $\hat{a}tten$ are enigmatic. But this is not a problem restricted to the present analysis. In any event, there are no examples of 2 pl. forms in Old Hittite original manuscripts.

Complete lack of the sequence $\hat{a}i-$ in some non-finite forms of this type of verbs will be a further confirmation of the validity of this analysis. The verbal substantive of the verbs in $\hat{a}i\text{-}/\hat{a}-$ is always characterized by $\hat{a}(u)uar$, not by $\hat{a}iuar$, as illustrated by $\hat{b}and\hat{a}uuar$, $\hat{b}andauuar$, $\hat{b}andauar$ from $\hat{b}and\hat{a}(i)\text{-}$ ‘arrange’ and $ir\hat{b}\hat{a}uar$, $ir\hat{b}auuar$ from $ir\hat{b}\hat{a}(i)\text{-}$ ‘make the rounds’. There are no forms such as $\dagger\hat{b}and\hat{a}iuar$ or $\dagger ir\hat{b}\hat{a}iuar$ in $\hat{a}i-$. The reconstruction $*\hat{e}h_2\text{-}ie\text{-}ur$ with persistent $*\hat{i}e-$ provides us with a straightforward account for $\hat{a}uar$ (< $*\hat{a}\text{-}\hat{i}a\text{-}uar$ < $*\hat{a}\text{-}ie\text{-}uar$ < $*\hat{e}h_2\text{-}ie\text{-}ur$).¹⁷ The same historical explanation is given to the infinitive I in $\hat{a}(u)uanzi$ (e.g. $\hat{b}and\hat{a}uuanzi$ but no $\dagger\hat{b}and\hat{a}iuanzi$, $ir\hat{b}auuanzi$ but no $\dagger ir\hat{b}\hat{a}iuanzi$) by reconstructing $*\hat{e}h_2\text{-}ie\text{-}uen\text{-}ti$ (> $*\hat{a}\text{-}ie\text{-}uan\text{-}ti$ > $*\hat{a}\text{-}\hat{i}a\text{-}uan\text{-}ti$ > $\hat{a}(u)uanzi$).

The discussion in this section argues that there is no positive evidence that unambiguously shows the thematic vowel $*o$ in the verbs in $\hat{a}i\text{-}/\hat{a}-$, either.

¹⁶ The $*\hat{i}a-$ in the 3 pl. goes back to Proto-Anatolian, when the rule $*en > an$ before a dental operated. Regarding the doubly characterized 1 sg. preterite ending $-nun$, the change $*\text{-}m > *\text{-}n$ must be anterior to the attachment of final $*\text{-}un$ (< $*\text{-}\eta$).

¹⁷ It is important to note that the suffix $\text{-}uar$ as well as $\text{-}uanzi$ of the infinitive I to be discussed next begins with a sonorant. This condition meets the structural description for the rule that changes Proto-Anatolian $*e$ to a in Hittite in post-tonic open syllables before sonorants.

3.4. Verbs in *-e/a-*

Hoffmann (1968) derives Hittite *lukke-/lukka-* ‘set on fire’ from a simple thematic type, i.e., pres. 3 sg. **léuk-e-ti*, 3 pl. **léuk-o-nti*. However, the evidence for this derivation is slim and therefore we must follow Watkins (1973: 69) in deriving *lukkezzi*, *lukkanzi* from the *o*-grade causative-iterative **louk-éio-*, which is in fact attested in Vedic *rocáyati* and Avestan *raocaiieiti*; cf. Melchert (1984: 34f.). Another Hittite example that is descended from a Proto-Indo-European causative-iterative is 3 sg. *uásšezzi* ‘clothes’, 3 pl. *uásšanzi* (< **uos-éie/o-*), which Eichner (1969: 31ff.) equates with Vedic *vásáyati*, Gothic *wasjip* and Albanian *vesh*. Oettinger (1979: 271ff. and 304ff.), following Hoffmann, first considered these verbs in *-e/a-* to reflect the simple thematic type in **-e/o-*, but later agreed on deriving these verbs from the causative-iterative.¹⁸

The synchronic alternation of pre-desinential vowels *e* and *a* in this type is also explained by the phonological rule, Proto-Anatolian **e > Hittite al’* ____ .R. It did not operate in the 3 sg. *-ezzi*, which was produced by vowel contraction after the loss of intervocalic yod, e.g. *uásšezzi* < **-ée-ti* < **-éie-ti*. On the other hand, the *a*-vocalism in 1 pl. *-aüeni* is a regular outcome of this rule because the 1 pl. **-éie-üeni* meets the condition in which it applies; e.g. 1 pl. *uásšaueni* < **-éa-üeni* < **-éia-üeni* < **-éie-üeni*.¹⁹ As in the cases of the preceding three types, there is no need for positing **-éio-* with the thematic vowel **o* in *-e/a-* verbs.

3.5. Cuneiform Luvian Verbs in *-i/- (i)ia-*

Cuneiform Luvian verbs in *-i/- (i)ia-* (< **-ie-/*-io-*) show an idiosyncratic distribution of thematic vowels. Verbs in *-(i)ia-* are statistically rare compared with those in *-i-*. The paucity of forms in *-(i)ia-* is particularly conspicuous in the present tense, where only one form has *-(i)ia-*, i.e., 1 sg. *ši-ua-ri-ia-üi* ‘?’.²⁰ There is, however, no guarantee that it inherits the original suffix **-io-*. There is a variant *šši-ú-ua-ri-üi* with *-i-*, which is a prevalent type with three other attestations (*ba-pi-ú-i* ‘I bind’, *šku-la-ni-üi* ‘I bring to an end’ and *šma-li-üi* ‘I suppose’). The

¹⁸ Cf. Oettinger 2002: XX. Oettinger (1992: 220) seems concerned about the lack of scriptio plena in *lukkēzzi* and *uásšēzzi*, which, however, is not a serious problem for the following reasons. First, scriptio plena is optional even if *lukkēzzi* includes long *-ē-* (< **-éie-*). Second, the lack of scriptio plena can be explained by assuming transfer of the *ē* : *a* pattern to the more numerous *ě* : *a* pattern seen in *-ške/a-* and *-ie/a-* types; cf. Melchert (1984: 34).

¹⁹ The change **éia > *éa > a* is explained by deletion of **e* before **a* after the loss of intervocalic yod; cf. Melchert (1984: 32) and (1994: 176). The same deletion is observed in **pé + ai- > pai-* ‘give’.

