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Edited by

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Hittite

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1. HISTORICAL AND CULTURAL CONTEXTS

Hittite is a member of the Anatolian branch of the Indo-European family, and the earliest attested Indo-European language. Anatolian is generally regarded as the first branch to have separated from the other Indo-European languages. Aside from Hittite it includes Luvian (Cuneiform and Hieroglyphic) and Palaic, all from the second millennium BC, and Hieroglyphic Luvian, Lycian, Lydian, and the scantily attested Carian, Pisidian, and Sidetic in the first millennium BC.

The speakers of Hittite were in place in Central Anatolia by the nineteenth–eighteenth century BC, since a few words of the language (notably *išhiul-* “contract”) appear in Old Assyrian documents from the merchant colonies like *Kārum Kaneš*, Hittite *Nešaš*, modern Kültepe. As an Old Hittite origin legend shows (Otten 1973), the Hittites regarded this city as their original home; it is the base of their designation of their own language, ^{URU}*nišili*, *nešumnili* “in Hittite,” literally “in the language of (the inhabitants of) Nešaš.” With the beginning of our documentation of the language proper we distinguish Old Hittite (seventeenth or early sixteenth century–c. 1500), Middle Hittite (c. 1500–c. 1375), and Neo-Hittite (c. 1375–c. 1200). Adherents of the “short chronology” would lower these dates somewhat, particularly at the upper end.

Speakers of what was to be the Anatolian branch of the Indo-European family apparently migrated into Asia Minor, probably from the Balkans across the Bosphorus, in the course of the third millennium BC. It is not unlikely, though not susceptible of proof, that these immigrating future Anatolians were already dialectally differentiated into (at least) Pre-Hittites, Pre-Palaic, and Pre-Luvians. On the Central Anatolian plateau Pre-Hittites came in contact with the autochthonous Anatolian Hattic speakers, from whose self-designation (KUR ^{URU}*Hatti* “land of Hatti,” cf. *hattili* “in Hattic”) the Hittites took their name, as well as many aspects of their culture and religion.

The earliest Hittite history is one of warring petty kingdoms, described in our earliest Hittite text, that of Anittas (Neu 1974), eighteenth/seventeenth century BC. These city-states were subsequently united to form the Old Kingdom under Hattusilis I and his adopted son Mursilis I (seventeenth/sixteenth century), a period of rapid Hittite expansion into Syria, Hurrian Mittani, and Western Anatolia, “making the sea the boundaries.” Internal dissension and pressure from the hostile nomadic Kaska people to the north brought about retraction of Hittite hegemony during the succeeding Middle Kingdom, c. 1500–1375. The New Kingdom or Empire was founded by Suppiluliumas I, c. 1375 (he spoke late Middle Hittite; his son Mursilis III spoke classical Neo-Hittite). This was the period of greatest expansion of the Hittites and their role on the international scene. The Hittite Empire

came to an abrupt end shortly after 1200, during the reign of Suppiluliumas II, with the destruction of Hattusas by an unknown people, in all likelihood part of the general upheaval in the Eastern Mediterranean area caused by the "Peoples of the Sea," the "*Šikalayū* who live in ships," the people from the land of *Šikila*, as Suppiluliumas II referred to them in a letter to a prefect of Ugarit (Dietrich and Loretz 1978).

The Hittite language is preserved for us on clay tablets written in a cuneiform syllabary, the archives of the palace or central authority in the capital city of Hattusas (Boğazköy, now Boğazkale), and a few other urban centers like Maşat, Ortaköy, and Kuşaklı, the tablets themselves written over the period from the seventeenth/sixteenth to the end of the thirteenth century. One of the important functions of the Hittite "state" was to assure the regular performance of ritual, and the correct preservation of the appropriate words and actions of ritual procedure. The great majority of our texts deal with religion and the administration of cult, festivals, and both public and private rituals, as well as magic, oracles, and divination. Our texts also include the Hittite political archives, treaties, political and some personal correspondence, land grants, as well as historical texts and annals (by regnal year) of individual rulers (see Beckman 1996). We find also "instructions" for religious and secular administrations and military personnel, all – like the treaties with foreign powers – regarded as engagements of personal fealty and labeled simply *išhiul-* "contract." We have a highly original law "code" composed and written down originally in the Old Kingdom, together with later copies (Hoffner 1997), but only a few documents dealing with the administration of public or private justice. Literary texts are primarily mythological (Hoffner 1990) in character, and both native compositions and translations from Hattic, Hurrian, and Sumero-Akkadian sources. The archives also include foreign-language cultic material, sometimes with Hittite translation, in Hattic, Hurrian, Sumerian and Akkadian, Cuneiform Luvian, and Palaic, attesting the significant cultural influence of all of these. For a catalogue of the Hittite texts then known see Laroche 1971 and supplement.

