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## **Voices in stone: Studies in Luwian historical phonology**

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## Summary and implications

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In the preceding chapters, we have analysed various key features of Luwian phonology and reached several conclusions that differ from and build upon previous analyses put forward in the scholarly literature. These conclusions do not only have consequences for our reconstruction of Proto-Anatolian and Proto-Indo-European, but also illustrate some of the methodological tools necessary to conduct historical phonological research based on material from a dead language.

In Chapters 1–2, we have looked at the use of so-called ‘plene spellings’ in the Hieroglyphic Luwian corpus, such as *pa-a*, *mu-u* and *ti-i* (as opposed to simply *pa*, *mu* and *ti*). The function of these spellings has hitherto not been fully understood. We have seen that the seemingly superfluous vowel signs (<a>, <i>, <u>) in many of these plene spellings serve to fill up any remaining space at the end of a word. By using these vowel signs as non-linguistic space-fillers, scribes were able to make use of all available space without leaving any significantly sized gaps. Nevertheless, it was demonstrated that not all of these HLuw. plene spellings can be taken as space-fillers. In several instances, their additional vowel signs do not seem to help the scribe avoid textual gaps, suggesting that they serve another purpose. On the basis of etymological and comparative analysis, it was proposed that these plene spellings rather mark the presence of long vowels or disyllabic sequences, quite similarly to how vowel length is expressed in the cuneiform script.

The most important conclusion reached in these chapters is that we can now confirm that the Luwian variety written in hieroglyphs opposed long to short vowels, and that the hieroglyphic script was used to express this opposition. This insight has opened up a wealth of hitherto disregarded material in the form of Hieroglyphic Luwian plene spellings. We are now able to distinguish plene spellings that serve as space-fillers from those that are markers of vocalic length or a disyllabic sequence. While some plene spellings, such as those found in the endings of the *i*-stem nouns and adjectives (nom.sg.c. *Ci-i-sa*, acc.sg.c. *Ci-i-na* etc., Section 2.6.1), remain difficult to interpret, it is clear that others, like the enclitic personal pronoun *=tu-u/=tú-u* ‘he/she/it’ (dat.-loc.sg.; Section 2.4.2) and (DEUS)TONITRUS-*hu-ti-i* (DN, dat.sg.; Section 2.5.3) are strong candidates for markers of vocalic length. The discovery that these plene spellings represent synchronically long vowels limits the amount of possible etymologies and helps us reconstruct their ancestral forms. The long final *-ī* in (DEUS)TONITRUS-*hu-ti-i*, for instance, can no longer be equated with the synchronically common ending *-i*. We can now see that it must rather be the preserved reflex of the PIE hysterodynamic dative singular ending *\*-éi*. Similarly, this interpretation limits the amount of possible etymological precursors to words whose etymology is unknown, such as *pi-i-ha-mi-na* ‘glorified’(?) (Section 2.6.7), whose long *ī* can now only plausibly continue a PIE diphthong or a combination of PIE *i* and a laryngeal.

Chapter 3 marked a shift of focus from vowels to consonants, and offered an extension of and reaction to the ideas proposed in Rieken 2010b, about the phonetic values of the hieroglyphic signs <ta>  en <tá> . Taking into account the entire known HLuw. text corpus, it was argued that the phonetic difference between these signs is better interpreted in terms of consonantal length rather than consonantal voicing: the hieroglyphic sign <tá> was used to write a short stop [t]/[d] and is mostly used in word-internal consonant clusters and the word *tá-ti-* ‘father’, whereas <ta> represents a long stop [t:] and is only found intervocalically or word-initially.

This insight helps us analyse Luwian words containing either of these signs, not only those found in Karkamiš subcorpus (Rieken 2010b: 308f.), but in all HLuw. texts in which <ta> and <tá> both occur. Thus, words with

word-internal <ta> most probably contain consonant clusters, as in the case of TELL AHMAR 6 § 8 (MORI) *wa/i-la-ta* which I have proposed we should analyse as /ualta/ ‘to die’ (3sg.pret.act., cf. Section 3.5.2). More importantly, the orthographic distinction between long and short consonants may well preserve traces of an older language stage, in which the distinction was still phonologically contrastive. This idea is neatly compatible with the conclusions reached in the following chapter.

Chapter 4 took a closer look at the orthography, phonetics and phonology of the Cuneiform Luwian dental stops. The use of two signs (<TA> 𐎲 and <DA> 𐎠) in our corpus is analysed and subjected to statistical analysis. The non-random spelling patterns emerging from this analysis turned out to be largely comparable to patterns involving the same signs in Hittite. This suggests that the Proto-Anatolian dental stops surface in a phonetically similar way in both Hittite and Luwian. Nevertheless, there are also clear differences, especially regarding the spelling of the intervocalic ‘lenis’ dental stops. The Luwian spelling patterns found for these stops suggest that the synchronic difference between fortis and lenis consonants might have been contrastive only on account of length: fortis /t:/ [t:] vs. lenis /t/ [t]. Compared to the other Anatolian languages, in which the difference between ‘fortis’ and ‘lenis’ obstruents involves a voicing contrast (at least phonetically), the Cuneiform Luwian material appears to have preserved an older state of affairs. As argued in Section 4.5.1, the CLuw. spelling pattern supports the reconstruction of a consonantal length contrast in Proto-Anatolian and, by extension, Proto-Indo-European. The main findings in this chapter can therefore be used indirectly as an argument in favour of an early Anatolian split, which was completed before the common ancestor of the other Indo-European language branches developed its length-based stop opposition into one based on voicing, as argued in Kloekhorst 2016a: 235–241.

In Chapter 5, lastly, we considered two independently proposed sound changes that operated in the Proto-Luwic language stage, Čop’s *Law* and the lengthening of accented short vowels in open syllables (OSL). It was proposed that these changes do not only take complimentary inputs (i.e. short accented open syllables), but also yield the same output on an ab-

stract phonological (moraic) level: an accented heavy syllable. The second half of this chapter accounted for the functional symmetry of these two changes by analysing the phonological system as it was inherited by Proto-Luwic. It turned out that *Čop's Law* and OSL can be seen as extensions of a phonological pattern that had already been starting to materialise in Proto-Anatolian, leading to the situation in Proto-Luwic where syllable weight, vowel length and consonantal length became dependent on the place of the stress accent and lost much of their contrastive value to a significant degree.

On a broader, methodological level, this dissertation has emphasised the importance of investigating non-random spelling patterns when working with ancient written languages. If certain words or morphemes are consistently written in a certain way while others are written in another, this is a strong indication in favour of an underlying phonetic and/or phonological contrast. Moreover, Chapters 3–4 in particular have shown that for a solid interpretation of these spelling patterns, both how the words they are found in were pronounced and how they might have changed over time, linguistic typology is of cardinal importance. In order to assess the plausibility of our phonological interpretations and reconstructions, we must apply our knowledge of linguistic systems and sound change in general.

The pronunciation of ancient languages and its prehistory is by definition inaccessible to direct observation: we cannot test our hypotheses directly by soliciting the knowledge of native speakers. This is no less true for the Luwian language, whose last speakers passed away thousands of years ago and whose texts, preserved fragmentarily in stone, clay and metal, are virtually the only form in which it has reached us. We must recognise that the language underlying these nearly forgotten texts was used and changed in the same way as other languages spoken in past and present, and that we can use our knowledge of language change to interpret the Luwian data as well. Only then can we start to leap across the millennia and excavate these long forgotten voices.