The phonologically regular outcome of the 1 pl. **uos-éio-üeni* would be *uásšauani*, which is, however, morphologically replaced by *-üeni* (< **-uéni*); e.g., *pa-i-ua-ni* ‘we go’ KBo 17.1 i 20, i 22, i 39, etc. (attested in Old Hittite original manuscripts) → *pa-a-i-u-e-ni* KBo 6.29 ii 25, etc. (attested in Neo-Hittite texts). A detailed discussion of this problem is found in Yoshida (1997).

²⁰ 3 pl. [*am*]-*ma-aš-ši-ia-an-ti* ‘they wipe’ and *hi-iš-hi-ia-an-ti* ‘they bind’ can be phonologically derived from **-iēnti* as in Hittite.

suffix *-ia-* in the former type is probably secondary and can be attributed to morphological influence from the corresponding 1 sg. preterite *-iabb̥a*; cf. *ta-bu-ši-ia-ab-ba* ‘I kept silent’, etc.

There are some forms in *-(i)ia-* in the preterite as well. The suffix *-(i)ia-* in the 3 pl. preterite, e.g. *bu-u-bu-i-ia-an-da* ‘they ran’, can be historically derived from **-ie-* in the same manner as seen in the 3 pl. present. The 1 sg. preterites represented by *ta-bu-ši-ia-ab-ba* include the sequence *-iabb̥a*, which can represent earlier **-ie-h₂e* with intervocalic *a*-coloring laryngeal *h₂*. There is no guarantee here again that the suffix *-(i)ia-* inherited the earlier **-io-*.

In the case of the 3 sg. preterites such as *ti-ya-ta-ni-ia-at-ta* ‘swore’ and *bi-i-ru-ta-ni-ia-at-ta* ‘cursed’, on the other hand, there can be no reasonable doubt that the suffix therein goes back to **-io-* with *o*-vocalism.²¹ A particularly idiosyncratic feature connected with the 3 sg. pret. *ti-ya-ta-ni-ia-at-ta* is seen in its variant *ti-ya-ta-ni-it-ta* and its corresponding 3 sg. pres. *ti-ya-da-ni-it-ti*, both of which are characterized by *-i-*. Such a distributional peculiarity of the suffixes is apparently puzzling and compels us to discuss the prehistoric relationship of the suffixes *-i-* and *-(i)ia-* in the 3 sg.

As for the Cuneiform Luvian 3 sg. preterite ending, it is always characterized by the *-(t)ta* sign regardless of the stem type (e.g. *a-aš-ta* ‘was’ and *a-ú-i-ta* ‘came’) unlike the Hittite 3 sg. preterite ending, where the *-ta* sign is used for consonantal stems while the *-Vt* sign is used for vocalic stems. This fact unambiguously suggests that the final *a* of the Luvian 3 sg. preterite ending is real, not graphic. In fact, the Cuneiform Luvian *-tta* (*-ta*), which is equated with Lycian *-te/-tē* (*-de/-dē*), goes back to Proto-Anatolian **-to* (**-do*). As seen in Yoshida (1993) and Yoshida (2002), there are no assured synchronic preterite mediopassives in Luvian. The lack of opposition between the active and mediopassive endings in the 3 sg. preterite is most naturally explained by assuming that the undercharacterized 3 sg. active ending **-Ø* (< **-d* < **-t*) was formally replaced by the corresponding mediopassive ending *-tta* (< **-to*) or *-ta* (< **-do*); e.g., Cuneiform Luvian *aritta* ‘raised’ vs. pres. *aritti*, *ata* (*ada*) ‘made’ vs. pres. *ati*.²²

A similar but slightly different morphological change occurred in the Cuneiform Luvian 3 sg. pret. *ti-ya-ta-ni-ia-at-ta* and *ti-ya-ta-ni-it-ta*. It has been shown in section 3.2 that Hittite verbs in *-ie/a-* had persistent **-ie-* at a pre-Hittite stage. On the other hand, *-ia-* (< **-io-*) is favored in the mediopassive at all

²¹ As claimed by Yoshida (2012: 346), *-(i)ia-* in the 3 sg. preterite cannot be analogical to the 3 pl. *-(i)ianta*. The same direction of analogy from the 3 pl. to the 3 sg. is not observed in the present. The direction of the analogy is, in fact, the other way around in both the present and preterite: it worked from the 3 sg. to the 3 pl.; cf. *špa-ar-ri-en-ti* ‘they smite’, *štar-ši-en-ti* ‘they vomit’, *a(-)ri-in-ta* ‘they raised’, *ma-a-u-ya-ni-in-ta* ‘they hitched as a four span’, etc.

²² Word-final stops were lenited in Proto-Anatolian or further back in Proto-Indo-European (Ringe 1997: 134–138); cf. Hitt. *pait-aš* ‘went he’ with single *-t-* of the 3 sg. active preterite ending. The resultant final **-d* was lost in Common Luvian; e.g., Cuneiform Luvian *malli* ‘mead’ < **mallid* < **mallit* (cf. Hittite *melit*).

historical stages.²³ This probably reflects a state in Proto-Anatolian. It is arguable that *ti-ya-ta-ni-ia-at-ta* underwent the following changes: $*-i\acute{e}-t > *-i\acute{e}-d > *-i\acute{e}-\emptyset \rightarrow *-i\acute{o}-to$. After the 3 sg. active ending $*-d$ disappeared, the endingless $*-i\acute{e}-\emptyset$ was replaced by the mediopassive $*-i\acute{o}-to$, i.e., the sequence of the suffix $*-i\acute{o}-$ and the ending $*-to$. This stage is preserved by *ti-ya-ta-ni-ia-at-ta*, which, however, later became *ti-ya-ta-ni-it-ta* under the influence of the corresponding 3 sg. pres. active *ti-ya-da-ni-it-ti*. The different distribution of the suffixes $*-i\acute{o}-$ and $*-i\acute{e}-$ in *ti-ya-ta-ni-ia-at-ta* and *ti-ya-ta-ni-it-ta* is historically accounted for in this manner.²⁴ The 3 sg. preterites *ti-ya-ta-ni-ia-at-ta* and *ti-ya-ta-ni-it-ta* together with 3 sg. pres. *ti-ya-da-ni-it-ti* are invaluable in providing us with evidence that the original distribution of the suffixes was $*-i\acute{e}-$ in the active and $*-i\acute{o}-$ in the mediopassive.

The preceding discussion shows that the thematic vowel *a* in Cuneiform Luvian verbs in $-i/- (i)ia-$ is either a phonological outcome of original $*e$ or of mediopassive origin.

