

The Luwian Language

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The Luwian language belongs to the Luwic subgroup of the Indo-European Anatolian languages and is a close relative of Hittite. It is recorded in two scripts: an adaptation of Mesopotamian cuneiform and Anatolian hieroglyphs. The goal of this paper is to provide a concise description of the Luwian language. It contains both information on its structure, with an emphasis on phonology and morphology, and sociolinguistic data. The grammatical description is predominantly synchronic, but historical and comparative information is occasionally introduced if it has a potential to clarify the synchronic state of affairs.

Keywords: Luwian, Hittite, Indo-European, Luwic, cuneiform, Anatolian hieroglyphs.

1. Name of the language

The Luwian language is found in texts from central and southern Anatolia and northwestern Syria from approximately 1500 to 700 BC. Many American linguists refer to the same language as Luvian. The English name of the language goes back to the Hittite adverb *luwili* ‘in Luwian’, which introduces some of the Luwian passages embedded in Hittite texts. This adverb is, in turn, derived from the toponym Luwiya, which is mentioned in the Hittite Laws as a part of the Kingdom of Hattusa. The designation of the Luwian language by its native speakers is unknown. Since Luwian became the main written language of most Neo-Hittite States in the 1st millennium BC, it is possible that Luwian speakers referred to themselves as “Hittites” during this period (this is, at least, what they were called by their neighbors, the Assyrians and the Urartians).

2. Phylogenetic, areal, and sociolinguistic information

The Luwian language belongs to the Anatolian group of Indo-European languages. The majority of Indo-Europeanists assume that the Proto-Anatolian language was the first one to separate itself from the Proto-Indo-European continuum, and some of them use the term Indo-Hittite or Indo-Anatolian for the common ancestor of the Anatolian (including Luwian) and “core” Indo-European languages. The closest relatives of Luwian within the Anatolian group are small corpus languages attested in alphabetic transmission in the 1st millennium BC, such as Lycian, Milyan (Lycian B), and Carian. The term “Luwic” is increasingly used for Luwian and its closest relatives. There is no up-to-date comparative grammar of the Anatolian languages, but, for phonological comparison between Luwian and its closest relatives, Melchert (1994) remains available for consultation.

The Luwian language displays a number of non-trivial structural similarities with its neighbors which cannot be accounted for in phylogenetic terms, and therefore need probably be explained through language contact. The concept of an Ancient Anatolian linguistic area was discussed from a theoretical perspective in Watkins (2001). Among the likely contact-induced features of Luwian one may single out the neutralization of the inherited opposition between the historical voiceless and voiced stops in word-initial position (in intervocalic position it was probably reinterpreted in fortis/lenis terms). This feature, which is generally typical of the Indo-European Anatolian languages, finds a precise counterpart in the geographically adjacent Hurrian language, but not in its close relative Urartian, which was presumably spoken further to the northeast. The areal isogloss under discussion is quite unusual from the typological perspective, since the neutralization of consonant laryngeal features is generally more typical of syllabic codas than of onsets. Another likely contact-induced feature is the constraint on initial *r-*, which is overall typical of the languages of Ancient Anatolia and reconstructed for early Armenian and Greek, but not for Proto-Indo-European. In 1st millennium Luwian, however, initial *r-* becomes possible again due to the simplification of consonant clusters. On the morphological level, one may surmise that some sort of common influence is responsible for

case attraction in Hittite noun phrases, the proliferation of Luwian possessive adjectives at the expense of genitive case nouns, and the double case construction in Hurrian and Urartian. The common denominator here is the double marking of external case in possessive constructions (for details, see Yakubovich, 2008a). Unfortunately, the starting point of all these innovations, if they were indeed contact-induced, remains unclear; they may have been driven by a shared Anatolian substrate of unknown genetic affiliation.

The local homeland of the Luwians can be reconstructed in the central part of Asia Minor (present-day Turkey), including the Konya Plain and Sakarya River valley. Already for the first part of the 2nd millennium BC one can postulate widespread Hittite-Luwian bilingualism, which speaks for the contiguity of the areas where these two languages were spoken (Yakubovich, 2010: 161-205). There are grounds to believe that Luwian functioned as an acrolect in one or several Anatolian principalities during this period. Hence, for example, there are Luwian loanwords in Old Hittite which belong to the political and administrative sphere, for example Luw. *ubadid-* borrowed as OHitt. *ubadi-* ‘demesne’, or Luw. *tummanti-* ‘to hear’ representing the source of OHitt. *tummantiya-* ‘obedience’.

The Kingdom of Hattusa, which was formed in central Anatolia in the 17th century BC, was traditionally called Kingdom of the Hittites in secondary literature, because Hittite was the main language used there for purposes of writing cuneiform. This kingdom, however, was multiethnic from the very beginning. Luwian, alongside Palaic, enjoyed there the status of a regional language, witness the Luwian and Palaic formulae embedded in the Hittite religious texts pertaining to the official state cult. Beginning in the 14th century BC one can trace the presence of large groups of Luwian speakers in Hattusa, although the Luwian language initially functioned there as a basilect, while Hittite was an acrolect. In the 13th century BC Luwian became the main vernacular of Hattusa, although Hittite retained its role in the official sphere. Direct evidence for Hittite and Luwian bilingualism in Hattusa during this period stems from growing lexical interference between Hittite and Luwian (Melchert, 2005), from a large number of foreign words preserving Luwian inflectional endings in Hittite official texts (van den Hout, 2006), as well as from the partial restructuring of New Hittite grammar under Luwian impact (Rieken, 2005[2006]).

A Luwian language community was definitely present in the kingdom of Kizzuwatna (Classical Cilicia) in the 15-14th centuries BC. The Luwian dialect of Kizzuwatna displays structural peculiarities that speak in favor of its genesis in the Luwian and Hurrian bilingual communities (cf. section 9). The expansion of the kingdom of Hattusa in 14th-13th centuries BC led to the further extension of the Luwian-speaking area into northwestern Syria. After the collapse of the kingdom of Hattusa and the end of the written transmission of the Hittite language in the early 12th century BC, Luwian takes over its administrative functions in the territory of the so-called Neo-Hittite states. The expansion of the Neo-Assyrian Kingdom led to the progressive shrinking of the area where the Luwian language was used in writing during the 1st millennium BC. While the latest Luwian inscriptions can be dated to about 700 BC, there are reasons to believe that Luwian vernacular dialects lingered on in southeastern Anatolia at least until the beginning of the Hellenistic period (late 4th century BC), and possibly even later.

There is no way to define or even estimate the number of Luwian speakers at any given point in time. One should, however, assume that the Luwians were more numerous than the Hittites in the second half of the 2nd millennium BC, since otherwise it is hardly possible to account for the progressive language shift from Hittite to Luwian in the Kingdom of Hattusa in spite of the cultural dominance of Hittite in this polity.

The first attempt at the comprehensive treatment of Luwians as an ethnic group is Melchert (2003). It was followed by Yakubovich (2010), where different perspectives on the Luwian homeland and the spread of the Luwian language are offered. The discussion of various approaches to the ethnic history of the Luwians became a topic of a recent conference, whose proceedings were published as Mouton, Rutherford, and Yakubovich (2013).

3. Philological information

3.1. Written texts

The Luwian language was written in two syllabic scripts, namely, an adaptation of Mesopotamian cuneiform and Anatolian hieroglyphs. All the Luwian cuneiform texts are recorded on clay tablets, and the majority of them belong to the sphere of practical magic. The earliest Luwian cuneiform fragments were probably written down in the 15th century BC. These short texts do not feature a stable orthography, but rather represent transliterations of Luwian passages embedded within Hittite rituals. One can hypothesize that the reason for using Luwian magic incantations in religious texts from Hattusa, rather than translating them into Hittite, was a desire to preserve their efficacy. The frequent marking of Luwian foreign words with special signs (“gloss wedges”) in Hittite texts shows that the Hittite scribes were keenly aware of a difference between the two languages and perceived the marked words as deviating from the formal style. The cuneiform script stopped being used for any purposes in central Anatolia after the collapse of the Kingdom of Hattusa in the early 12th century BC, and so the tradition of rendering Luwian passages in cuneiform was also discontinued.

The Luwian language gained official recognition in Hattusa chanceries in the 13th century BC, after it became associated with the Anatolian hieroglyphic script. In that period, however, the Luwian orthographic norm was at its embryonic stage, as testified by frequent rebus writings and the minimal number of phonetic spellings (as in the SÜDBURG inscription, Hawkins, 1995). The normalization of Luwian hieroglyphic orthography becomes a reality only in the 1st millennium BC. The texts of this period contain a large number of historical and hypercorrect spellings, which bear witness to a developed orthographic tradition transmitted by generations of professional scribes.

The most frequent variety of Luwian hieroglyphic texts is represented by monumental inscriptions belonging to the last kings of Hattusa and rulers of the Neo-Hittite states. A number of administrative documents written on lead strips have also been preserved. The Hittite sources inform us about a widespread use of wooden writing boards covered by wax. There is a strong suspicion that this medium was conducive to the proliferation of Luwian hieroglyphic texts in the Empire period (Waal, 2011), but an archaeological confirmation of this hypothesis is so far lacking.

3.2. Decipherment history and reference sources

The decipherment of the Luwian language went through several stages and was a joint effort by many scholars. Already in 1880 the English scholar the Reverend Archibald Sayce succeeded in establishing the values of Anatolian hieroglyphic signs REX ‘king’ and REGIO ‘country, kingdom’. The subsequent process of decipherment was, however, slowed down by the unknown genetic connections of the language of Anatolian hieroglyphs. The discovery of the archives of Boğazköy and decipherment of Hittite in the early 20th century were quickly followed by the realization that the Luwian language of the Boğazköy cuneiform tablets represents a close relative of Hittite. The first steps toward the systematic study of Luwian hieroglyphic texts were made based on the assumption that they are written “Hieroglyphic Hittite”. The leading role at that stage in the decipherment belonged to Ignace Gelb (USA), Piero Meriggi (Italy), Emil Forrer (Switzerland /Germany), and Bedřich Hrozný (Czechoslovakia). The verification of their hypotheses became possible due to the discovery of a long Phoenician and Luwian bilingual of KARATEPE in 1947.

In the 1950s and 1960s the French scholar Emmanuel Laroche demonstrated in a number of papers that “Cuneiform Luwian”, “Hieroglyphic Hittite” and Lycian constitute a subgroup within the Anatolian group of languages, which many scholars now call Luwic. But the true realization of the degree of proximity between the Luwian dialects of cuneiform and hieroglyphic texts came only after a team formed by David Hawkins and Anna Morpurgo-Davies in England and the German scholar Günter Neumann proposed the New Readings of several

high frequency Anatolian hieroglyphs (Hawkins, Morpurgo-Davies, and Neumann, 1974). Afterwards, the term “Hieroglyphic Hittite” came to be gradually replaced with “Hieroglyphic Luwian”. I have, however, tried to demonstrate in Yakubovich (2010) that the inner-Luwian dialectal isoglosses do not precisely align with the boundaries separating the cuneiform and hieroglyphic corpora. Therefore it is better from the methodological viewpoint to operate with the concept of one Luwian language having several dialects and written in two scripts.