Hittite was clearly the language of the ruling classes, of public and private administration, and of the army, as our texts show. The changes over the four or five hundred years of our documentation of Hittite are entirely consistent with the development of a spoken language. At the same time, the extensive Luvian elements in Hittite personal names, the practice in the later empire of setting up large public inscriptions in Hieroglyphic script and in the Luvian language, and the frequency of Luvian loanwords in Hittite texts, often marked as foreign by the prefixation of the *Glossenkeil* (𐎶), would point to widespread use of Luvian and bilingualism.

Dialectal variation is virtually nonexistent in Hittite, not surprisingly since our texts are probably all produced in the same tradition of professional scribes. One or two texts like KUB 48.69 point to genuine dialect variation, but by and large they are remarkably homogeneous, as is to be expected in a literary language.

2. WRITING SYSTEMS

Our preserved Hittite texts were written by professional scribes on clay tablets, impressed with a stylus and then baked (plus one bronze tablet with signs hammered in). The writing system is the Mesopotamian cuneiform syllabary of the second millennium, borrowed probably in Northern Syria from a Peripheral Akkadian (see Ch. 8 §1.1) scribal school source, in the seventeenth century at the beginning of the Old Kingdom period. The signs in use in Boğazköy most closely resemble the Old Babylonian variants (Labat 1976).

The Old Assyrian variety of the merchant colonies in central Anatolia at an earlier period left no trace on Hittite literacy.

In addition to the cuneiform written by professional scribes on clay tablets, the Hittites also made use of another syllabary, the hieroglyphic. This syllabary, which made extensive use of logograms as well, was used for monumental carved rock inscriptions in the Luvian language in the empire (and continued in Southeastern Anatolia and Syria to c. 750 BC), and from the time of the Old Kingdom on, for names and titles on seals. The latter were doubtless logographic and not “in” any language, but read in Hittite context as Hittite, like numerals in modern scripts. The same may have been true for the monumental public inscriptions in the Empire, and for the wooden tablets inscribed with hieroglyphs the existence of which is evidenced in text references. For discussion of the hieroglyphic script see Chapter 19.

The cuneiform syllabary notes syllables of the structure V (the vowels *a, e, i, u*), CV (i.e., consonant + vowel), VC, and some CVC. The sets of CV and VC signs are incomplete for inherent *e*, and CVC signs distinguish only the vowels *a, i, u*, and these not always. For the cuneiform script, see Appendix 2.

The writing system also makes use of a number of logograms from Sumerian (*Sumerograms*) and Akkadian (*Akkadograms*, written syllabically). The Hittitological convention is to transliterate syllables, writing Hittite in lower case, Sumerograms in roman capitals, and Akkadograms in italic capitals: *at-ta-aš* “father,” *e-eš-zi* “is,” LÚ “man,” LUGAL “king,” BI-IB-RU “rhyton,” QA-TAM-MA “as follows.” *Narrow transcription* separates each sign of a word by a hyphen, as in *at-ta-aš, e-eš-zi*; *broad transcription* (with greater phonetic accuracy) erases the hyphens and deletes one of the identical vowels of CV-VC sign sequence, as in *attaš*, and if two vowels remain, marks a macron, as in *ēšzi*.