3.6. Interim Summary

According to the *communis opinio*, Hittite active thematic verbs in *e/a* reflect the PIE alternation of the thematic vowels $*-e-$ and $*-o-$. But there does not seem to be any compelling evidence for reconstructing the thematic vowel $*-o-$ in pre-Hittite or further back in Proto-Anatolian. The Hittite thematic vowel $-a-$ in the active paradigm does not go back to PIE $*-o-$. It is historically derived from $*-e-$ by the phonological rule, Proto-Anatolian $*e >$ Hittite $a/ _ .R$ (except in the 3 pl. present $-anzi$).

4. The Origin of Thematic Vowels (1): A Review of the Recent Theory

Before proceeding to the historical relationship between the alternating thematic vowels $*-e/o-$ in the extra-Anatolian branches and the persistent $*-e-$ in Anatolian revealed in the preceding section, we will first consider a recently advocated view on the origin of the thematic vowels.

Jasanoff (1998, 2003: 224–7) observes that there are two types of thematic presents (type I and type II) which appear to belong to different chronological strata. A well-known example of type I is $*bher-$ ‘bear’ (Vedic *bharati*, Greek φέρει, Gothic *bairiþ*, Old Irish *berid*, Tocharian A imperfect *pārat*). This type formed a Narten present²⁵ (3 sg. act. $*bh\acute{e}r-ti$) and a proto-middle ($*bh\acute{e}r-h_2e$, $*bh\acute{e}r-th_2e$, $*bh\acute{e}r-e$, etc. $> *bh\acute{e}r-e-h_2e$ ($> *bh\acute{e}r-o-h_2$), $*bh\acute{e}r-e-si$, $*bh\acute{e}r-e-ti$) in the parent language.

²³ Cf. data in Neu (1968) and Yoshida (1990).

²⁴ Yoshida (2012: 349–350) suggested the possibility that there were two different morphological processes: $*-i\acute{e}-\emptyset \rightarrow *-i\acute{e}-to$ (*a-ri-it-ta*) and $*-i\acute{e}-\emptyset \rightarrow *-i\acute{o}-to$ (*ti-ya-ta-ni-ia-at-ta*). However, since it seems rather difficult to consider that the two processes were independently applied to one and the same verb, it would be preferred to assume that *ti-ya-ta-ni-ia-at-ta* is older and *ti-ya-ta-ni-it-ta* is secondary.

²⁵ Narten presents are characterized by accented long \acute{e} in strong forms and by accented short \acute{e} in weak forms.

Other examples include $*h_2e\tilde{g}$ - ‘drive’, which shows thematic presents such as Vedic *ájati*, Greek $\acute{\alpha}\gamma\omega$, Armenian *acem*, Old Irish *agid*, Old Icelandic *aka* and the imperfect of a Narten present, Latin perfect *ēgī* (← Narten imperfect $*h_2e\tilde{g}-mi$).²⁶ The root $*le\tilde{g}$ - ‘gather, read’ also belongs to type I, as seen in the following three-way word equation, Latin *lēgī*, Tocharian A imperfect *lyāk* and Albanian *mb-lodha* besides the thematic presents such as Latin *legō*, Greek $\lambda\acute{\epsilon}\gamma\omega$ ‘say’, and Albanian *mb-let* (< $*le\tilde{g}$ -).

On the other hand, thematic presents of type II were correlated with pre-sigmatic aorists (i.e., originally root aorists of the h_2e -conjugation type $*noiH-$ / $*neiH-$) in the parent language. A root typical of type II is $*neiH-$ ‘lead’, which shows thematic presents such as Vedic *náyati*, Hittite *nāi* and the sigmatic aorists, Vedic *anaiḥ*, Hittite *naiš*. Other examples include $*ue\tilde{g}h-$ ‘convey’ (Vedic *váhati*, Latin *uehō*; Vedic *ávāt*, Latin *uēxi*), $*dheg^sh-$ ‘burn’ (Vedic *dáhati*, Lithuanian *degù*; Vedic *ádhāk*, Tocharian B pret. *tsek-s-*), $*pek^sh-$ ‘cook’ (Vedic *pácati*, Latin *coquō*; Latin *coxi*, Greek $\acute{\epsilon}\pi\epsilon\psi\alpha$), etc. Jasanoff suggests that type I is best explained by a modified version of Watkins’ theory. In Watkins’ view seen in section 2, the re-segmentation of 3 sg. $*-e$ as a suffix $*-e$ + zero-ending brought about the generalization of the thematic vowel $*-e-$ to the rest of the paradigm with the subsequent change $*-e- > *-o-$ in the 1 sg., 1 pl. and 3 pl. The more numerous type II ($*neiHet_i$, $*ue\tilde{g}het_i$) was originally the aorist subjunctive ($*néiH-e/o-$, $*ue\tilde{g}h-e/o-$), which was later functionally replaced by the *s*-aorist subjunctive within the parent language (Tocharian B *paḡsām* ‘cooks’, *tsaḡsām* ‘burns (transitive)’). Since there are no thematic presents of type II in Tocharian, the older *s*-less subjunctives of the aorists came to serve as thematic presents after Tocharian separated from the rest of the Indo-European family.

This scenario envisaged by Jasanoff is ingeniously structured, but I feel uncertain about the following two points regarding the origin of type II. First, there does not seem to be any direct evidence for the older *s*-less h_2e -conjugation aorist subjunctives in Tocharian or in Anatolian. The only feasible way to make Jasanoff’s scenario work would be to assume that Proto-Indo-European had *s*-less aorist subjunctives and *s*-aorist subjunctives, both of which coexisted until Tocharian split off, and thereafter *s*-less aorist subjunctives developed to the thematic presents of type II. On the other hand, Anatolian lost both categories and Tocharian lost *s*-less aorist subjunctives.²⁷ This development is not inconceivable, but does not seem very likely. It is especially hard to believe that both *s*-less aorist subjunctives and *s*-aorist subjunctives coexisted without any functional difference from the Proto-Indo-European stage until the separation of Tocharian. The second point is less serious than the first one. Jasanoff assumes a functional displacement by which

²⁶ Non-coloration of \tilde{e} next to h_2 is accounted for by Eichner’s Law, by which laryngeal coloration is not applied to long vowels.

²⁷ According to Jasanoff (2003: 175 footnote 3), the Hittite 2 sg. imperative *paḡši* ‘Protect!’ is a vestige of the old 2 sg. *s*-subjunctive $*peh_2-se-si$, which underwent haplology in Hittite in the same manner as Indo-Iranian *si*-imperatives; cf. Szemerényi (1966).

root aorist subjunctives transferred to thematic present indicatives passing through some 'prospective' or quasi-modal meaning. It seems to me quite doubtful that a linguistic change on such a massive scale actually occurred.