The decipherment of the Luwian language cannot be regarded as fully accomplished yet. Nevertheless, scholars have achieved a reliable understanding of the majority of hieroglyphic texts and a large number of cuneiform texts. Hawkins (2000) represents the main reference source for the hieroglyphic texts composed after the fall of the Kingdom of Hattusa. This monumental work contains their autographs, transliterations, and translations, accompanied by a detailed philological commentary. The longer hieroglyphic inscriptions of the Empire period (13th century BC) are published in the same format in Hawkins (1995). The very great majority of Luwian cuneiform texts are edited in transliteration in Starke (1985), but without translation or philological commentary. All the Luwian passages glossed in this paper were also treated in either Starke (1985) or Hawkins (2000), although the translation offered here reflects my own analysis.

The most detailed grammatical treatments of the Luwian language that retain their value up to now are Plöchl (2003), which covers only for hieroglyphic texts, and Melchert (2003: 170-210). In comparison with these works, the present one is shorter and therefore omits many details. On the other hand, it has the virtue of being able to incorporate the numerous discoveries of the last decade that contributed to the better understanding of the Luwian language. Melchert (1993) represents a glossary of Luwian lexical material in cuneiform transmission, which covers the entire corpus collected in Starke (1985) with an addition of isolated foreign words occurring in Hittite texts (the latter part now is in serious need of updating). Unfortunately, a comprehensive up-to-date lexicon of Luwian texts in hieroglyphic transmission still remains a desideratum. The most recent manual of Luwian in hieroglyphic transmission is Payne (2010), which also contains a glossary to the texts treated.

4. Writing systems and their interpretation

4.1. Cuneiform and hieroglyphic scripts

A number of transcription and transliteration conventions will be used throughout the rest of this paper. The angular brackets < > mark narrow (sign-by-sign) transliteration. Square brackets are reserved for tentative phonetic transcription, and curly brackets are used for the morphophonemic representation of complex forms. The italic script without brackets is used for interpretative transliteration, which will be discussed in 4.2. The abbreviations (C) and (H) refer respectively to the cuneiform and hieroglyphic attestations of individual forms.

The basic structural principles that characterize the Hittite adaptation of Mesopotamian cuneiform (Hoffner and Melchert, 2008: 9-24) are also generally applicable to the cuneiform transliteration of Luwian texts. For reasons of space, and because of the availability of many parallel treatments, my description of cuneiform orthography is necessarily cursory. The three main sign categories are phonetic signs, logograms, and determinatives/classifiers. The basic shapes of phonetic signs are <CV>, <V>, and <VC>, which are combined matching vowel quality within a syllable (e.g. <ta-a-ti-ya-an> = [ta:dijan]). Redundant signs of the shape <CVC> also occur rather frequently. The intervocalic fortis and lenis stops are respectively spelled <VC-CV> and <V-CV> in the cuneiform script (e.g. <a-pa> = [aba] vs. <ap-pa> = [appa]). A peculiarity of rendering the Luwian words in the cuneiform is the frequent use of extra <a> in word-initial position, i.e. <a-an-ta> ‘in’, <a-an-ni-i-> ‘to do, cause’, <a-ad-du-wa-a-li-> ‘evil’. Such spellings probably do not reflect either stress or vowel length, but possibly represent an attempt to render in writing the initial glottal stop (e.g. [ʔanda] ‘in’), as was also the case in Assyrian cuneiform.

Logograms are signs for whole lexemes (usually nouns), which, in the instance of cuneiform orthography, are normally taken from the Sumerian language and transliterated into Sumerian in capital letters. The logographic (Sumerographic) spellings frequently feature phonetic complements, e.g. <ALAM-ša> = [tarussa] ‘statue’, where ALAM is the Sumerian word for statue. Determinatives are the same logograms, which are, however, not meant to be pronounced, being used instead as purely graphic classifiers. They are transliterated into Sumerian in capital superscript letters, e.g. <^{UZU}ŠĀ> ‘heart’, where <ŠĀ> is the Sumerian word for ‘heart’, while <UZU> is a classifier with the basic meaning ‘flesh’. The Luwian transliterated passages feature fewer Sumerograms in comparison with the general style of the Hittite rituals where they occur. Akkadograms, or words spelled in Akkadian but meant to be read in another language, are very rare in Luwian cuneiform texts.

The Anatolian hieroglyphs represent an indigenous writing system that developed inside Asia Minor in the Hittite and Luwian bilingual environment (Yakubovich, 2008b). It was possible to reach such a conclusion through analysing the phonetic values of Anatolian signs, which may evoke the initial syllables of both Hittite and Luwian lexemes that correspond to their logographic values. Thus the logogram <PES>, used for the motion verbs, has the syllabic value <ti>, presumably reached through the mediation of Hitt. *tiya-* ‘to step’, while the <SIGILLUM> ‘seal’ has the syllabic value <sa₅>, extracted from Luw. *sasanza* ‘seal’. The earliest datable hieroglyphic inscriptions containing phonetic signs are found on the seals of Hittite kings and high officials (14th c. BC) and represent short legends containing names and titles, which can in principle be read in both Hittite and Luwian. For a representative and up-to-date edition of (mostly) 13th century seals see Herboldt (2005). The choice of the new writing system for personal seals, alongside or instead of the traditional Mesopotamian cuneiform, was presumably prompted by nationalistic concerns.

The complete inventory of Anatolian hieroglyphs includes more than 500 signs, although about one half of them still resist interpretation, largely due to their rare occurrence. Their most recent comprehensive discussion can be found in Marazzi (1990), but for practical purposes one can use the more up-to-date sign list in Payne (2010: 161-195). The most frequent template of phonetic (syllabic) signs is <(C)V>. The <CVCV> signs are, overall, less frequent in texts and fewer in number. Most signs correspond to syllables ending in one of the 3 basic vowels (e.g. <pa>, <ti>, <ru>), but syncretic vocalic values are also possible (e.g. <wa/i>, <lu/a/i>). Other categories of signs include logograms, and classifiers/determinatives (cf. above). The Luwian texts of the 1st millennium BC feature special signs marking word boundaries in the continuous text (transliterated as <|>) and markers of logograms and determinatives (transliterated as <“ ”>), although the use of neither sign is consistent. A peculiarity of the hieroglyphic script that sets it apart from the cuneiform is the absence of phonetic signs with the <VC> template, which makes impossible the unambiguous rendering of consonant clusters. In the majority of cases clusters C_1C_2 are rendered as <C₁a-C₂V>, but /n/ is not reflected in writing before another consonant. Another peculiar feature of the Anatolian hieroglyphs is the frequent use of determinatives with verbal forms, while their use in the cuneiform is generally limited to classifying nouns. The third peculiarity is the use of phonetic indicators, i.e. special syllabograms that are used for specifying the reading of logograms without rendering the precise phonetic shape or even position of the respective syllable (cf. the next paragraph). Finally, an unusual feature of the Anatolian hieroglyphic script is the *a*-vowel spelled at the end but pronounced at the beginning (the so-called “initial-a-final”), e.g. graphic <mi-sa-a> corresponding to the phonological /amis/ ‘my’ (nom.sg.m).

The modern transliteration of Anatolian hieroglyphs has a number of special conventions. Separate signs belonging to one word-form are connected by hyphens, graphemes forming a ligature (continuous/overlapping spelling) are linked by “plus” signs, while the ambiguity of the vowel in a syllabogram is marked by a slash, e.g. <i+ra/i-há-> = *irha-* ‘boundary’. The homographic syllabic signs are marked by subscript numbers, but the numeral 2 is replaced by an acute accent (<há> = <ha₂>), while the numeral 3 is replaced by a grave accent (<sà> =

<sa₃>), as in cuneiform. The better understood logograms and determinatives are transliterated in capital letters, while their meanings or shapes are commonly rendered in Latin, e.g. <REX> ‘king’, <CRUX>: cruciform sign. Determinatives, unlike logograms, are not hyphenated to the lexemes they determine, but are written in parentheses instead. Thus *tarrawannis* ‘ruler’ can be written as a logogram with phonetic complements <IUDEX-ni-sa> or fully spelled out with the determinative <(IUDEX)tara/i-wa/i-ni-sa>. The less understood and usually less frequent logograms and determinatives are commonly transliterated with numbers under which they appear in the sign list of Anatolian hieroglyphs (Laroche, 1960). In this case they are accompanied by asterisks, e.g. <*501>. Capital italic letters are used for marking phonetic indicators, e.g. <PRAE-ia AUDIRE+MI-ma-ti-mi-i-sa> = *parriya tummantimmi* ‘glorified’, <INFANS.NI-sa> = *nimuwizzas* ‘son’. The same capital italic letters mark the few logograms whose meaning is rendered “in Anatolian” and not in Latin, e.g. <HALPA> ‘Aleppo’, <SARMA> ‘the god Sarruma’.

The large hieroglyphic inscriptions are commonly subdivided into horizontal registers, which are filled in boustrophedically (first register right to left, second left to right, third right to left etc.). Each register tends to be two or three symbols “thick”. The columns are consistently filled in the downward direction, and attempts are frequently made to align word boundaries with column ends. Sometimes the sign shapes create lacunae or bulges that affect the order of subsequent signs. Most Anatolian hieroglyphs have monumental and cursive variants, the first being typical of bas-reliefs, the second scratched on stone or lead strips. There are, however, inscriptions where monumental and cursive signs occur side by side. From the paleographic viewpoint, one also distinguishes between the sign-shapes typical of the Empire of Hattusa and those of the 1st millennium BC, while the intervening 12-11th centuries BC left fewer written texts and can be characterized as “dark centuries”. In addition to paleographic differences, the signs of the two periods sometimes display functional distinctions. Thus the <ali> sign of the Empire period (*416) developed into the <la/i> sign (*319) in the 1st millennium, while the sign *445, which originally had the specific value <lu> developed the more inclusive reading <lu/a/i> in the Neo-Hittite period.

The narrow transliteration of the hieroglyphic script described in this section reflects the system adopted in Hawkins (2000) with some minor changes proposed in recent scholarship (e.g. Rieken and Yakubovich, 2010). It is fair to say that this system reflects today’s academic mainstream. Note, however, that the principal editions of some hieroglyphic texts (e.g. Poetto, 1993) use different systems.

4.2. Interpretative transliteration

IPA-based transcription is rarely used in Luwian Studies. Most cuneiform scholars use either narrow, sign-by sign transliteration, or the result of its compression known as broad transliteration. The latter uses a number of conventions that are rooted in the tradition of cuneiform studies, e.g. *z* ~ IPA /ts/, *y* ~ IPA /j/, *ā* ~ IPA /a:/ etc. In the instance of the hieroglyphic texts the broad transliteration is rarely used, but scholars try instead to transcribe the forms into something resembling the broad transliteration of the cuneiform texts. For example <zi-in-zi> (C) ‘these (nom.sg)’ is compressed into *zinzi*, while <za-zi> (H) ‘id.’ is not compressed into *zazi* but transliterated as *zanzi* on the fair assumption that the nasal is phonologically present in this form but not reflected in hieroglyphic orthography (cf. 4.1). At the same time, the precise rules of transcribing the hieroglyphic texts are rarely, if ever, spelled out. In this section I shall endeavor to provide principles of a unified interpretative transliteration of Luwian cuneiform and hieroglyphic texts, which will be used in the rest of this paper.

The proposed unified interpretative transliteration includes only the three basic vowels *a*, *i*, and *u*, even though this may result in a loss of information. In contrast, its consonantal inventory faithfully reflects the phonological oppositions between Luwian fortis and lenis stops, since it is reasonably consistently rendered in cuneiform transmission (cf. 4.1). It is thus different

from the conventions of bound transliteration deployed, for example, in Payne 2010, which are adopted for hieroglyphic texts alone, and where the fortis and lenis pairs are not contrasted.