Akkadograms and Sumerograms sometimes alternate with syllabic Hittite spellings in duplicate texts, which shows that they functioned as rebus writing, purely graphic variants of the Hittite words actually pronounced, just as the Sumerograms were read and pronounced as Akkadian in the source script of the Hittite writing system. The same conclusion is indicated by the common practice of following a Sumerogram with a phonetic complement which may serve to indicate grammatical endings. Thus, for example, the Sumerogram DINGIR “god” may be followed by the Akkadian phonetic complement LIM, conventionally transliterated superscript DINGIR^{LIM}, to write the (Old) Akkadian genitive singular ILIM. So read in Akkadian, the whole in Hittite may receive a further phonetic complement written syllabically, DINGIR^{LIM}-na-aš, to write the genitive singular of the word for “god” in Hittite, *šiunaš*.

A Sumerian scribal practice, continued as graphic convention in Akkadian and then in Hittite, is the use of *determiners* prefixed to words and names to classify them by semantic category. These are conventionally transliterated superscript, and were doubtless not pronounced in Hittite (or Akkadian). They indicate categories like male person (^m or ^l), female person (^f), god/goddess (^D abbreviated for ^{DINGIR}), city (^{URU}), stone (^{NA₄}), wooden object (^{GIŠ}), and the like.

A further, specifically Hittite graphic convention is to mark grammatical cases of nouns or names written as logograms by preceding them with an Akkadogram. Thus, ŠA (Akk. “the one of”) marks genitive; I-NA (Akk. “in”) indicates dative-locative, and “allative” with inanimates; A-NA (Akk. “to”) indicates dative with animates; IŠ-TU (Akk. “from, by”) marks both ablative and instrumental. Proper names preceded by determiner or Akkadographic case-marker are frequently, though not always, unmarked for case and thus function by graphic convention as quasi-logograms.

We may illustrate these spelling conventions with Figure 18.1 (Bo 91/1314), a seal of the founder of the empire (from Otten 1995). The outer and inner ring legends are cuneiform:



Figure 18.1 The seal of Suppiluliumas I
 NA₄ KISIB ^mŠu-up-pi-lu-li-u-ma LUGAL GAL UR.SAG
 DUMU ^mDu-ut-ta-li-ya LUGAL GAL UR.SAG
 Seal (of) Suppiluliumas, great king, hero,
 Son (of) Duthaliyas, great king, hero.

The inner field in hieroglyphs shows the royal emblem of the winged sun, corresponding to the title ^DUTUŠI for ^DŠAMŠI “my sun,” over the signs right and left MAGNUS REX “great king” (hieroglyphs are conventionally transcribed in Latin) flanking the three signs of the name: PURUS.FONS-*ma/i* for Suppi-luli-(u)ma (PURUS = Hittite *šuppi-* “pure, sacred,” FONS = Hittite *luli-* “pond, spring,” with phonetic complement). Under the name as space-filler is the (cuneiform) Sumerogram TI “life,” upside down.

In the four to five hundred years of its documented history the Hittite cuneiform writing system and scribal practices did not undergo any massive or dramatic changes. But small changes in the shapes of certain signs and the general appearance of the tablets and their *ductus* over this period have enabled scholars to date the tablets fairly precisely to the early or late Old, Middle, and Neo-Hittite periods respectively. The original impetus was given by the discovery in the early 1950s of a tablet fragment (the Zakraši-text, Laroche CTH 15) in a stratigraphically certain Old Kingdom archeological context; its characteristic *ductus* was found to recur on many of the tablets already unearthed from the palace archives. Those tablets exhibiting the old *ductus* were then seen to preserve certain characteristic features of language and orthography which could be identified as archaic. The periodization of our corpus of texts and the attendant conclusions about the history of the Hittite language have been the subject of intense investigation by philologists and linguists in the latter part of the twentieth century, and the results are by now generally accepted. We can distinguish paleographically Old, Middle, and New Script (OS, MS, NS); original compositions from these periods are in Old, Middle, and Neo-Hittite (OH, MH, NH). Documents were often recopied later than their composition, such that we can classify the tablets, following the

convention of *The Chicago Hittite Dictionary*, as early or late OH/OS, OH/MS, OH/NS, MH/MS, MH/NS, NH/NS.