5. The Origin of Thematic Vowels (2): A New Finding

There are two well-known idiosyncratic facts about the thematic conjugation, but their significance does not seem to have been fully recognized. One is the very small number of root thematic aorists which can be securely reconstructed for the parent language. Cardona's detailed survey shows that no thematic aorist was inherited except **(é)-uid-e* 'noticed' (Greek ἔ(ϕ)ιδε = Vedic *ávidat* = Armenian *egit*) and **(é)-h₁ludh-e* 'went' (Greek ἦλυθον = Old Irish *luid* = Tocharian A *läc*, B *lac*); cf. Cardona (1960).²⁸ All other thematic aorists in the daughter languages represent independent parallel creations of post-Indo-European date. The other fact of enormous importance is that Germanic has the thematic conjugation only in the present tense; e.g., Gothic active 1 sg. *baira*, 2 sg. *bairis*, 3 sg. *bairip*, etc. and passive 1 sg. *bairada*, 2 sg. *bairaza*, 3 sg. *bairada*, etc. The preterites of strong verbs were based on the Proto-Indo-European perfect, while those of weak verbs show a new type with a dental consonant. Because the PIE perfect was undifferentiated for voice, all preterite passive forms were periphrastic. In Germanic there is no evidence for the thematic aorist, which must have been so sparsely used as to have been completely ousted. These two facts unmistakably lead us to assume that the thematic conjugation originated from the present stem, not from the aorist stem.²⁹

An obvious step to be taken next is to pay special attention to features unique to the present stem, not found in the aorist stem. There are two suffixes exclusively employed to form present stems, **-ie/o-* and **-s_{ke}/o-*.³⁰ It is particularly noteworthy that both of them are traditionally viewed as equipped with a thematic vowel alternating **-e/o-* (1 sg. **-i_o-mi*, 2 sg. **-ie-si*, 3 sg. **-ie-ti*, etc. and 1 sg. **-s_{ko}-mi*, 2 sg. **-s_{ke}-si*, 3 sg. **-s_{ke}-ti*, etc.). The scenario envisaged by both Watkins and Jasanoff has the following two shared assumptions, which seem worthy of re-examination.³¹ Firstly, both of them assume that the original 3 sg. ending **-e* of **bhér-e* spread to the other persons and numbers at the common stage after the ending **-e* was reanalyzed as a suffix followed by a zero-ending (**bhér-e* → **bhér-e-Ø*). Secondly, they a priori assume the original locus of the thematic vowel to

²⁸ According to Jasanoff (2017), the 3 sg. **(é)-uid-e(t)* was originally a *h₂e*-conjugation imperfect/injunctive with the secondary ending **-t*, which later migrated to the aorist system at the expense of the no longer extant root aorist **(é)-ueid-t*.

²⁹ The fact that thematic verbs were at home in the present stem does not seem to receive any reasonable accounts from the hypothesis of the nominal origin of the thematic verb as envisaged by Watkins (1969: 101) and Mottausch (2003), among others.

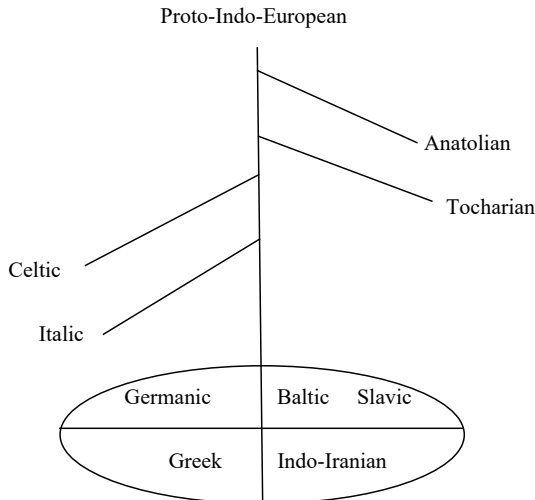
³⁰ The most important present stem formations are listed in LIV (2001: 14–20). It should be noted that four types of thematic verbs in Anatolian discussed in section 3, i.e., Hittite verbs in *-s_{ke}/a-*, *-ie/a-*, *-āi/-ā-* and Cuneiform Luvian verbs in *-i/-i(i)ā-*, include the suffix **-ie/o-* or **-s_{ke}/o-* which are characteristic of the present stem.

³¹ The following discussion is relevant to type I.

have been in primary formations, from which it would have spread to secondarily derived formations. However, once it has become clear that the thematic conjugation was at home in the present stem which was most typically characterized by the suffixes **-iē/o-* and **-skē/o-*, one may legitimately question whether there is any empirical support for the second assumption and furthermore whether the first assumption of paradigmatic leveling based on the introduction of a zero ending is absolutely necessary. We will attempt to resolve these uncertainties by proposing a new explanation for the origin of the thematic vowels.

6. The Origin of the Thematic Vowels (3): A New Proposal

The close relationship between the creation of the alternating thematic vowel **-e- ~ *-o-* in the extra-Anatolian languages and the present stem forming suffixes **-iē/o-* and **-skē/o-* is now undeniable. The cardinal problem in connection with this relationship is whether the persistent *e*-vocalism in the Anatolian thematic verbs is inherited from Proto-Indo-European or an Anatolian innovation. If it is an inherited feature, the alternation between **-e-* and **-o-* was created in the extra-Anatolian languages after the Anatolian branch split off from Proto-Indo-European (Readers are referred to the following figure which shows the break-up of the Indo-European languages.). On the other hand, if it is an innovation, Anatolian secondarily generalized the *e*-vocalism within its independent history. In this case, the alternation between **-e-* and **-o-* existed already at the Proto-Indo-European stage.



The question of whether the Proto-Indo-European state of affairs was preserved or lost in Anatolian is not easy to answer. However, there is substantial evidence that makes the former possibility more likely. So far, we have limited our discussion to the active verb without treating the mediopassive verb systematically.