Some comments on the vocalic inventory are in order. Based on the analogy with Hittite, it is usually assumed that the so-called plene spellings in cuneiform texts, which consist in adding an extra vocalic sign matching the neighboring <VC> and/or <CV> signs, are deployed for the iconic rendering of vowel length in Luwian. There are indeed quasi-minimal pairs, such as <a-ad-du-wa-al-za> = [ʔat:uwal-tsa] ‘evil (nom./acc.sg.n)’ vs. <a-ad-du-wa-a-al> = [ʔat:uwa:l] ‘evil (nom./acc.pl.n.)’, or <wa-a-šu-un> = [wa:sun] ‘good (acc.sg.c)’ vs. <ḫi-i-ru-ú-un> [xi:ru:n] ‘oath (acc.sg.c.)’, which speak in favor of contrastive vowel length in Luwian. On the other hand, there are cases of inconsistent plene spellings in the same form, e.g. <du-ú-pa-im-mi-in> vs. <du-pa-a-im-mi-in> ‘stricken (acc.sg.n.)’. The cuneiform plene spelling in word-initial position may have had an altogether different function (cf. next paragraph). As for the plene spellings in hieroglyphic texts, that have not been sufficiently studied, but at least in some cases they must have had an ornamental function, helping to align word-boundaries with ends of vertical columns. In view of these facts, it appears premature to include information about vowel length in the interpretative transliteration of the Luwian texts.

The hieroglyphic texts, in turn, offer primary evidence for a hypothetical contrast between [a] and [ə], which would, however, be limited to word-initial position. Pursuing this hypothesis one can surmise that the initial glyph <a> renders [ə], while the initial glyph <á> corresponds to [a(:)]. The unstable character of initial [ə] follows from the graphic phenomenon of “initial-a-final” (cf. section 4.1). One can hypothesize that the spellings such as <mi-sa-a> ‘my’, instead of the expected *<a-mi-sa> for phonetic [əmis], indicate the aphaeresis of /ə/ in allegro pronunciation. There is no doubt that [ə] historically goes back to *[a] at least in some cases, since one finds alternation between [a] and [ə] in forms of the same lexeme: e.g. <*a-mi-sa> = [əmis] ‘my (nom.sg.c)’ vs. <á-ma-za> = [amantsa] ‘my (acc.sg.n)’. The precise conditions of the development *[a] > [ə] would, however, remain unclear, and the status of [ə] as a contrasting phoneme is not obvious either. Alternatively, Simon (2010) attempted to establish a correlation between initial <á> in hieroglyphic transmission and initial plene spellings in cuneiform rendering of the same lexemes, which was then interpreted as evidence for a prothetic or etymological glottal stop ([ʔa-] or /ʔa-/). For yet another phonetic account of <a> and <á> see Melchert (2010). In view of all the uncertainties and debates regarding the interpretation of the Anatolian hieroglyphs <á> and <a> their difference cannot be reflected in the interpretative transliteration at the present stage in Luwian scholarship.

The transition from the narrow cuneiform transliteration to its broad (interpretative) counterpart remains automatic in most cases. It essentially involves removing hyphens, contracting homorganic vowels, “voicing” intervocalic stops, and “devoicing” them otherwise. For example, both <du-ú-pa-im-mi-in> and <du-pa-a-im-mi-in> must be recorded as *tubaimmin*. An additional convention requires removing all the diacritics, e.g. <wa-aš-ḫa-az-za-aš> = *washazzas*. In contrast, a degree of interpretation is required if one begins with the narrow hieroglyphic transliteration. Thus, the majority of hieroglyphic syllabograms do not distinguish between fortis and lenis consonants, and therefore the hieroglyphic spelling <a-pa> can correspond to *appa* as well as *aba*. A salient exception here is the contrast between the coronal stop marked by the signs <ta> and <tá>, to be always transliterated as *-(t)t-*, and its counterpart marked by <tà>, to be always transliterated as *-d-* (this contrast was established in Rieken, 2008). In ambiguous cases, the interpretation of consonant laryngeal features requires comparison with cuneiform texts. For example, forms of the distal pronoun will be always transliterated as *aba-*, because it is spelled <a-pa->, not <ap-pa->, in the cuneiform. If a particular lexeme is only attested in hieroglyphic transmission, the discrimination between fortis and lenis consonants requires etymological analysis, or is outright impossible. Such instances can be marked by capital “archiphonemes” in the interpretative transliteration, e.g. *aTuTinzi*.

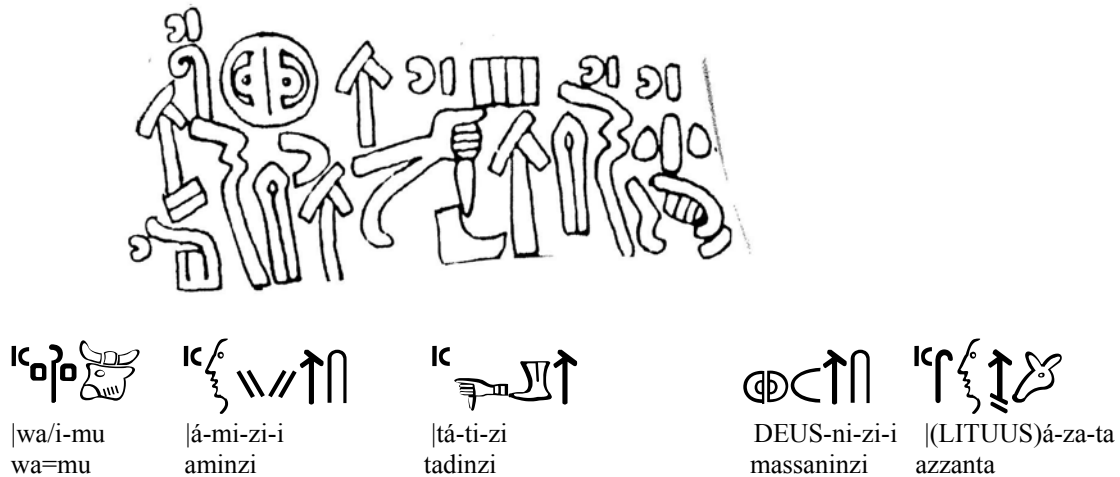
Another interpretative decision involves the reconstruction of consonant clusters. Thus the hieroglyphic stem <(MANUS)i-sà-tara/i-> ‘hand’ can be in principle interpreted as *istr(i)-*,

istar(i)-, *isatr(i)-*, or even *isadar(i)-*. But the comparison with <iš-(š)a-ra/i-> ‘hand’ (C) suggests that the coronal stop is anaptyctic in origin and therefore vindicates the transliteration *istr(i)-*. As mentioned above, preconsonantal nasals are omitted in the hieroglyphic script, but cuneiform parallels help in their reconstruction, especially in grammatical morphemes. The most obvious instance where the hieroglyphic data can be invoked for improving the transliteration of cuneiform spellings concerns the labiovelars. Thus, the verb ‘to run’ is attested as <ḥu-u-i-(ya)-> in cuneiform transmission, which could be compatible with the transliteration *huya* as well as *hwiya-*, but <hwa/i-ia-> ‘to run’ (H) pleads for the second option.

4.3. Illustration

It is appropriate to illustrate the principles of reading and transliterating the Anatolian hieroglyphic texts with a specific example (inscription MARAŞ 1, §2). The Luwian fragment provided below (to be read right to left) is followed by the linearized representation of normalized signs, narrow transliteration, and interpretative transliteration. The lack of correspondence between the original and normalized shapes of the signs <mu> and <ta> reflects their cursive writing in the passage under discussion. The grammatical analysis of this passage is given in 7.1.

Figure 1: Fragment of a Luwian hieroglyphic inscription



5. Phonology and morphophonemics

5.1. Inventory and phonotactics

The phonological inventory postulated here for the Luwian language contains three vowels *a*, *i*, and *u*, and the consonants, which are summarized below. Note that the conventions of Table 1 are those of the interpretative transliteration, not the phonetic transcription. This does not exclude the possible existence of additional phonemes (such as long vowels), which are not consistently reflected in any relevant script.

Table 1: Luwian consonantal system

mode of articulation		place of articulation				
		labial	coronal	palatal	velar	labiovelar
stops	fortis	<i>p-</i> , <i>-pp-</i>	<i>t-</i> , <i>-tt-</i>		<i>k-</i> : <i>-kk-</i>	<i>kw-</i> , <i>-kkw-</i>
	lenis	<i>-b-</i>	<i>-d-</i>		<i>-g-</i>	<i>-gw-</i>
fricatives	fortis		<i>s-</i> , <i>-ss-</i>		<i>h-</i> , <i>-hh-</i>	<i>hw-</i> , <i>-hhw-</i>
	lenis		<i>-s-</i>		<i>-h-</i>	<i>-hw-</i>
affricates	fortis		<i>z-</i> , <i>-zz-</i>			
	lenis					
nasals	fortis	<i>m-</i> , <i>-mm-</i>	<i>n-</i> , <i>-nn-</i>			
	lenis	<i>-m-</i>	<i>-n-</i>			
laterals	fortis		<i>l-</i> , <i>-ll-</i>			
	lenis		<i>-l-</i>			
rhotic	fortis		<i>-r-</i> : <i>-rr-</i>			
	lenis		<i>-r-</i>			
glides		<i>w</i>		<i>y</i>		

A salient peculiarity of the Luwian consonantal system is a fortis vs. lenis phonological opposition, which is reconstructed for all the consonants except the glides (e.g. *appa* ‘back’ vs. *aba-* ‘that’, *arra(ya)-* ‘long’ vs. *ar(a/i)-* ‘time’, etc). Positions other than intervocalic, i.e. next to other consonants, or word-boundaries, do not display a contrast between the fortis and lenis features. The stops are neutralized in favor of their fortis counterparts (the sign <à> is not used word-initially and in clusters in the hieroglyphic script). The consonants other than the stops and glides can also be assumed to undergo neutralization, but here its outcome is unclear. Neither the Anatolian adaptation of the cuneiform nor the hieroglyphic script has the capacity to mark the intensity of continuants and sonorants, except between vowels. Only indirect arguments can be invoked in some cases. Thus <iš-ra/i-> ‘hand’ (C) has the variant <iš-ša-ra/i->, which may be interpreted as an attempt to render the fortis character of preconsonantal *s*. But the interpretative transliteration **issr(i)-* would be unusual and confusing, and so the continuants and sonorants are transliterated in positions of neutralization as if they were lenis. One should realize that this is no more than a convention.

Laryngeal feature neutralization aside, the only phoneme that was proscribed word-initially is *r* (cf. section 2). This constraint apparently concerned only the inherited lexicon of the 2nd millennium BC, for the 1st millennium BC cf. e.g. Late Luwian *ruwan* ‘formerly’. The word-final phonemic inventory is considerably more restricted. The only consonants that occur before the word boundary are *s*, *n* (frequently) and *z*, *l*, *r* (more rarely). The orthography does not allow one to decide whether consonant clusters are allowed in word-initial position, but the only combination that is likely on etymological grounds is obstruent + sonorant (*CR-*). For example, the preverb <pa-ri-i (C)>, <pa+ra/i-i> (H) is likely to be cognate with Latin *prae*, but this does not resolve the question whether the Luwian form should be transliterated as *pri* or *pari*. If the form <pa-a-ri> (C), which occurs in an unclear context, represents a variant of the same preverb, this would tip up the scales in favor of epenthesis **pri > pari* in Luwian. Luwian, unlike Hittite, drops the inherited word-initial **s-* before stops, cf. e.g. Luw. *tummanti-* vs Hitt. *(i)stamass-* ‘to hear’.