At the time of the German archeological excavations at Boğazköy under Hugo Winckler beginning in 1906, which unearthed the initial collection of tablets, the Akkadian cuneiform writing system had already been deciphered. The Hittite tablets could therefore be "read," i.e., transliterated, but not understood. The actual decipherment of the language and its identification as Indo-European was the work of a young Czech Assyriologist, Bedřich (Frédéric) Hrozný, during World War I. His first-hand account of his decipherment can be found in the article "Hittite language" of *The Encyclopaedia Britannica* (14th edition).

3. PHONOLOGY

3.1 Graphic considerations

Any discussion of the phonological system of Hittite must begin with consideration of the distinctions made by the cuneiform writing system. The phonological structure of Hittite was clearly different from that of the Semitic language from which the cuneiform was first borrowed. For the details of what follows see Melchert 1994.

Using the symbols V = vowel, C = consonant, we may state that the cuneiform syllabary had signs of the structure V, CV, VC, and CVC (see the above discussion of the Hittite writing systems). The vowels were *a, e, i, u*, and the consonants of the CV series *p, t, k, q, b, d, g, ħ, š, s, z* (an affricate *tš*, Semitic *š* and *z*), *m, n, r, l, w, y*. CV signs with inherent vowel distinguish *a, i, u*, but not all possibilities with inherent *e* are present: thus *ta, da, ti, di, tu, du*, and *te* but not **de*, and only *ya, wa* (and secondarily acrophonic *wi*, after GÉSTIN "wine," Hitt. *wiyana-*). The VC series made fewer distinctions, merging voice (*at = ad*) and often ignoring inherent *e* (*iš* vs. *eš*, but only *im*, for example), and the CVC series was less systematic (e.g., *šap* but no **šak*). For writing, Hittite *ka* and the rarer *qa* (*ka₄*) are treated as equivalent, and with few exceptions *š* (*a*, etc.) is used exclusively for writing the single Hittite sibilant, to the exclusion of *s* (*a*, etc.).

The Hittites did not utilize the Semitic orthographic opposition of voiced : voiceless (*da : ta, ga : ka*, etc.), but rather, most clearly in intervocalic position, opposed simple versus geminate (double) consonants, thus *a-ta* (or *a-da*) versus *at-ta* (or *ad-da*), *a-ħa* versus *aħ-ħa*, etc., probably pointing to a phonological contrast of lax : tense (lenis : fortis) respectively. In the case of *š* and the liquids and nasals simple versus double consonants likewise contrasted: *a-na* versus *an-na*, *a-ša* versus *aš-ša*. In initial position the same word could in principle be written with either the voiced or the voiceless sign, the choice governed by scribal convention, for example, third singular *da-a-i* "puts" but third plural *ti-ya-an-zi* "they put." Previously regarded as arbitrary, this fact has now been explained as indicating a merger of inherited voiced : voiceless (lax : tense) stops in initial position, with generalization of the voiceless or tense stop. Word-finally, the voiced or lax stops were generalized, as is clear from spellings with simple stop before enclitic: *pait = as* [paydas] "went he," *natid = a* [nadida] "but with an arrow."

3.2 Consonants

The Hittite inventory of phonemic consonantal segments distinguishes four places of articulation (labial, apico-dental, velar, and labiovelar, the last-named usually written with the *ku* sign before a vowel or consonant, but occasionally *uk* before a consonant), five

manners of articulation (stop, affricate, fricative, nasal, liquid, and glide), and two glottal modes (tense/voiceless and lax/voiced). Here and below, the symbols <> enclose spelling (orthographic) forms.

(1) Hittite consonantal phonemes

p	t	k	k ^w
b	d	g	g ^w
ʦ	<z>		
s		H <-ḫḫ->	
		h <-ḫ->	
m	n		
	l	r	
w		y	

3.3 Vowels

The inventory of vowels has four members and a correlation of length. Long vowels are noted (inconsistently) by so-called *scriptio plena* or plene-writing, *Ca-a* versus *Ca*, *Ca-a-aC* versus *Ca-aC*, i.e., [Cā] versus [Ca], [CāC] versus [CaC]:

(2) Hittite vowel phonemes

i	u	ī	ū
e	a	ē	ā

Diphthongal combination like that of *ā* and the glides *w* and *y*, noted *(a-)a-i*, *(a-)a-u*, are also permitted.