Hittite mediopassives in *-ie/a-* are generally characterized by the suffix *-ia-* (< **-o-*), whereas those in *-ške/a-* by the suffix *-ške-* in the old language as shown by *lazziatta* ‘is good’ KBo 6.2 i 18 and *paišketta* ‘goes (imperfective)’ IBoT 1.36 i 63.³² Regarding the *e*-vocalism of the suffix *-ške-*, Oettinger (2013: 62) proposed an idea that seems to me quite reasonable. Considering the suffix **-ské-* as originally a composite morpheme consisting of **-s-*, a marker of the *s*-present and the particle **ké* ‘now, here’ seen in e.g. Latin *cedō* ‘Give!’, he argues that the non-alternating *e*-vocalism of *-ške-* is due to its etymological connection with the particle **ké* (not **kó*).³³ In this respect it is important to note that Hittite had various kinds of *s*-presents: an athematic type (*ganēš(š)-* ‘recognize’, *paḫš-* ‘protect’, etc.), inchoatives in *-eš-* < **-eb₁-s-* (*nakeš-* ‘become important’, *šalleš-* ‘become great’, etc.; cf. Watkins (1973)) and an iterative type in *-šš(a)-* (*išš(a)-* ‘perform’, *ḫalzišša-* ‘call’, etc.). Although these *s*-presents are confined to a relatively small number of verbs in Hittite, they are productive in Cuneiform Luvian (*arpaša-* ‘be confounded’, *mazzallaša-* ‘be tolerant (?)’, *pappaša-* ‘swallow’, *pipišša-* ‘give’, *puppušša-* ‘crush’, *tijanišša-* ‘fill, stuff’, etc.). The coexistence of these *s*-presents with the productive type in **-ské-* in late Proto-Anatolian probably kept **-ské-* segmented as **-s-ké-*, with *-ké-* identified as the particle **ké* referred to above. This explains why the Hittite mediopassive paradigm consistently shows *e*-vocalism in the suffix *-ške/a-* except in the 1 sg. and 3 pl., which came to have secondary *-ška-*.³⁴ In the extra Anatolian branches, however, **-ské-* ceased to be perceived as an etymologically composite suffix, moving to a new stage where the alternating thematic vowel **-e-* ~ **-o-* was introduced.³⁵

An obvious task to tackle next is to elucidate what gave birth to the regular alternation of **-e-* and **-o-* in the thematic paradigm of the extra-Anatolian languages. The following observations that we have obtained in the preceding sections seem to have the key to a solution of the problem.

- 1) The thematic conjugation originated from the present stem, not from the aorist stem.
- 2) The Anatolian languages have virtually no attestation of simple thematic

³² Watkins (1969: 72f.) observes that the suffix *-ia-* is favored at all historical stages in Hittite; cf. also Jasanoff (1978: 49). This is confirmed by the data in Neu (1968) and Yoshida (1990). On the other hand, Oettinger (2013: 62) observes that mediopassives in *-ške/a-* show the suffix *-ške-* save for the 1 sg. and 3 pl., where the *a*-vocalism of *-ška-* is accounted for by the phonological rule that changes **e* to **a* by a neighboring *b₂* (1 sg. *-škabḫa* < **-ské-b₂e*) and one that changes **e* before coronal nasal to **a* (3 pl. *-škanta* < **-skénto*); cf. Melchert (1994: 105).

³³ Jasanoff (2003: 133) takes a similar stance in analyzing **-ské-* as an etymologically composite morpheme.

³⁴ This process is shown in a more detailed manner in Yoshida (2018: 398).

³⁵ Simple *s*-presents without any enlargements were not productively used outside Anatolian. The Latin inchoative corresponding to the Hittite inchoative in *-eš-* (e.g. *nakeš-*) is characterized by *-esc-* (e.g. *senēscere* ‘to become old’).

- verbs in $*-e/o-$, but thematic verbs with the suffixes $*-ie/o-$ and $*-s\hat{k}e/o-$ are abundantly attested. They were both used to form the present stem.
- 3) There is no compelling evidence for reconstructing the thematic vowel $*-o-$ in the active paradigm for Proto-Anatolian. The persistent e -vocalism is a feature inherited from Proto-Anatolian.
 - 4) The non-alternating e -vocalism of the suffix $-s\hat{k}e-$ in Anatolian is due to its etymological connection with the particle $*\hat{k}\acute{e}$, whereas $*-s\hat{k}e-$ ceased to be perceived as an etymologically composite suffix in the extra-Anatolian branches.
 - 5) The sound law that changes $*e$ to $*o$ in post-tonic closed syllables seems promising in explaining the o -timbre of the thematic vowel.

These observations are probably closely related to one another. In the following paragraphs we will make a new proposal that unifies the above observations in a consistent manner.

Although the position of the thematic conjugation in the Proto-Indo-European verbal system is a controversial issue that has been extensively discussed in previous studies, the problem of the alternating thematic vowels $*e$ and $*o$ has been relatively neglected. Considering the observation that the thematic vowel $*o$ was created after Anatolian split from the rest of the family and that the thematic conjugation was at home in the present stem, we are naturally led to assume that the o -timbre was due to the above accent-related rule that could be applied to the present-stem forming suffix. Two suffixes are exclusively employed to form present stems, i.e., $*-ie/o-$ and $*-s\hat{k}e/o-$.³⁶ Among these two, $*-s\hat{k}e/o-$ must have been irrelevant to the prehistory of the thematic vowels because the accent was fixed on the suffix. On the other hand, the suffix $*-ie/o-$ took part in two stem formations: i.e., present stems with a zero grade root and the accented suffix $*-i\acute{e}/\acute{o}-$ on one hand, and those with an accented e -grade root and unaccented $*-ie/o-$ on the other hand. According to *LIV* (2001: 19), the former type has 189 examples represented by $*\hat{g}nh_1-i\acute{e}/\acute{o}-$ (Sanskrit *jāyate* 'is born') and the latter type has 50 examples represented by $*sp\acute{e}k-ie/o-$ (Latin *speciō* 'I see', Sanskrit *pásyate*). It is clear that both types were productively used already in the parent language. Since the accented suffix $*-i\acute{e}/\acute{o}-$ was particularly favored by mediopassives, there is no doubt that the root accented $*-ie/o-$ -present played a crucial role in creating the thematic vowel $*o$.

The creation of $*-o-$ in the extra Anatolian languages is explained in the following manner. The ie/o -presents must have had thematic endings because they show neither accentual mobility within the paradigm nor qualitative ablaut. The original paradigm is assumed to be the one shown below, where $*e$ is posited as a basic vowel and the paradigm of the simple pre-thematized present is also provided for reference:

³⁶ The alternation of the vowels in $*-ie/o-$ and $*-s\hat{k}e/o-$ is secondary. For the sake of convenience, however, the formulas $*-ie/o-$ and $*-s\hat{k}e/o-$ are used as such in the present context.

sg. 1	*'- <i>ie-h₂(e)</i>	* <i>bbér-h₂(e)</i>
2	*'- <i>ie-th₂e</i>	* <i>bbér-th₂e</i>
3	*'- <i>ie</i> (← *'- <i>iē</i> < *'- <i>ie-e</i>)	* <i>bbér-e</i>
pl. 1	*'- <i>ie-me</i>	* <i>bbér-me</i>
2	*'- <i>ie-te</i>	* <i>bbér-te</i>
3	*'- <i>ie-nti</i>	* <i>bbér-nti</i>

As for the 3 sg., *'-*iē* with long *ē* would be the expected result of the vowel contraction of two short *e*'s. However, this long *ē* could easily become shortened under influence from the short *'-*e* of the root class 3 sg. **bbér-e*.