The only reconstructable word-final cluster is *-nz*, e.g. in the Kizzuwatna Luwian accusative plural ending (cf. 6.2). The cuneiform spelling <lu-u-la-ḫi-in-za-as-ta> interpreted as *lulahinz=tta* pleads against the pronunciation **[lulaxintsa] of *lulahinz* ‘mountaneers (acc.pl)’ in Kizzuwatna Luwian (cf. Starke, 1990: 44). The maximal syllable in Luwian is thus possibly *CCVCC*, e.g. Late Luwian *is-tranz* ‘hands (dat.pl)’. It is not certain, however, whether syllable-initial clusters were stable or whether excrescence *istranz* > *istranz* was shortly followed by anaptyxis *istranz* > *istaranz*. It is likewise uncertain whether the final cluster *-nz* was preserved in the 1st millennium BC.

The phonetic realization or phonological type of the Luwian accent is not clear. One can, however make a clear distinction between fully accented words, separated by spacing (C) or word boundaries (H), and enclitics, which are attached in writing to the preceding forms. Although the marking of word boundaries in hieroglyphic texts is haphazard, the high frequency of clitics facilitates the conclusion that the consistent absence of word-dividers within clitic complexes is not accidental. The clitic boundary is marked by = in broad transliteration.

5.2 Alternations

5.2.1. Free/dialectal variation

The contraction **iya>i* and **uwa > u* is very common, cf. e.g. 3sg.prs <a-ri-it-ti> (C) vs. 3sg.imp <a-ri-ya-ad-du> (C) from *ari(ya)-* ‘to raise’ or 3sg.prt <tu-wa/i-ta> (H) vs. 3pl.imp <du-ú-un-du> (C) from *tu(wa)-* ‘to put’. The contracted variants become more frequent in the 1st millennium BC. There are instances of a synchronic alternation *ai ~ a*, e.g.. 3 pl. imp. <a-ru-na-in-du> and <a-a-ru-na-an-du> (C) from *arunai-* ‘?’, 3pl.imp <ú-i-da-a-in-du> vs. 3pl.prt <wi₅-ta-an-da> from *widai-* (C) ‘to strike’. The synchronic simplification rule *a+i → a* is also convenient for the synthesis of nominal paradigms (cf. section 6.2). At the same time, there are many instances of synchronic *-ai-* in Luwian, which normally goes back to the contraction of historical **-ayV-*.

It is likely that the combination “vowel+n” was sporadically realized as a nasal vowel before afficates. One indication of this phenomenon is the frequent omission of *n* in such a position in cuneiform orthography, e.g. <ḫu-u-up-pa-ra-za> (C) < **hupparanza* ‘belts (acc.pl)’, <ti-wa-an-na-al-li-zi> (C) < **tiwannallinzi* ‘? (nom.pl)’. The optional nasal vowel formation in Luwian is all the more likely, since the nasal vowels are directly attested in the closely related Lycian language. In addition, the nasal element before a stop could develop a labial co-articulation, which is reflected through the vowel <u> in both cuneiform and hieroglyphic orthographies, e.g. <na-ak-ku-uš-ša-a-u-un-ta> (C) < **nakkussanta* ‘they offered a scapegoat’, <wa/i-la-u-ta> (H) < **walanta* ‘they died’. The attestations of this optional development appear to be limited to the verbal endings of 3pl.pret.

The cuneiform texts show examples of *-h-* dropping before *w* and *u*, e.g. *siwal* and *sehuwal* ‘stiletto (vel sim.)’, *lahuni-* and *launai-* ‘to wash’. On “rhotacism”/flapping in Late Luwian, see section 9, on the likely reduction of initial *a-* see section 4.2.

5.2.2. Phonetically conditioned alternations

The combination of two coronal stops across a morphemic boundary develops epenthesis and is realized as [tst]: cf. 2pl.pres.med *az-tuwari* vs. 3pl.prs *ad-antu* from *ad-* ‘to eat’. The combination of *n* or *l* with the following *s* on a morphemic boundary develops *t*-epenthesis. This is manifested above all in the formation of nom.-acc.sg.n of nominal forms, which are endowed with the *-sa* extension: e.g. {tarud-sa} → *tarusa* ‘statue’, {udar-sa} → *udarsa* ‘word’, but {parnan-sa} → *parnanza* ‘house’, {attuwal-sa} → *attuwalza* ‘evil’. The coronal stops fall out in word-final position according to the rules of Luwian phonotactics (cf section 5.1), e.g. nom.-acc.sg *annarumahi* from *annarumahid-* ‘virility’.

There are cases of assimilation *-n > -m* before the clitic =*pa*: {man=*pa*} → *mam=pa* ‘but if’, {nanun=*pa*} → *nanum=pa* ‘but now’.

5.2.3. Morphologically conditioned alternations

Indo-European qualitative ablaut plays no role in Luwian morphophonemics because of the merger of inherited IE **e*, **a*, and **o* into *a*. As a possible example of quantitative ablaut one may mention 3sg.imp <a-a-aš-t[u]> (C) vs. 3pl.imp <a-ša-an-du> (C), both derived from *as-* ‘to be’. The first form shows the superplene spelling, the second one has no plene at all. The complicating factor, however, is the large number of forms with the regular plene spelling, such as <a-aš-tu>, which can be interpreted as marking either vowel length or a prothetic glottal stop (cf. section 4.2). The alternations of vowel quantity are not reflected in the interpretative transliteration adopted in the present paper.

As an example of the morphological alternation *i* ~ *ai* one may mention 3sg.prs *tubidi* vs. 3pl.prs *tubainti* from *tub(a)i-* ‘to strike’, 3sg.prs *sanidi* vs. 3pl.prt *sanainta* from *san(a)i-* ‘to remove(?)’. This alternation does not appear to continue directly the Indo-European ablaut.

On the phenomena of “*i*-mutation” and *-r* / *-n-* alternation in nominal declension, see section 6.2.

The most important consonantal alternation is *-tt-* ~ *-d-*, which was historically interpreted as lenition (Morpurgo-Davies, 1982[1983]). This alternation occurs in several verbal endings, the variants of which are in a complementary distribution depending on the type of verbal stem. For example, 3sg.prs *ari-tti* from *ari(ya)-* ‘to raise’ contrasts with 3sg.prs *tubi-di* from *tub(a)i-* ‘to strike’. In a number of cases the merger of stem types led to a situation where the distribution of lenited and non-lenited endings may be regarded as lexical.

The vowels *i* and *u* can drop before *a* at clitic boundaries: {*a=wa=mu=ada*} → *a=wa=m=ada* ‘PTCL=PTCL=me=they’ (H); {*a=wa=mi=an*} → *a=wa=m=an* ‘PTCL=PTCL=myself=him’ (H). This sandhi, however, is only applicable for first person clitics and not for their third person counterparts *=du* ‘him’ and *=di* ‘himself’.

6. Morphology and morphosyntax

6.1. General characteristics

The Luwian language belongs to the inflectional type. In comparison with most other ancient Indo-European languages it shows but a moderate degree of fusion between morphemes, with a relatively small number of accompanying alternations (see 5.2). Luwian is a suffixal language. Synchronic prefixation is absent, although traces of historical prefixes can be found.

The following parts of speech display formal distinctions in Luwian: nouns/substantives (inflected for number and case), adjectives (inflected for gender, number, and case), verbs (inflected for tense/mood, voice, number, and person), and uninflected lexemes. Pronouns and numerals fall into a number of separate inflectional classes. A peculiar feature of Luwian is the existence of possessive adjectives that can, in principle, be derived from every noun, although formal means of their derivation are not uniform.

The Luwian noun phrases feature agreement in gender, number, and case between nouns and their dependent adjectives or demonstrative and relative pronouns. The verbs agree with their subjects in person and number, but neuter plural subjects trigger singular agreement in verbs.

6.2. Noun and adjective

Luwian nouns display a binary opposition between two agreement classes – common and neuter genders. Nouns denoting animate beings, such as gods, humans, and animals, belong, in their majority, to the common (cf., however, *huidar* (n.) ‘animal’). The other nouns can belong to either common or neuter gender without obvious semantic motivation. The neuter gender is proscribed for subjects of transitive verbs. Nevertheless, the nouns that are otherwise neuter can function as subjects of transitive verbs if transferred to the common gender with the help of the

suffix *-anti-* (the so-called ergative construction). Therefore, although, Luwian lacks a separate ergative case, it can be said to show split ergativity.

There are two numbers, singular and plural, and six cases, nominative, accusative, genitive, dative-locative, ablative-instrumental, and vocative. The names of the cases indicate their basic functions in a rather straightforward fashion. Formal opposition between the common and neuter inflection is limited to the nominative and accusative cases. The genitive and ablative-instrumental forms do not display a contrast between the singular and plural endings. The neuter forms are syncretic for the nominative and accusative. Occasionally, common gender nouns show the neuter plural forms, which in such a case are interpreted as collectives.

The nominal inflectional endings are summarized in Table 2. Note that dative-locative and ablative-instrumental is abbreviated as dat. and abl. in the present paper.

Table 2: Inflectional endings of Luwian nouns and adjectives.

	singular		Plural	
	common	neuter	common	neuter
nominative	-s	-Ø(+sa/za),	-nzi	-Ø, -a
accusative	-n	-n(+za)	-nz, -nzi	
genitive	-as, -assi, -assa			
dative-locative	-Ø, -i, -ya		-anz(a)	
ablative-instrumental	-adi			
vocative	-Ø, -s	?	= nom.	?

The nom.sg.n extensions *-sa* and *-za*, possibly going back to the Proto-Anatolian third person possessive clitic (Jasanoff, 2010), are optional in the 2nd millennium texts (e.g. *parnan* and *parnanza* ‘house’), but become obligatory in the 1st millennium BC. The archaic acc.pl ending *-nz* is typical for the dialect of Kizzuwatna, while its innovative counterpart *-nzi* occurs in Empire Luwian and Late Luwian (cf. section 8). There is no clear distribution between the genitive endings *-as*, *-assi*, and *-assa* and it is, in fact, impossible to distinguish between the genitives in *-as* and *-assa* in hieroglyphic texts. For the latest discussion of various forms of Luwian genitives, see Melchert (2012). The origin and distribution of the rare genitives in *-is(sa)* remains unclear.

The nominal stems can be classified according to their final elements as *a*-stems, *i(ya)*-stems, *u*-stems, semi-vocalic stems, and consonantal stems. A feature of *a*-stems that they share with *i(ya)*-stems and semi-vocalic stems is the nom.-acc.sg.n in *-n(+za)*. The common feature of *u*-stems and consonantal stems is the basic zero ending of nom.-acc.sg.n (to which the extension *-sa/-za* may be further added).

The peculiarity of *a*-stems (e.g. *huha-* ‘grandfather’, *urazza-* ‘greatest’) is dat.sg in *a*, which can be described as reflecting the morphophonemic change $a+i \rightarrow a$ (cf. section 5.2.1). The dat.sg ending *-ya* is typical of *a*-stem proper nouns and may be analogical to dat.sg of the *i(ya)* stems (cf. below). The predictable peculiarity of *u*-stems is the epenthesis of *-w-* before endings beginning with the vowel *a* (e.g. nom.-acc.pl.n. *aruwa* from *aru-* ‘high’). In the nom.-acc.pl.c the Luwian *u*-stems are influenced by the semi-vocalic declension, cf. nom.pl.c <ku-wa-an-zu-in-zi> (C) from *kuwanzu-* ‘heavy’, <wa-a-šu-(i)-en-zi> (C) from *wasu-* ‘good’, while the Luwian *a*-stems attach their ending directly to the stem, e.g. nom.sg. <hu-ha-zi> (H) ‘grandfathers’.