3.4 Phonological variation

Morphophonemic variants are not numerous. A *w* adjacent to *u* is replaced by *m*. This involves the sequence *uwV*, in part generated from *wV* after a heavy syllable by the inherited feature known as Sievers' Law, in part from *u+wV* across morpheme boundary, as well as the mirror image *Vw (+)u*. Compare first plural *tar-weni* "we say" but *šarr-umeni* "we break," *tepnū-meni* "we belittle," or nominative plural *idālaw-eš* "bad" but accusative plural *idālam-uš*.

The original inherited sequence **VnsV* became in Hittite *VššV*, as in **densu-* > *daššu-* "massive." This treatment was generalized across morpheme boundary in *accusative singular + enclitic possessive*, for example, *annan+šan* > *annaššan* "his/her mother."

The enclitic conjunction *-a* "and" (cf. Luvian *-ḫa* "and") causes gemination of a preceding consonant – *ūk* "I," *ūkka* (*ūgga*) "and I" – and thus can be distinguished from enclitic *-a* "but, however": *ūka* (*ūga*) "I, however."

Hittite, like other Anatolian languages, shows the effects of correlation of vowel length (see §3.6) and the inherited Indo-European accent (see §3.7). In particular, unaccented long vowels were shortened. Short vowels were lengthened (originally, at least, allophonically) in accented open syllables, and the mid and low vowels *e* and *a* in accented closed syllables as well: **pēdom* (cf. Greek πέδον) > *pe-e-da-an* [pēdan] "place," **h₁ésti* (cf. Greek ἔστι) > *e-eš-zi* [éšzi] "is." To what degree these are synchronic rules in Hittite is controversial; see Melchert 1994 for discussion.

3.5 Consonant clusters

The cuneiform syllabary does not permit the unambiguous notation of clusters of two or more consonants in word-initial or word-final position, nor clusters of more than two consonants word-medially. Spelling variation indicates that at least some consonant clusters were real, and involved an "empty" vowel, e.g., *ma-li-it-tu-* and *mi-li-it-tu-* "sweet" for [mlitu-]. Inherited initial *sT- clusters (where T = stop) are usually noted *iš-TV-*; whether the prothetic vowel is real or not is much debated. A number of examples point to the existence of real anaptyctic vowels breaking up clusters, like *akkiš* "died," *lakkiš* "knocked over" < *aks, *laks with voicing assimilation, from etymological *og-s(-), *log^h-s(-). Their interpretation remains controversial.

3.6 Vowel length

Hittite inherited the Common Anatolian and Indo-European opposition of long and short vowels. The subsequent lengthening of accented short vowels in open and in some cases closed syllables, and the shortening of unaccented long vowels (see §3.4), affected the distribution of long and short vowels but not the opposition per se. The correlation of stress and vowel length is very uncommon in Indo-European languages of this antiquity (but compare the similar phenomenon in Middle English), and the lengthening of accented vowels in closed as well as open syllables is typologically rare cross-linguistically.

3.7 Accent

Hittite likewise inherited from Common Anatolian the Indo-European *accent*, traditionally described in terms of pitch but clearly including a stress component as well. The secondary effects of the Hittite accent or its absence, lengthening and shortening of vowels respectively (see §3.4), are those typical of a stress accent cross-linguistically.

Hittite normally preserved the place of the Indo-European accent, including mobile accent in some paradigms: compare 3rd sg. *ēši*, 3rd pl. *ašanzi* "is, are," ppl. *ašānt-*, probably from earlier **ēs-ti*, (*a*)*s-ēnti*, (*a*)*s-ōnt-*; or *tēkan* "earth" [tēgan], loc. sg. *taknī* [tagní]. In some cases, the position of the accent has shifted: nom.-acc. pl. *widār* "waters" [widār], PIE **wédōr*, gen. sg. *kūnaš* "dog" [kūnas], PIE *kúnós* (cf. Greek κυνός but Vedic *śúnas*). The question awaits a systematic solution.