When the extra-Anatolian branches remained as a unity after Anatolian split off, the phonological rule that changed **e* to **o* in post-tonic closed syllables occurred to the above paradigm,³⁷ so that the alternation of **e* and **o* was introduced as shown in the following paradigm:

sg. 1	*'- <i>io-h₂</i>	pl. 1	*'- <i>ie-me</i>
2	*'- <i>io-th₂e</i>	2	*'- <i>ie-te</i>
3	*'- <i>ie</i>	3	*'- <i>io-nti</i>

An incorrect vowel would be obtained in the 2 sg. and 1 pl. without any further consideration, where *'-*ie-* and *'-*io-* should have been the predicted outcomes respectively, as seen in Greek 1 sg. τείνω 'stretch', 2 sg. -εις, 3 sg. -ει, 1 pl. -ομεν, 2. pl. -ετε, 3 pl. -ουσι(v) (< *'*ten-ie/o-*). As for the 2 sg. *'-*io-th₂e*, however, it would be possible to assume that the correct *'-*ie-th₂e* was secondarily created by morphological influence from the corresponding 2 sg. imperative represented by Greek θείνε 'Smite!', Sanskrit *pásya* 'See!', *gáya* 'Sing!', etc.³⁸ On the other hand, the correct 1 pl. *'-*io-me*, as opposed to the unexpected *'-*ie-me*, seems difficult to derive

³⁷ It is important to note that Hittite did not undergo this sound change; e.g., Hittite *nepiš* 'heaven' (< *'*nébb-es* ← *'*nébb-s*) and *aiš* 'mouth' (< *'*h₃éhb₁-es* ← *h₃éhb₁-s*), where Proto-Anatolian **e* becomes *i* in post-tonic closed syllables. The majority of *s*-stem neuter nouns are characterized by proterokinetic ablaut, but some by acrostatic ablaut with accented *ē*-grade root in strong cases and accented *e*-grade root in weak cases; cf. Schindler (1975). As for Hittite *nepiš*, Schindler (1975: 264) attributes it to the former type; likewise, Stüber (2002: 131ff.). Rieken (1999: 187ff.), however, takes it as belonging to the latter type, following Oettinger (1986: 8) and Melchert (1994: 259). The only evidence for positing nom.-acc. sg. *'*nébbes* is found in Hieroglyphic Luwian *ti-pa-s(V)*-, which can, however, be derived from *'*nébb-és* (the proterokinetic weak stem), as Hajnal (1995: 63) observes. Thus, Hittite *nepiš* can be explained by either *'*nébb-es* or *'*nébb-es*.

On the other hand, this sound change occurred in Tocharian which branched off from Proto-Indo-European following Anatolian; cf. Malzahn (2017). Tocharian presents of class II, which reflect the thematic conjugation, show palatalization before etymological *'-*e-* as seen in 3 sg. *āsām* 'leads' (< *'*h₂eġ-e-ti*) in contrast to 3 pl. *ākem* (< *'*h₂eġ-o-nti*) which lacks a palatalized consonant. This fact unmistakably indicates that the accent-related rule occurred after the separation of Anatolian, but before the separation of Tocharian.

³⁸ Note that these 2 sg. imperatives go back to *'-*ie*, where **e* should remain because of its position in an open syllable.

either phonologically or morphologically, as long as we adhere to the reconstructed 1 pl. ending **-me*. In this connection it is very important to note that there is an independent problem regarding the 1 pl. that has not been fully understood so far. This concerns the shape of the ending. Greek $-\mu\epsilon\nu$ and Lithuanian *-me* point to a proto-form **-me*, whereas Latin *-mus* and Old Church Slavic *-mъ* point to **-mo*. This discrepancy can be reasonably accounted for by reconstructing **-mh₃e* as the 1 pl. ending, which automatically explains **-mo* in Latin and Old Church Slavic. The ending **-me* indicated by Greek and Lithuanian, on the other hand, can probably be attributed to the influence of the vowel timbre in 2 pl. **-te*. What is even more remarkable in this reconstruction is that the problematic outcome **'-ie-me* is now replaced by **'-ie-mh₃e*, where *e* of the suffix now stands in a closed syllable and therefore **'-io-mo* (< **'-ie-mh₃e*) is obtained phonologically.

If the additional explanations given to the 2 sg. and 1 pl. are accepted, the active verbs in **-ie/o-* would have had the following paradigm, in which the distribution of the thematic vowels **e* and **o* is in full accord with the traditional reconstruction:

sg. 1	<i>*'-io-h₂</i>	pl. 1	<i>*'-io-mh₃e</i>
	2 <i>*'-ie-th₂e</i>		2 <i>*'-ie-te</i>
	3 <i>*'-ie</i>		3 <i>*'-io-nti</i>

An inference to be naturally drawn at this point is that the vowels **e* and **o* of the suffix immediately preceding the endings came to be reinterpreted as a part of the endings, and the new endings with **-e/o-* later spread to the simple thematic active verbs so that they might be formally disambiguated from the perfect and the other *h₂e*-conjugation categories. This process is shown in the following figure:

sg. 1	<i>*'-io-h₂</i>	→	<i>*'-i-oh₂</i>	→	<i>*bhér-oh₂</i>
	2 <i>*'-ie-th₂e</i>		<i>*'-i-eth₂e</i>		<i>*bhér-eth₂e</i>
	3 <i>*'-ie</i>		<i>*'-i-e</i>		<i>*bhér-e</i>
pl. 1	<i>*'-io-mh₃e</i>	→	<i>*'-i-omh₃e</i>	→	<i>*bhér-omh₃e</i>
	2 <i>*'-ie-te</i>		<i>*'-i-ete</i>		<i>*bhér-ete</i>
	3 <i>*'-io-nti</i>		<i>*'-i-onti</i>		<i>*bhér-onti</i>

Since the present stems with accented **-ié/ó-* have a striking predilection for mediopassives (e.g., **g_hh₁-ié/ó-* > **g_hh₁-ié/ó-* > Sanskrit *jáyate* 'is born' with secondary accentual shift), they were probably not involved in the replacement of the active endings. This interpretation will explain why simple thematic presents with accent on the root are exceedingly productive whereas those with accent on the thematic vowel, the so-called *tudáti*-type, are rare.