The consonantal stems are predominantly attested in the neuter gender, e.g. *zart-* ‘heart’, *attuwal-* ‘evil (abstract noun)’, *alaman-* ‘name’. In the common gender, the historical consonantal stems normally pass to the semi-vocalic declension (see below); the only two that survive, at least in the 2nd millennium BC, is *Tarhunt-* ‘Storm-god’, nom.sg *Tarhunz*, and *Tiwad-* ‘Sun-god’, nom.sg *Tiwaz*. Even in the neuter gender, the historical consonantal stems may special undergo special changes. For example, nom.-acc.sg.n {tarud-sa} \rightarrow *tarusa* ‘statue’ and similar cases receive a historical explanation through the disappearance of word-final *-d* predating the agglutination of the *-sa* extension. A more complicated case is *hirud-* ‘oath, curse’

where one would expect nom.-acc.sg.n **hirud* > **hiru*. However, the secondary stem **hiruwan* was built by analogy with *a*-stems and later contracted into *hirun* (Melchert, 2004a).

The semi-vocalic stems represent the most frequent but also the least trivial type of Luwian nominal declension. Note that Starke (1990) refers to essentially the same class as “semi-thematic”. The illustrative forms in the table below belong to the nouns and adjectives *al(a/i)-* ‘high’, *massan(i)-* (c) ‘god’, *ar(i)-* (c) ‘time’, *immar(i)-* (c) ‘open country’, *tanim(a/i)-* ‘all, whole’, *parn(a)-* (n) ‘house’, as well as divine names *alawaim(i)-* and *annarumm(i)-*.

Table 3: Declension of Luwian semi-vocalic stems

	singular		plural	
	common	neuter	common	neuter
nominative	alis, massanis	tanimanza	taniminzi, massaninzi	ala, parna
accusative	alin, arin	parnan(-za)	alinza, arinzi	
genitive	immarassa, massanassi			
dative-locative	ali, parni, ari		tanimanza, parnanza, massanza	
ablative-instrumental	aladi, tanimadi, aradi			
vocative	alawaimi		annarumminzi	

It is easy to see that the forms belonging to semi-vocalic stems show the alternation of the stem-final vowel. The alternant *-i-* is reserved for nom.-acc.sg.-pl.c, the alternant *-a-* occurs in nom.-acc.sg.n, otherwise the declension follows the pattern of consonantal stems. Accordingly, the semi-vocalic stems can be subdivided into three subtypes. Masculine nouns (e.g. *massan(i)-* ‘god’) display forms with and without *-i-* extension, neuter nouns (e.g. *parn(a)-* ‘house’) display forms with and without *-a-* extension, the majority of adjectives (e.g. *tanim(a/i)-* ‘all, whole’) display all the three alternants. An exception is represented by the adjectival stems that move to the consonantal type in the neuter, e.g. nom.sg.c *attuwalis* vs. nom.sg.n *attuwal-za* ‘evil’ (or *attuwanz-za* in Empire and Late Luwian), nom.sg.c *zammantis* vs. nom.sg.n *zamman-za* ‘bewitched(?)’. The proposed notation of such adjectives is the same as for the masculine semi-vocalic nouns, i.e. *attuwal(i)-*, *zammant(i)-*.

This group of alternations is traditionally called “*i*-mutation” in Anatolian studies, but in practice we are dealing with the effective merger of *a*-stem, *i*-stems, and consonantal stems, which led to the complementary distribution of their endings across the paradigm. A collateral result of this process is the reduction in the number of *a*-stems, near-elimination of common gender consonantal stems (cf. above) and *i*-stems in the Luwian language. Most forms that can be formally analysed as *i*-stems belong in fact to the fragmentarily attested paradigms of *i(ya)*-stems. A common feature of the *-i(ya)-* stems, which are particularly common among the possessive adjectives, is the contraction *-iya-* > *-i-*. Cf. e.g. *tadiya-* ‘paternal’, nom.sg.c *tadis*, acc.sg.c *tadin* (alongside *tadiyan*), dat.sg *tadi* (alongside *tadiya*), nom.sg.c *tadinzi*, nom.sg.n *tadiya*, abl *tadiyadi*. The regularity of Late Luwian contracted forms in *-is*, *-in*, and *-nzi* contrasts with the frequent preservation of dat.sg *-iya*, which betrays the original affinity of *i(ya)*-stems and *a*-stems. In the instance of *ami(ya)-* ‘my’ one has to postulate the encroachment of *a*-stem forms upon the *i(ya)*-declension in nom.-acc.n (cf. section 6.4).

The possessive adjective is more likely to be used instead of the genitive if the head noun is in an oblique case (Yakubovich, 2008a). The possessive adjectives are most frequently formed with the suffixes *-ass(a/i)-* and *-i(ya)-*, less frequently with the suffixes *-izza-*, and *-wan(ni)-*, e.g. *tappass-ass(a/i)-* ‘heavenly’ from *tappas-* ‘heaven’, *malhass-ass(a/i)-* ‘participating in a ritual’ from *malhassa-* ‘ritual’, *tadi(ya)-* ‘paternal’ from *tad(i)-* ‘father’, *taurisizza-* ‘from the town of Taurisa’, *adanawan(ni)-* ‘from the town of Adana’. The possessive adjectives in *-ass(a/i)-* can express the number of the possessor in the dialect of Kizzuwatna (cf. section 9). A formal peculiarity of possessive adjectives *-ass(a/i)-* is the dative-locative singular in *-an* (e.g. *immarassan* ‘to one of the open country’). The possessive suffixes *-izza-* and *-wan(ni)-* are typical of proper nouns.

Examples of Luwian comparative and superlative adjectives are few, but the degree of comparison could apparently have both synthetic and analytical expression. The synthetic comparatives and superlatives were formed with the suffix *-zza-*, e.g. *urazza-* ‘greater, greatest’ from *ur(a/i)-* ‘great’. A likely example of the analytical construction is *sarli hantil(i)-* ‘foremost’ vs. *hantil(i)-* ‘first’ (Yakubovich 2013).

In addition, the following nominal and adjectival suffixes of secondary derivation can be regarded as productive:

-ahid- forms abstract nouns of the neuter gender, e.g. *hantahid-* ‘preeminence’ from *hanti* ‘before’, (Late Luwian) *hantawattahid-* ‘royal power’ from *hantawatt(i)-* ‘king’, (Kizzuwatna Luwian) *yunahid-* ‘mobility (vel sim.)’ from *yuna* ‘to go (inf.)’.

-all(a/i)- forms adjectives and nouns of appurtenance, e.g. *warpalla/i-* ‘virtuous’ from *warpa/i-* ‘virtue’, *targasnalla/i-* ‘muleteer’ from *targasniya-* ‘mule’.

-d- used for the adaptation of loanwords as neuter gender nouns, e.g. *abid-* ‘sacrificial pit’ (Hurrian *abi-*), *irimpid-*, *irippid-* ‘cedar’ (Hurrian *erippi-*, *irimpi-* etc.).

-aT(i)- forms secondary nouns from nominal stems, e.g. *hударlatt(i)-* ‘subject (vel sim.)’ from *hударl(i)-* ‘servant’, *lalatt(i)-* ‘language’ from *lal(i)-* ‘tongue’, *habad(i)-* ‘river valley’ vs. *hab(i)-* ‘river’.

The primary nominal derivation (i.e. the formation of nouns from verbal stems) is achieved in the 2nd millennium BC through a number of archaic suffixes, none of which can be shown to be highly productive. In particular one can mention neuter nouns, where the suffix *-r* in nom.-acc. alternates with *-n-* in the oblique cases, e.g. *tarmattar /tarmatn-* ‘nailing, fastening’ from *tarm(a/i)-* ‘to nail’, *hwidumar /*hwidumn-* ‘*life’ from **hwid-* ‘to live’. No *-r / -n-* heteroclitic stems appear to be attested in the Luwian texts of the 1st millennium BC.

The most detailed description of Luwian nominal derivation can be found in Starke 1990. This monograph provides a comprehensive treatment of the Luwian cuneiform corpus, but also resorts to frequent comparisons with the hieroglyphic data.

6.3. Numeral

In the majority of cases Luwian numerals are rendered through logograms both in cuneiform and hieroglyphic texts. The following numerals are attested in phonetic spelling: *duw(i)-* ‘two’, *tarr(i)-* ‘three’, *maw(i)-* ‘four’, and *nuw(i)-* ‘nine’ (the reconstruction of the stem type is hypothetical in all of the four of these). The numerals ‘two’, ‘three’, and ‘four’ formally behave like plural adjectives, while the numeral ‘one’ and the numerals above ‘four’ generally behave like singular adjectives (Bauer, 2011). For example *tarrinzi hantawattinzi* ‘three kings’ show the nom.pl. ending *-nzi* both on the numeral and head-noun, while 7 *tarudi* ‘to seven statues’ features the noun *tarud-* ‘statue’ in dat.sg. The ordinal number ‘first’ is *hantil(i)-*, while the adverb ‘first’ is attested in hieroglyphic transmission as <1-ti-na>. The distributive numerals are formed with the suffix *-su* (e.g. 3-*su* ‘thrice’, 4-*su* ‘four times’).

6.4. Pronoun

The Luwian pronouns are reasonably well attested. There are several differences between the 2nd millennium forms, attested mostly in cuneiform transmission, and 1st millennium forms, attested in hieroglyphic transmission. In Tables 4 and 6 the latter are italicized.

The personal pronouns have tonic and clitic forms for the first two persons, but only a clitic form of the third person (*aba-* ‘that’ fulfils the function of the respective tonic pronoun). The case system of tonic personal pronouns is not developed: only for the second person singular can one postulate a contrast between nominative and oblique forms. At the same time, we lack assured attestations of personal pronouns in ablative / instrumental function. 2sg. *tu-wa/i-ri+i* and 2pl. *u-za-ri+i* (H) can be interpreted as adverbial formations ‘at thy place’ and ‘at your place’ respectively (cf. *zadi* ‘here’). For the 1st millennium forms *anzanza* and *unzanza*, see Yakubovich (2010: 65-68).

Table 4: Luwian personal tonic pronouns

	1sg.	2sg.	1pl.	2pl.
nom.	amu	ti	anza(s) / <i>anzanza</i>	unza(s) / <i>unzanza</i>
obl.		tu		

The enclitic personal pronouns are attested more frequently than their tonic counterparts. They occur in a Wackernagel position, that is after the first tonic word in a clause, and occupy designated spots in a clitic chain (cf. section 7.1). The clitic pronouns of the first two persons cannot occur in the position of a syntactic subject. Third person subject pronouns are limited to intransitive clauses, being not overtly expressed in “ergative” position.

It is appropriate to consider the clitic personal pronouns together with the clitic reflexive pronoun =mi/=di/=anza/=manz(a), with which they share a slot in the clitic chain. Besides functioning as dative reflexives (‘to myself’ etc.), the reflexive clitics have a variety of additional functions, the most important of which is enhancing first and second person subjects in nominal clauses (*amu=mi Azzattiwadis* ‘I am Azatiwada’). A peculiarity of the Luwian personal and reflexive clitics is syncretism of 2/3sg and 2/3pl oblique forms.