3.8 Diachronic developments

3.8.1 Stops

The Proto-Indo-European stop system is usually reconstructed as follows (Cowgill and Mayrhofer 1986):

(3)	p	t	ḱ	k	k ^w
	b	d	ǵ	g	g ^w
	b ^h	d ^h	ǵ ^h	g ^h	g ^{wh}

The plain voiced and voiced aspirate series merged in Proto-Anatolian, yielding

(4)	p	t	ḱ	k	k ^w
	b	d	ǵ	g	g ^w

The phonological contrast of voiceless : voiced was probably revalued to tense : lax, with the tense member longer in duration than the lax. For the need to recognize three dorsal points of articulation – palatal, plain velar, labiovelar – see Melchert 1994 with earlier literature. Common Anatolian further affricated **t* before **y* to *[tʃ'], originally allophonically. In the dialect(s) ancestral to Luvian and Lycian, Proto-Anatolian **k̄* apparently merged with this *[tʃ'] (<z>) and gave it phonemic status (see Ch. 19, §3.1). In the dialect ancestral to Hittite, **k̄* and **ḡ* merged completely with **k* and **g*, while the affrication of **t* to *[tʃ] before **i* and further developments led to its phonemic status as <z> = [tʃ]. As a result, both dialects of late Proto-Anatolian showed the same inventory,

- (5) tense (long): p t z k k^w
 lax (short): b d g g^w

but with differing distribution. The distribution is further altered by the “lenition” rules in Proto-Anatolian, by which tense (long, i.e., inherited voiceless) stops become the corresponding lax (short, i.e., inherited voiced) stop after accented long vowel or diphthong and between unaccented vowels. For these rules see Eichner 1973:79ff. and 100, fn. 86 and (more clearly) Morpurgo Davies 1982–1983, especially for Luvian and Lycian, as well as Melchert 1994:60 *et passim*. The effects of this rule are most palpable in the endings originally beginning with dental in the Luvian languages, where, for example, depending on accent and quantity the third singular is active -(t)ti or -di, middle -(t)ta- or -da-. In Hittite the effects of the rule have been largely leveled out (Melchert 1994:61), save for a handful of isolated instances, and it is unclear how the effects of the rule were eliminated in this language.

Typologically, the Anatolian reduction of the Indo-European stop system to a tense : lax opposition, and that only in medial position, with neutralization to [+ tense] in initial position, [– tense] finally, is unique in the Indo-European family. It seems to be an areal feature in second-millennium Anatolia. The neutralization to [+ tense] in initial position is controversial but plausible for Hittite and the other second-millennium cuneiform languages; it is certain for the alphabetically written languages of the first millennium, Lycian and Lydian.

The above consonant treatments as well as the prosodic developments discussed earlier (see §3.4) began as synchronic developments, and to a certain extent may still be so analyzed. They represent challenging problems for linguistic typology.

3.8.2 Laryngeals

Hittite and the Anatolian family are noted for preserving two of the three Indo-European “laryngeal” consonants in initial position, the “a-coloring” *h*₂ and the “o-coloring” *h*₃: *ḫarki*- “white,” PIE **h*₂*arǵi*- < *h*₂*erǵ*-i- (cf. Latin *arg-entum* “silver”); *palḫi*- “broad,” PIE **p**ḫ*₂-i-; *šalli*- “large,” PIE **solh*₂-i-; *ḫāppar* “transaction,” PIE **h*₃*op*- < **h*₃*ep*- (cf. Latin *ops* “wealth”); *ḫāran*- “eagle,” PIE **h*₃*or*-n- < **h*₃*er*-n- (cf. Greek ὄρνις, English *erne*); *ḫarra*- “crush,” PIE **h*₂*arh*₃-o- < **h*₂*erh*₃-o- (cf. Greek ἄρο-τρον “plough”).