Let us consider next the corresponding mediopassives of *ie/o*-presents. The only place that shows an apophonic contrast between the thematic active and mediopassive endings is the 3 sg., where the mediopassive ending is reconstructed as **-io(r)*, which must have existed as such at a very early stage.³⁹ The original state

³⁹ Jasanoff (2003: 57) has suggested that the 3 sg. mediopassive ending **-or* can be derived

of the mediopassive paradigms that characterized *ie/o*-presents, as well as that of the pre-thematized root present, may be assumed to take the following forms:⁴⁰

sg. 1	* <i>-ie-h₂e(r)</i>	* <i>bbér-h₂e(r)</i>
2	* <i>-ie-th₂e(r)</i>	* <i>bbér-th₂e(r)</i>
3	* <i>-ior</i> (← * <i>-iōr</i> < * <i>-ie-or</i>)	* <i>bbér-or</i>
pl. 1	* <i>-ie-medhh₂</i>	* <i>bbér-medhh₂</i>
2	* <i>-ie-dh(u)ue</i>	* <i>bbér-dh(u)ue</i>
3	* <i>-ie-ntor</i>	* <i>bbér-ntor</i>

Vowel contraction would be expected between the suffix *-ie-* and the ending *-or* in the 3 sg. in a manner similar to what was seen in the case of the active thematic 3 sg. This time a long \bar{o} would probably result from the sequence of *e* and *o*, as in Attic Greek γένους ‘of a kind’ in contrast to Homeric γένεος. However, this long \bar{o} could again become shortened under influence from the short *-o* in the root class. As seen in footnote 32, the suffix *-ia-* (< **-io-*) is favored at all historical stages in Hittite; e.g., 1 sg. *ueriiaḫabari* ‘I call’, 2 sg. *ueriiaḫtati*, 3 sg. *ueriiaḫtari*. The paradigm of the thematic mediopassive in **-ie/o-* is formally very close to that of the corresponding thematic active except in the 3 sg., where the active has **-ie* and the mediopassive has **-ior*. An obvious inference to be drawn at this point is that the vowel *o* of the 3 sg. mediopassive **-ior* spread to the rest of the paradigm so as to make the two paradigms securely differentiated from a formal viewpoint. Thus, a morphological polarization was achieved by characterizing the active and mediopassive paradigms by **-ie-* and **-io-*, respectively. The mediopassive paradigm resulting from this change is the one shown below, which still reflects the state of affairs of the period in the extra-Anatolian unity.⁴¹

sg. 1	* <i>-io-h₂e(r)</i>	pl. 1	* <i>-io-medhh₂</i>
2	* <i>-io-th₂e(r)</i>	2	* <i>-io-dh(u)ue</i>
3	* <i>-ior</i>	3	* <i>-io-ntor</i>

In the extra-Anatolian languages, a reinterpretation of the mediopassive endings similar to that of the active endings occurred. The vowel **o* of the suffix came to be reinterpreted as a part of the endings, so that the new ending with **o* later spread to the simple thematic mediopassives. The process of this morphological change is schematically shown below:

from sound change by which post-tonic **e* becomes **o* in a closed syllable; e.g., **bbér-er* > **bbér-or*. However, there is evidence that this sound change did not occur in Anatolian, as shown in footnote 37.

⁴⁰ Proto-Indo-European present mediopassives were characterized by *-r* at least in the third person; cf. Yoshida (1990: 117–119).

⁴¹ Of immediate relevance to this argument are Tocharian class III and IV presents and Gothic morphological passives, which will be discussed later.

sg. 1	*-i _o -h ₂ e(r)	→	*-i _o -oh ₂ e(r)	→	*bbér-oh ₂ e(r)
2	*-i _o -th ₂ e(r)	→	*-i _o -oth ₂ e(r)	→	*bbér-oth ₂ e(r)
3	*-i _{or}	→	*-i _{or}	→	*bbér-or

Following this interpretation, the persistent *-o- (> Gothic -a-, Tocharian A -a-, Tocharian B -e-) in Gothic morphological passives and Tocharian class III and IV presents is a direct descendant of this stage (Gothic 1 sg. *bairada*, 2 sg. *bairaza*, 3 sg. *bairada*, etc., Tocharian A 1 sg. *māskamār* ‘I am, I am located’, 2 sg. *māskatār*, 3 sg. *māskatār*, etc., Tocharian B 1 sg. *māskemar* ‘id.’, 2 sg. *māsketar*, 3 sg. *māsketār*, etc.). Under the reconstructed history of the thematic mediopassive verbs proposed above, the regular alternation of the thematic vowels *-e- and *-o- in Greek (1 sg. -ο-μαι, 2 sg. *-ε-σοι, 3 sg. *-ε-τοι), Latin and Celtic turns out to be the result of a secondary morphological influence from the pattern of the corresponding active (1 sg. *-o-h₂, 2 sg. *-e-th₂e, 3 sg. *-e).⁴² Why this remodeling did not occur in Tocharian class III (IV) presents and Gothic passives is not difficult to answer. Since the present classes III and IV in Tocharian lacked active counterparts, there were no sources from which the alternating *-e- and *-o- could be transferred. In Gothic passives, however, the corresponding active presents such as 1 sg. *baira*, 2 sg. *bairis*, 3 sg. *bairip* are productively used. But it should be noted that passive meaning in the present tense as well as in the preterite tense is generally expressed periphrastically by the past participle and *wisan* or *wairþan*. Accordingly, the morphological passive in Gothic must be an archaism resistant to the remodeling.

If we are on the right track in assuming that the thematic vowel *o in the 1 sg. active was introduced by the above accent-related rule, it turns out that apocope of final -e of the 1 sg. ending *-h₂e was anterior to the accent-related rule because the rule did not operate in an open syllable. However, there is no evidence for this apocope in Anatolian. Lack of evidence for the e-apocope together with lack of evidence for the accented-related rule in Anatolian will confirm that the alternation of *-e- and *-o- in the thematic vowels was created after the separation of Anatolian.⁴³

7. A Remaining Problem

In our preceding discussion, laryngeal coloration is not indicated in the interest of morphological clarity. The phonetic value of *-h₂e in late Proto-Indo-European was [-h₂a]. However, Proto-Indo-European [-h₂a] points to either /-h₂e/ or /-h₂a/ at the phonemic level, with the result of violating the so-called ‘biuniqueness’ principle. To save this situation, we could speculate about the possibility that the second laryngeal had not affected the quality of a neighboring vowel *e when the 1 sg. *-e-h₂ became *-o-h₂ by the accent-related rule. This speculation would inevitably lead us to suppose that the laryngeal coloration occurred within the independent histories of Anatolian and the extra-Anatolian unity; e. g., *peh₂-s- ‘protect’

⁴² Cf. already Jasanoff (1978: 53), Mottausch (2003: 2), among others.