The clitic pronouns in the table below reflect the system of the 1st millennium BC. In the 2nd millennium BC one encounters the archaic 3pl.acc. =as (vs. =ada in 3pl.nom), and one reconstructs =mmas as a predecessor of =mmanz(a) throughout the paradigm, although this form seems to be actually attested only for 3pl.refl.

Table 5: Luwian personal and reflexive clitic pronouns

	1sg	2sg	3sg.	1pl.	2pl.	3pl.
nom.	n.a.	n.a.	=as (c.) / =ada (n)	n.a.	n.a.	=ada
acc.	=mu	=du	=an (c.) / =ada (n)	=anz(a)	=mmanz(a)	=ada
dat.	=mu	=du	=du	=anz(a)	=mmanz(a)	=mmanz(a)
dat. refl.	=mi	=di	=di	=anza	=mmanza	=mmanza

There are two demonstrative pronouns: *za-* (proximal deixis) and *aba-* (distal deixis). They have a full case paradigm (except for the vocative) but feature a number of special endings, which they partly share with the interrogative and relative pronoun *kw(a/i)-* ‘who, what; which’. The latter forms the base of an indeterminate pronoun, formed by adding the clitic =ha to the base form (e.g. *kwis=ha* ‘someone, anyone’). For the recent discovery of the ablatives *zin* and *abin* see Goedegebuure (2007). The table below is based on the 2nd millennium forms, the special forms of the 1st millennium are marked in italics.

Table 6: Luwian demonstrative and relative pronouns

	singular		plural	
	common	neuter	common	neuter
nom.	zas, kwis	za,	zinsi / <i>zanzi</i> , <i>kuinzi</i>	zaya, kwaya
acc.	zan, kwini	kwi / <i>kwanza</i>	zanza / <i>zanzi</i> , <i>kwinza</i> / <i>kwinzi</i>	
gen.	<i>zassi</i>			
dat.	zatti, kwatti		<i>zattanza</i> / <i>zattiyanza</i> , <i>kwattanza</i>	
instr.	zin, kwadi			

Among the Luwian possessive pronouns, the best attested lexeme is *ami(ya)-* ‘my’, which features *a*-declension forms in the nom.-acc.n. It has the following paradigm: nom.sg.c *amis*, acc.sg.c *amin*, nom.-acc.sg.n *amanza* (!), dat.sg *ami*, instr *amiyadi*, nom.-acc.pl.c *aminzi*, nom.-acc.pl.n *ama* (!), dat.pl *amiyanza*. The pronouns *tuwi(ya)-* ‘thy’, *anzi(ya)-* ‘our’, and *unzi(ya)-* ‘your’ are likely to have a similar declension type, but their attestation is limited to isolated forms.

6.5. Verb

The Luwian verbal endings are used for the synthetic expression of a number of categories. The tense-mood complex includes three states: present, preterit, and imperative. The

agreement categories are person (first, second, third) and number (singular, plural). Finally, there are two voices, active and so-called middle or mediopassive, but the mediopassive forms are rare, and therefore a reference to the active voice is usually omitted in glossing. In several cases the mediopassive forms have the anti-causative meaning, e.g. *aya-* (act.) ‘to do’ vs. *aya-* (med.) ‘to become’, in other cases the nuances of their meaning cannot be securely established. Even for the anticausatives, the mediopassive endings are optional in the preterit, where they are frequently replaced with their unmarked active counterparts. The innovative medio-passive endings of the Luwian preterit were identified in Rieken (2004[2005]).

In addition, the Luwian verbal conjugation shows an opposition between two types of endings in 3sg.pres. This contrast has no obvious semantic correlates and can be best explained in historical terms (the related opposition between the *mi-* and *hi-* conjugations in Hittite extends itself to other members of the paradigm). In the instance of Luwian one traditionally talks about the *ti-* conjugation (3 sg.prs *-ti/-di*) and *i-* conjugation (3sg.prs *-i*), where the conjugation type represents a lexical property of Luwian verbs (cf. Morpurgo-Davies 1979). Another formal opposition that divides Luwian verbs into lexical classes concerns the phenomenon of lenition (cf. 5.2.3). Some of the *ti-* conjugation verbs (e.g. *izziy(a)-* ‘to do’) are consistently combined with lenited endings in 3sg, while others (e.g. *ariy(a)-* ‘to raise’) consistently appear in combination with their fortis allomorphs. By contrast, *i-* conjugation verbs always appear in combination with fortis endings 3sg.prt *-tta* and 3sg.imp *-ttu* (Yoshida, 1993[1994]: 30-31). In practice, this means that all the Luwian verbs can be divided into three conjugations, namely *di-* conjugation (*izzidi* ‘he makes’ / *izzida* ‘he made’), *t(t)i-* conjugation (*aritti* ‘he raises’ / *aritta* ‘he raised’), and *i-* conjugation (*piyai* ‘he gives’ / *piyatta* ‘he gave’).

Although 2sg.prs *-si* vs. *-Ti(s)*, 2sg.prt *-(s)sa* vs. *-Ta*, 3sg.imp *-Tu* vs. *-u*, 3sg.pres.med *-Tar(i)* vs. *-ar(i)*, and 3sg.pret.med *-Tasi* vs. *-asi* reflect a historical contrast that is akin to 3sg.prs *-ti* vs. 3sg.prs *-i*, the synchronic distribution among these rarer forms is not identical to that of *-Ti* vs. *-i*. One can surmise that 2pl forms follow the general rules of lenition, i.e. the lenite the endings in the *-di* conjugation, but not in the *-ti* or *-i* conjugations. Unfortunately, scarce attestations of 2pl endings are not conducive to corroborating this hypothesis. One reaches firmer ground in the instance of 1sg.prt, where cuneiform attestations allow one to show that only verbs of the *-di* conjugation lenite the ending *-hha* > *-ha*.

In the table below the capital *T* is a cover symbol for the fortis *t(t)* and its lenis alternant *d* in those cases where their distribution is not assured. As in Tables 4 and 6, the cursive forms reflect the exclusive attestations of the 1st millennium BC.

Table 7: Luwian verbal endings

active				Middle	
singular		plural		singular	plural
indicative present					
1	-wi		-unni	?	?
2	-si, -Ti(s)		-Tani,	?	-Tuwari
3	-di	-(t)ti	-i	-(a)nti	-Tar(i), -ar(i)
indicative preterit					
1	-ha	-(h)ha, -hhan		?	-(h)hasi
2	(s)sa, -Ta,		?	?	?
3	-da	-(t)ta		-(a)nta	-Tasi, -asi,
imperative					
1	-llu		?	?	?
2	-Ø		-Tan, -danu	?	?
3	-du	-(t)tu, -u		-(a)ntu	-aru

The limitations of the Luwian corpus preclude the possibility of illustrating the above endings with the paradigm of one verb or just a few. The following forms show a variety of

inflectional morphemes and allomorphs attached to various roots. For an additional discussion of forms attested in hieroglyphic transmission see Morpurgo-Davies (1980[1981]).

- 1sg.pres. *kars-ui* ‘I cut’, *lala-wi* ‘I take’
- 2sg.pres. *aya-si* ‘thou make’, *nana-tti* ‘thou lead’, *u-ttis* ‘thou drink’
- 3sg.pres. *ari-tti* ‘he raises’, *anni-di* ‘he does’, *piya-i* ‘he gives’
- 1pl.pres. *hizza-unni* ‘we deliver’
- 2pl.pres. *as-tani* ‘you are’, *urannuwa-ttani* ‘you make great’
- 3pl.pres. *hishiy-anti* ‘they bind’, *lala-nti* ‘they take’
- 3sg.pres.med. *ziy-ar*, *ziy-ari* ‘he lies’, *mamhwi-ttari* ‘?’, *papti-ttar* ‘?’
- 2pl.pres.med. *nis az-tuwari* ‘do not eat’, *nis ta-ttuwar* ‘do not stand’
- 2pl.pres.med. *wass-antari* ‘they wear’, *lahhi-ntari* ‘they campaign’
- 1sg.pret. *tabar-ha* ‘I ruled’, *uba-hha* ‘I founded’, *izzi-hha* ‘I made’
- 2sg.pret. *harwanni-tta* ‘you sent’, *pubala-tta* ‘you inscribed’
- 3sg.pret. *ari-tta* ‘he raised’, *a-da* ‘he made’
- 3sg.pret. *aya-nta* ‘they made’, *tummanti-nta* ‘they heard’
- 1sg.pret.med. *izzi-hhasi* ‘I made’
- 3sg.pret.med. *huhhassa-ttasi* ‘he ran’, *iziy-asi* ‘he became’
- 3pl.pret.med. *huhhassa-ntasi* ‘they ran’
- 1sg.imp. *kwayada-llu* ‘let me cause fear!’
- 2sg.imp. *uppa* ‘bring’, *mammanna* ‘look!’
- 3sg.imp. *mammanna-ttu* ‘let him look!’, *mana-du* ‘let him see!’
- 2pl.imp. *azzas-tan* ‘eat!’, *tummanta-danu* ‘hear’
- 3pl.imp. *as-antu* ‘let them be!’, *widai-ntu* ‘let them strike!’
- 3sg.imp.med. *izziy-aru* ‘let him become!’

The non-finite verbal forms include participle, infinitive, and two varieties of gerundive. The participle is formed with the suffix *-mm(a/i)-* (e.g. *kwayamm(a/i)-* ‘fearful’ from *kwaya-* ‘to fear’, *karsamm(a/i)-* ‘cut off’ from *kars-* ‘to cut off’). It can be both agent- and patient-oriented, but agent-oriented forms are never combined with an overt patient. Both the infinitive and gerund are indeclinable formations, although both undergo occasional substantivization. The infinitive is normally dependent on a finite predicate and is formed with the suffix *-una*, e.g. *i-una* ‘to go’, *lala-una* ‘to take’. The gerundives are limited to the 1st millennium texts and normally function as the main clause predicates. The more frequent patient-oriented gerundive is endowed with the suffix *-min(a)*, e.g. <DARE-*mi-na*> (H) ‘is to be given’ (Melchert, 2004b). The attestations of its agent-oriented counterpart with the *-ura/-wara* suffix are limited to a few forms, e.g. <*ha-tu-ra+a*> (H) ‘is to write’.

It is likely that Luwian had derivational means to express the category of verbal aspect, although this issue has not been sufficiently studied. The perfective aspect was semantically and morphologically unmarked. The imperfective aspect was most frequently used in the repetitive function, although its continuative and ingressive readings are also attested. The derived imperfective stem could be formed in a variety of ways:

a) suffix *-ssa-*, e.g. *kinussa-* ‘to burn (repeatedly)’ vs. *kinu(wa)-* ‘to burn’. In a number of cases the suffix *-ssa-* appears to have been lexicalized, e.g. *iya-ssa-* ‘to buy’ (no simplex *iya-* is attested).

b) suffix *-zza-*, e.g. *tazza-* ‘to stand, remain’ vs. *ta-* ‘to stand (up)’. In this case, too we are dealing with occasional lexicalizations, e.g. *assa-* ‘to say’ in the 2nd millennium BC was replaced with *assazza-* ‘to say’ in the 1st millennium.

c) partial stem reduplication, e.g. *tadarh-* ‘to crush (many times)’ (cf. example 5 below), *sasarla-* ‘to honor (repeatedly)’ vs. *sarla(i)-* ‘to honor, exalt’, *wawali-* ‘to be dying’ vs. *wala-* ‘to die’.

d) a combination of reduplication and suffixation, e.g. *pibassa-* ‘to give (repeatedly)’ vs. *piya-* ‘to give’, *hwihwassa-* > *huhassa-* ‘to run around’ vs. *hwiya-* ‘to run’.

Also well-attested is the causative derivation with the suffix *-nu(wa)-*, e.g. *hwinu(wa)-* ‘to make run’ vs. *hwiya-* ‘to run’, *tanu(wa)-* ‘to establish’ vs. *ta-* ‘to stand’. The same suffix can be used to derive factitives from adjectives, e.g. *urannu(wa)-* ‘to magnify’ vs. *ura-* ‘great’. The verbal suffix *-iya-* (frequently contracted into *-i-*) is used in denominative and deadjectival derivation in a variety of functions: e.g. *harwanni(ya)-* ‘to dispatch’ vs. *harwanna/i-* ‘path’, *wasiya-zza-* (alongside *wasa-zza-*) ‘to be dear’ vs. *wasu-* ‘dear’. The functions of other verbal stems are synchronically less clear and their discussion would be more appropriate within the context of Luwian historical grammar. For more details, see Melchert (2003: 204-206).

6.6. Other forms

The adverbs have a predictable range of functions, such as place adverbs, e.g. *kuwari* ‘where’, *zawi* ‘here’ (2nd millennium BC), *kwitta* ‘where’, *zadi* ‘here’ (1st millennium BC); time adverbs, e.g. *ruwan* ‘before’ (1st millennium BC), *nanun* ‘now’, *zila* ‘then, thereupon’; mode adverbs, e.g. *tarpa*, *tarpi(wa)* ‘aggressively’, *wala* ‘fatally’. Sometimes the form of a mode adverb coincides with the nom.-acc.sg.n of the cognate adjective, e.g. *wasu* ‘well’ vs. *wasu-* ‘good’, and probably *aru* ‘in high measure’ vs. *aru-* ‘high’.

A class worth separate mention is that of local adverbs, which can function as adverbs proper, preverbs or postpositions, although usually not in all the three functions for the same lexeme. For example, the adverb *parran* ‘forward’, when used with a dependent noun, acquires the meaning of a postposition ‘before, in front of’. The adverb *zanta* ‘down’ combined with a verb can acquire an idiomatic meaning, as in English, for example, in the phrasal verb *zanta tubi-* ‘to strike down’ vs. the simplex *tubi-* ‘to hit, strike’. The postposition *appan(i)* ‘behind, after’ is formally identical to the preverb marking a repeated action. Other widespread local adverbs are *ahha* ‘away’, *annan* ‘under’, *anni* ‘near, at, for’, *hanti* ‘before’, *pari* ‘fore-’, *sarri* ‘up, above, about’, *sarra* ‘on, up’, *tawiyān* ‘toward’. The translations given above are very approximate, both in view of the inherent categorial ambiguity of the Luwian local adverbs and because their detailed study has not yet been undertaken. Recent studies that brought about new identifications of adverbs are Goedegebuure (2010), containing the identifications of *zanta* and *anni*, and Yakubovich (2012), containing the identification of *ahha*. For rare examples of prepositions in Luwian see Melchert (2003: 203).

Luwian conjunctions with a well-defined meaning are *=ha* ‘and’ and *=ba* ‘but’, both of which can be used for clause coordination and appear in a sequence of Wackernagel clitics (cf. section 7.1). In addition, the first of them can also be used for phrase coordination. In this function it is added to the first accented word of the second coordinated element (*X Y=ha* ‘X and Y’). The most frequent subordinating conjunction is *man* ‘if, whether’. By contrast, the element *a=*, which appears clause-initially before the clitic complexes (unless it is spelled as “initial-*a*-final” in hieroglyphic transmission) has no obvious meaning. It is likewise impossible to establish the meaning of the clitic *=wa*, which is sometimes labeled as a quotative particle. In some cuneiform texts of the 2nd millennium BC it occasionally alternates with *=gwa* (or *gu=wa=?*) in the same position within a clitic chain. In the hieroglyphic texts of the 1st millennium BC the element *=wa* becomes virtually obligatory, and can therefore be regarded as a clause-demarcational particle.

Negation in Luwian is expressed by means of the preverbal particles *nawa* (2nd millennium BC) and *na* (1st millennium BC). The particles of prohibitive negation are *nis* and its 1st millennium innovative equivalent *ni* (Hawkins and Morpurgo-Davies, 2010). In combination with the clitic *=ba*, three of these four particles (*na=ba*, *ni=ba* and *nis=pa*) acquire the disjunctive meaning ‘or’. It is usually unnecessary to translate the “locative particle” *=(t)ta*, which appears at the end of the clitic chain and is assumed to be used for the

head marking of oblique arguments and adjuncts, representing an approximate equivalent of Hittite $=(\textit{k})\textit{kan}$. Another “locative particle” $=\textit{dar} / =\textit{tar}$ occurs only in the texts of the 2nd millennium BC and represents an approximate equivalent of Hittite $=(\textit{š})\textit{šan}$, indicating a superposition of one clause argument with respect to another one, or to the speaker.

7. Notes on syntax

7.1. Clause structure

Luwian is a left branching language with SOV word order and preposed dependent elements in noun phrases. For a detailed description of word order in Late Luwian noun phrases, see Bauer (2014). Deviations from SOV order in original texts are relatively infrequent. In the instance of the Phoenician and Luwian bilinguals unusual word order could be influenced by their Phoenician originals, while syntactic interference with Hurrian may be responsible for marked word order patterns in the Kizzuwatna Luwian corpus (as in example (3) below).

An important feature of the Luwian language is the presence of clitic complexes attached to the first independent word of the clause (including the conjunction $a=$). The order of clitics within the clitic chain is determined exclusively by their rank, reflected in Table 8, and does not depend on the clause syntactic structure. Examples of attested clitic chains are: $\textit{zanzi}=\textit{ha}=\textit{wa}=\textit{mi}$ ‘these=and=PTCL=myself’, $\textit{anni}=\textit{ba}=\textit{wa}=\textit{du}=\textit{tta}$ ‘with=but=PTCL=him=PTCL’ and $a=\textit{wa}=\textit{mi}=\textit{an}$ ‘PTCL=PTCL=myself=him’ (see further Plöchl, 2003: 97-8). The lack of a relative sequence for the nominative and accusative clitics is explained by the fact that they cannot co-occur in the same chain, since subject clitics are proscribed in Luwian transitive clauses (cf. section 6.4).

Table 8: Order of Luwian Wackernagel clitics

1	2	3	4	5	6
Conjunctions $=\textit{ha}, =\textit{ba}$	Particles $=\textit{wa}, =\textit{gwa}$	Dative pronominal clitics	(Dative) reflexive pronominal clitics	Nominative and accusative pronominal clitics	Locative particles $=(\textit{t})\textit{ta}, =\textit{dar}$

The numbered examples below are meant to illustrate typical Luwian constructions. They all follow uniform conventions. The line preceded by the number contains the reference to the passage treated and its transliterated edition. The cuneiform passages are cited according to their autographic publications in the series *Keilschrifturkunden aus Boghazköy* (=KUB). The hieroglyphic passages are cited according to the hand copies published in the third volume of Hawkins (2000). The names and paragraph division of the hieroglyphic inscriptions also correspond to the conventions of Hawkins (2000). The narrow transliteration of the passages treated is aligned with their interpretative transliteration and Leipzig-style grammatical annotation. The narrow and interpretative transliterations of the same passage may look very different because of the use of logograms.

Example (1) illustrates a Luwian intransitive clause in cuneiform transmission which contains a possessive adjective. Note that the word order of the right branching Sumerographic sequence ^dU AN ‘Storm-god of Heaven’ deviates from its presumed left-branching reading *tappasassis tarhunza*, which precludes the alignment of the narrow and interpretative transliterations in this instance. ^dU represents the Sumerogram corresponding to Luw. *tarhunza* ‘Storm-god’, while AN is the the Sumerogram for ‘Heaven’, which must correspond to the Luwian possessive adjective *tappas-assi-s* ‘of Heaven, heavenly’.

- (1) KUB 35.133 ii 27, Starke (1985: 280)

a-a-wa		ᵈU AN	
<i>a=wa</i>	<i>tappas-assi-s</i>		<i>tarhun-za</i>
PTCL=PTCL	heaven-POSS-VOC.SG.C		Tarhunt-VOC.SG.C
tu-u-iš	UD.KAM-iš		ta-at-ta
<i>tuwi-s</i>	<i>halli-s</i>		<i>ta-tta</i>
thy-NOM.SG.C	day-NOM.SG.C		to stand-3.SG.PRET

‘O heavenly Tarhunt, your day has arrived!’

Example (2) is a transitive clause, which has already been used for illustrating the structure of the Anatolian hieroglyphic script in 4.3. Its interesting feature is a double possessive construction, which can have two formally different syntactic interpretations: ‘gods of my father(s)’ or ‘my gods of father(s)’. An additional difficulty is the use of the possessive suffix *-i(ya)-* in the instance of *tadinzi*, which undergoes contraction into *-i-* and then merges with the ending. Thus the adjective *tadinzi* ‘of father(s), paternal (nom.pl.c)’ is formally indistinguishable from the base noun *tadinzi* ‘fathers (nom.pl)’.

- (2) MARAŞ 1 §2, Hawkins (2000: 263)

wa/i-mu	á-mi-zi-i	tá-ti-zi	DEUS-ni-zi-i	(LITUUS)á-za-ta
<i>wa=mu</i>	<i>ami-nzi</i>	<i>tad-i-nzi</i>	<i>massani-nzi</i>	<i>azza-anta</i>
PTCL-me.ACC	my-NOM.PL.C	father-POSS-NOM.PL.C	god-NOM.PL.C	love-3PL.PRET

‘My paternal gods loved me’.

Cuneiform example (3) features a right dislocation of the subject under the likely Hurrian influence, which results in an OVS word order. Furthermore, it contains the ergative construction (cf. 6.2). It is remarkable that the gender-switching suffix *-anti-* not only modifies the underlying neuter noun *tappas-* ‘heaven’ but is also redundantly attached to the coordinated common gender noun *tiyamm(i)-* ‘earth’. The agreement with the closest of the coordinated nouns, as opposed to the plural agreement with the whole group, represents a typical feature of the Luwian language. The reflexive clitic =*di* is used here for the raised possessor (lit. ‘Let Heaven and Earth rinse mouth for themselves’).

- (3) KUB 9.6+ ii 14-5, Starke (1985: 113)

a-a-aš-ša=ti	e-el-ha-a-du	tap-pa-ša-an-ti-iš	ti-ya-am-ma-an-ti-iš
<i>as-sa=di</i>	<i>elha-du</i>	<i>tappas-anti-s</i>	<i>tiyamm-anti-s</i>
mouth-ACC.SG.C=3SG.REFL	rinse.3SG.IMP	heaven-C-NOM.SG	earth-C-NOM.SG

‘Let Heaven and Earth rinse their mouth!’

7.2. Sentence structure

Luwian compound sentences are formed with the conjunctions =*ha* and =*ba*. Since the same lexemes can be used as discourse particles, it is not always easy to draw a line between clause coordination and relationship marking between two independent sentences within a discourse. The simplest to analyse are those cases where the constituents of a compound sentence display syntactic parallelism, as in (4). This passage from a hieroglyphic inscription of Katuwa, ruler of Carchemish can be literally translated as follows: ‘Neither did this Tarhunt of Carchemish rise in person behind my father, nor did he rise in person behind my grandfather’.