⁴³ As for the lack of evidence for the accented-related rule, readers are referred to footnote 37.

> **pab₂-s-*, exemplified by Hittite *pabš-* ‘protect’ and Latin *pās-tor* ‘shepherd’ (with compensatory lengthening caused by the loss of **b₂*). This analysis seems very unlikely.

There is still debate among Indo-Europeanists about whether the vowel **a* need be reconstructed for the parent language. The reconstruction of **a* is supported by a mere handful of correspondence sets represented by **sal-* ‘salt’ (Greek ἄλς, Latin *sal-*, Old Church Slavonic *solb*, Tocharian A *sale*). Its occurrence is extremely restricted, and more importantly it was never employed in inflection or derivational affixes. These idiosyncratic features of the vowel **a* imply that it was isolated and different from the secondary **a* created by laryngeal coloration (**a* < **h₂e*). I would suggest that a few nominal roots containing the original **a* had information such as “with **a* unrelated to laryngeal coloration” in their lexical entries. This treatment would result in obedience to the biuniqueness principle.

8. Conclusion

This paper has attempted to elucidate the origin of the thematic conjugation. It has been shown that the thematic conjugation originated from the present stem, not from the aorist stem. This observation is supported by the paucity of simple thematic aorists safely reconstructed for the parent language and the absence of thematic verbs in the past tense in Gothic. What is unique in the present stem and not found in the aorist stem is two suffixes exclusively used to form present stems, i.e., **-ie/o-* and **-s^hke/o-*.

We have examined Hittite and other Anatolian languages which play a major role in discussions of the thematic conjugation. The Anatolian languages have virtually no attestation of simple thematic verbs in **-e/o-*, but thematic verbs with the suffixes **-ie/o-* and **-s^hke/o-* are abundantly attested. As a result of our systematic survey, it has turned out that there is no compelling evidence for reconstructing the thematic vowel **-o-* in the active paradigm for Proto-Anatolian. The persistent *e*-vocalism is a feature inherited from Proto-Indo-European. The present stem forming suffix **-s^hke-* is originally segmented as **-s-^hke-* with *-^hke-* identified as the particle **^hke* ‘now, here’. In the extra Anatolian branches, however, **-s^hke* ceased to be perceived as an etymologically composite suffix, moving to a new stage where the alternating thematic vowel **-e- ~ *-o-* was introduced.

We have next noted the close relationship between the creation of the alternating thematic vowel **-e- ~ *-o-* in the extra-Anatolian languages and the post-tonic **-ie-*. When the extra-Anatolian branches remained as a unity after Anatolian split off, the phonological rule that changed **e* to **o* in post-tonic closed syllables occurred in the active paradigm of verbs with the suffix **-ie-*, so that the alternation of **-ie-* and **-io-* was introduced to this verbal paradigm. The persistent *e*-vocalism in the Anatolian active paradigm receives a reasonable explanation because this phonological rule did not occur in Anatolian. The next step is that the vowels **e* and **o* of the suffix immediately preceding the endings came to be reinterpreted as a part of the endings, and the new endings with **-e/o-* later spread to the simple thematic active verbs (1 sg. **bhér-oh₂*, 2 sg. **bhér-eth₂e*, 3 sg. **bhér-e*)

so that they might be formally disambiguated from the perfect and the other b_2e -conjugation categories.

A process similar to the one observed in the active occurred in the mediopassive. The only position that shows an apophonic contrast between the thematic active and mediopassive endings is the 3 sg., where $*-ior$ is reconstructed in contrast to the active $*-ie$. The vowel o of the 3 sg. mediopassive $*-ior$ spread to the rest of the paradigm so as to make the mediopassive paradigm securely differentiated from the corresponding active paradigm. Thus, a morphological polarization was achieved by characterizing the active and mediopassive paradigms by $*-ie-$ and $*-io-$, respectively. Next, the vowel $*o$ of the suffix came to be reinterpreted as a part of the endings, so that the new ending with $*o$ later spread to the simple thematic mediopassives (1 sg. $*bhér-ob_2e(r)$, 2 sg. $*bhér-oth_2e(r)$, 3 sg. $*bhér-or$). The persistent o -vocalism at this stage is faithfully retained in Gothic morphological passives and Tocharian class III and IV presents. The regular alternation of the thematic vowels $*-e-$ and $*-o-$ in Greek (1 sg. $-ο-μαι$, 2 sg. $*-ε-σοι$, 3 sg. $*-ε-τοι$) and other languages turns out to be the result of a secondary morphological influence from the pattern of the corresponding active.

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【要 旨】

印欧語における語幹形成母音を持つ動詞現在形の起源

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アナトリア諸語においては、語幹形成母音 **-e/o-* を持つ動詞 (thematic verbs) は実質的に記録されていない。しかしながら、一般に **-e/o-* で終わると考えられている印欧祖語の接尾辞 **-ie/o-* および **-ske/o-* を持つ動詞は数多くみられる。このふたつの接尾辞は動詞現在形語幹を形成するために用いられていた。アナトリア祖語の時期において能動態の動詞パラダイムに語幹形成母音 **-o-* が再建されることを示す根拠はない。そして接尾辞の母音が一貫して **-e-* である (**-ie-* および **-ske-*) のは印欧祖語に遡る特徴であることが実証される。アナトリア語派以外の言語においてみられる、パラダイム内部で交替する語幹形成母音 **-e- ~ *-o-* の起源は、語根にアクセントのある接尾辞 **-ie/o-* を持つ現在形にあると考えられる。アナトリア語派が印欧祖語から離脱した後、なお一体性を保っていた他のすべての語派において、アクセントの後の閉音節にある **-e-* は **-o-* になるという音変化が生じた。その結果、動詞パラダイム内部に **-ie- ~ *-io-* という交替がもたらされた。さらに語尾直前にある **-e- ~ *-o-* は、現在形動詞語尾を独自に特徴づけるために、語尾の一部として再解釈された結果、この **-e- ~ *-o-* は後に接尾辞を持たない動詞にも広がった。