(4) KARKAMIŠ A2 §§ 3-4, (Hawkins 2000: 109)

a-wa/i	za-a-sa	kar-ka-mi-si-za-sa(URBS)	(DEUS)TONITRUS-sa
a=wa	za-s	karkamis-izza-s	tarhunza-s
PTCL=PTCL	this-NOM.SG.C	Carchemish-POSS-NOM.SG.C	Tarhunt-NOM.SG.C

NEG ₂ -ha mi-i-a	tá-ti-i	“COR”-tara/i-na POST-ni a-tá	BONUS-li-ia-ta
na=ha am-i	tad-i	atrin appani anta waliya-tta	
not=and my-DAT.SG	father-DAT.SG	personally behind	PREV help-3SG.PRET

NEG ₂ -ha-wa/i-sa	mi-i-a	AVUS-ha	POST-ni a-tá	BONUS-li-ia-ta
na=ha=wa=s	am-i	huha-Ø	appani anta waliya-tta	
not=and=PTCL=he.NOM.SG.C	my-DAT.SG	grandfather-DAT.SG	behind	PREV help-3SG.PRET

‘This Tarhunt of Carchemish did not help in person either my father or my grandfather’.

The intransitive character of the verb *waliya-* follows from the use of the subject clitic =*as*, which is proscribed in transitive clauses (cf. section 6.4). This, in turn, implies that *atrin* does not represent here the direct object, as was previously thought, and necessitates its re-interpretation as an adverb (Melchert, 2011: 80 ff.).

The means of syntactic subordination used for forming Luwian complex sentences includes the relative pronoun *kwa/i-*, pronominal adverbs (e.g. *kwitta(n)* ‘where’, *kwanza* ‘as, because’, *kuman* ‘when’ etc.), and subordinating conjunctions. There are no salient distinctions between the word order in the matrix clause and dependent clauses. The dependent clause can either precede or follow the matrix, but the first alternative occurs more frequently in the corpus. In particular, this is the obligatory word order in indeterminate relative clauses, whose equivalents are headed in English with ‘whoever / whatever’. The frequency of this group in the Luwian corpus has to do with their common occurrence in curse formulae. By contrast, the Luwian non-restrictive relative clauses are postposed to their syntactic heads (Melchert, 2003: 208).

A typical example of a Luwian curse formula is (5). Here the relative pronoun *kwis* lacks an explicit referent, and therefore can be translated as ‘whoever’. Another interesting feature of the clause under discussion is the possessive pronoun *malhass-ass-anz-an* ‘of the rituals’, where the suffix *-anz-* marks the plurality of the possessor. Such a formation represents a peculiarity of the Luwian dialect of Kizzuwatna (cf. section 9). Note also the reduplicated verbal form *tadarh-antu*, where the imperfective aspect probably has the distributive function and indicates that the gods will punish all the perpetrators one after another.

(5) KBo 9.6+ iii 25-7, Starke (1985: 115)

ku-iš-tar	ma-al-ha-aš-ša-aš-ša-an-za-an	EN-ya
<i>kwi-s=tar</i>	<i>malhass-ass-anz-an</i>	<i>niya</i>
who-NOM.SG.C=PTCL	ritual-POSS-PL(POSS)-DAT.SG	lord-DAT.SG

a-ad-du-wa-la	a-an-ni-ti	a-an	DINGIR.MEŠ-in-zi
<i>attuwal-a</i>	<i>anni-di</i>	<i>a=an</i>	<i>massani-nzi</i>
evil-ACC.PL.N	do-3SG.PRS	PTCL=he.ACC.SG.C	god-NOM.PL.C

a-ah-ha	na-a-ta-at-ta	ta-ta-ar-ha-an-du
<i>ahha</i>	<i>nadatt-a</i>	<i>tadarh-antu</i>
away	reed-ACC.PL.N	break(IMPF)-3PL.IMP

‘Whoever causes evil to the patron of the rituals, let the gods break him away (like) reeds’.

8. Lexicon

The Luwian basic lexicon appears to be inherited. It is remarkable that the long period of coexistence between Luwian and Hittite within the fold of the Kingdom of Hattusa left only a few Hittite borrowings in the Luwian administrative lexicon, e.g. *hassusara-* ‘queen’, *sappantall(i)-* ‘a type of priest’ (cf. Giusfredi, 2010). This contrasts with a much larger stratum of borrowings from Luwian into Hittite in the same period.

The largest identified group of foreign lexemes in Luwian comes from the Hurrian language. It clusters in Luwian texts from Kizzuwatna and includes both inherited Hurrian words and loanwords that came from Sumerian and Akkadian via Hurrian. Many of the adapted Hurrian nouns are endowed with the secondary suffix *-d-* in Luwian. In addition to the examples adduced in section 6.2, one can mention here Luw. *nathid-* ‘bed’ < Hurr. *nathi* ‘id.’, Luw. *kishid-* ‘chair’ < Hurr. *kešhi* ‘id.’ (cf. Akk. *kussû*, Sum. ^{GIŠ}GU.ZA ‘id.’), and Luw. *hazizid-* ‘model of ear’ < Hurr. *haz(z)iz(z)i-* ‘ear, wisdom’ < Akk. *hasīsu* ‘ear, wisdom’. There is also a limited number of direct Luwian loanwords from Semitic, e.g. *halal(i)-* ‘ritually pure’, probably borrowed from West Semitic, or *hazz(iy)an(i)-* ‘mayor’, taken from Akkadian.

The delineation of a substrate lexicon in Luwian is a debated issue. In particular, claims were made about the common origin of Luw. *tabar-* ‘to rule’ and Gk. λαβύρινθος, Mycenaean *da-pu₂-ri-to-* ‘labryrith’, on the assumption that the Greek word originally referred to the royal palace of Cretan kings in Knossos (Yakubovich, 2002). Also noteworthy is the comparison between Luw. *tuwars(a)-* ‘vineyard’ and Gk. θύρσος ‘thyrsus, i.e. wand wreathed in ivy associated with Dionysus and his followers’. In both cases the scenario of the Greek borrowing into Luwian appears to be precluded for historical reasons, while the irregularity of phonetic correspondences militates against the hypothesis of common Indo-European heritage or Luwian loanwords in Greek. In order to prove the hypothesis of a common Mediterranean substrate in Luwian and Greek, one has to collect additional items displaying similar correspondences.

9. Dialects

For a detailed discussion of Luwian dialect geography, see Yakubovich (2010: 18-26). A number of distinct Luwian dialects can be postulated for the 2nd millennium BC:

a) Kizzuwatna Luwian: a dialect spoken in the southeast of Anatolia, partly on the territory of classical Cilicia. It is mainly attested through Luwian incantations embedded into the Hittite rituals from Kizzuwatna.

b) Empire Luwian: a dialect of Hattusa and the surrounding area, reflected in the Luwian foreign words in the Hittite cuneiform texts originating in Hattusa, as well as the hieroglyphic inscriptions of the last kings of Hattusa.

c) Istanuwa Luwian: a dialect of Istanuwa, a settlement that was possibly located in the Sakarya river valley. It is reflected in the initial lines of the songs of Istanuwa embedded into Hittite rituals.

The Luwian texts of the 1st millennium BC are less heterogeneous. Their dialect probably goes back to Empire Luwian and can be appropriately called Late Luwian.

Among the assured innovations of Empire Luwian, also preserved in Late Luwian, one can count the extension of the nom.pl.c ending *-nzi* to the acc.pl.c (cf. section 6.2) and the gradual replacement of *-a(ya)-* ‘to do’ with the synonymous word *izziya-*. A probable innovation of (some varieties of) Empire Luwian, which is also retained in Late Luwian, is the ubiquitous character of the demarcational clitic *=wa* (cf. section 6.6). Among the innovations of Kizzuwatna Luwian one can mention the generalization of the imperfective marker *-ssa-* at the expense of *-zza-* (cf. section 6.5) and near-generalization of the possessive adjectives at the expense of the genitive case nouns.

One can surmise that structural interference with Hurrian left traces in the grammar of Kizzuwatna Luwian. A peculiarity of this Luwian dialect is marking the plurality of the

possessor in the possessive adjective (cf. section 7.2). The placement of the plural marker after the possessive suffix (e.g. *massan-ass-anz-adi* “god-POSS-PL(POSS)-INSTR” i.e. ‘by those of gods’) is typologically anomalous, since the slot for marking number is normally placed before the slot for marking case in a suffix chain. It finds, however, a historical explanation if one considers the comparable Hurrian chain, where the possessive marker is placed after the plural marker of the possessor, but does not appear in surface representation for purely phonological reasons (e.g. {en-až-we-ae} → /enažae/ “god-PL-(GEN)-INSTR” i.e. ‘by those of gods’). It is likely that the surface sequence of Hurrian morphemes PL-INSTR was calqued in Kizzuwatna Luwian on top of the pre-existing possessive adjective (Yakubovich 2010: 45-53).

A characteristic feature of Late Luwian is the progressive neutralization of *-d-*, *-l-*, *-r-*, and sometimes *-n-* in intervocalic position. This phenomenon was traditionally treated as rhotacism (Morpurgo-Davies, 1982-83), since the result of neutralization is rendered through the signs <ra/i> and <ru> in hieroglyphic orthography, e.g. <wa/i+ra/i-> (H) <wala- ‘to die’, <á-ra+a> (H) <ada ‘he did’, <ma-ru-ha> (H) <manuha ‘in any way’. The phonetic realization of the neutralized segment as a flap [ɾ] is perhaps more likely from the typological perspective (Rieken and Yakubovich, 2010). Another typical feature of Late Luwian is the epenthesis *-sr-* > *str-*, e.g. *isr(i)-* > *istr(i)-* ‘hand’. A peculiarity of texts after ca. 850 BC is the aphaeresis of initial *a=* (phonetically, possibly, [ə], cf. 4.2) before the clitic chains of two or more elements, e.g. *wa=n* < *a=wa=n*. On the whole, the Late Luwian period bears witness to a rapid phonetic evolution of the Luwian language, which is only partially reflected in archaizing written texts.

10. Concluding remarks. The interpretation of the Luwian language is an ongoing process. New Luwian texts in hieroglyphic transmission are being found almost on a yearly basis. This adds to our knowledge of Luwian lexicon and hieroglyphic writing system. But the trend of the twenty-first century is a chain of discoveries made on the basis of the long-known texts with the application of corpus linguistics methods (e.g. Rieken 2008, Melchert 2011, Yakubovich 2013). One hopes that the enhanced possibilities data mining will contribute to further elucidating the meanings of Luwian texts and the intricacies of Luwian grammar. But for the time being the Luwian language offers to us a reminder that linguistic decipherment is not an antiquated pastime of the literati of the days of yore but a real problem that can be progressively unfolded by modern scholars.

Quite aside from being a successful example of modern code-breaking, Luwian is also notable for its role in the emerging field of paleo-sociolinguistics. Unlike the more commonly studied ancient languages, it did not appear in writing as the main written language of a new polity, but was first attested on the margins of the Hittite written culture before the collapse of the Empire of Hattusa precipitated the ongoing shift from Hittite to Luwian. The distribution of Hittite and Luwian texts in various historical periods, as well as the contact-induced phenomena associated with the Luwian language, can be used as input data for non-trivial historical conclusions. This is, of course, the reverse of progression from the known historical facts to their unraveled linguistic correlates, which is common in the sociolinguistics of modern languages. We can, however, use our typological knowledge calibrated on modern languages in order to elucidate the mechanisms of contact between Luwian and its neighbours through their results, and then to reconstruct the ecology of language evolution through these mechanisms. Thus the study of Luwian is conducive to the inverse application of sociolinguistic methods, which has a potential to render sociolinguistics more attractive for the historians.

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