3.8.3 Sonorants

The difference in preforms between “broad” (**p**ḫ*₂-i-) and “large” (**solh*₂-i-) or “crush” (**h*₂*arh*₃-o-) shows that Proto-Anatolian still preserved the Indo-European syllabic sonorants **ɾ*, **ɻ*, **ŋ*, and their replacement by *ar*, *al*, *un*, *an*, occurred not long before the historical period. The special reflex *un* of word-final **ŋ* is controversial, but plausible.

4. MORPHOLOGY

Hittite as the earliest attested member of the Indo-European family of languages shows the familiar Indo-European pattern of morphological type known as *fusional*: a single inflexional morpheme regularly expresses a combination of grammatical categories, for example, *-s* marks nominative case, singular number, animate gender. The language shows a fairly rich inflexion of nominal, pronominal, and verbal categories.

4.1 Word formation

Words in Hittite are either inflected or uninflected. The *structure* of the Hittite inflected word is R(oot) + S(uffix or suffixes) + E(nding). The *root* gives the basic lexical semantic content, and the *suffix* or suffixes add derivational and grammatical meaning, as well as specifying the part of speech. Root + Suffix(es) together are termed the *stem*, and constitute a lexical or dictionary entry, an inflected word in the language. Thus, the noun *kartimmiyatt-* “anger” is built by the nominalizing action noun suffix *-att-* on the verb-stem *kartimmiya-*, with denominative verbal suffix *-iya-*, itself formed from a probable nominal stem **kartim(m)a-* with suffix *-(i)ma-*. The double *m* is probably just due to the usual spelling with the sign *tim* (*kar-tim-mi-*), Akkadian also *tī*, *dī₁₁*, without final *m*. The stem **kartima-* in turn is built (via a probable denominative verbal stem **kart-ai/ya-*, cf. *šallakartāi-* “behave arrogantly toward”) on the noun stem *kart-* = *kard-* of the body part “heart,” PIE **k₁rd-*.

Uninflected words are either frozen inflectible (R+S+E) stems, for example, the adverb *karū* “formerly” (with suffix and zero ending), or they are particles (on which see §5, Syntax). Though the evidence is only indirect, Hittite probably inherited from Indo-European the property that the numerals 1 to 4 were inflected adjectives while 5 to 10 were uninflected “particles.”

4.2 Nominal morphology

The Hittite nominal system includes the substantive, the adjective, and the lower numbers. Its *inflexional categories* are gender, number, and case.

4.2.1 Gender

Hittite has two genders, animate (frequently termed common) and inanimate (frequently termed neuter). Comparative evidence, notably Lycian, shows that Proto-Anatolian had the traditional Indo-European three-gender system of masculine (Lycian nom. *-e*, acc. *-ē* < **-os*, **-om*), feminine (Lycian nom. *-a*, acc. *ā* < **-ā*, **-ām* < **-ah₂*, and underlying **-ah₂m* by Stang’s Law), and neuter (see Ch. 21, §4.1). Compare also the Luvian abstract suffix *-ah₂-id-* from **-ah₂-*, with the same suffix as the Greek abstract type *τομή* “cutting.” Hittite as well as the other cuneiform Anatolian languages of the second millennium (see §1) has innovated by eliminating the feminine gender by merger, as a consequence of certain phonological developments. Thus, Indo-European feminine **-ah₂* (underlying **-eh₂*) lost its final laryngeal by rule, and the undercharacterized nominative **-a*, like the **-a* resulting from unstressed nominative **-ō* of the *n*-stems, was further marked by nominative *-s*, and the resulting *-aš* rendered identical to *-aš* from masculine thematic **-os*. Thus, Hittite

nominative *ḫāššaš* "hearth" (cf. Latin *āra*, fem.) like *ḫāraš* "eagle" (cf. Old High German *aro* < **h₃órō*).

4.2.2 Number

Hittite has two numbers, singular and plural. Some scholars have seen a trace of the Indo-European dual in such forms as *šākuwa* "eyes" (and Luvian *tawa* "eyes," *iššara* "hands," *ĞIR^{MEŠ}-ta* = *pāta* "feet"), comparing either Vedic dual *pādā* or Mycenaean Greek (*tiri*)*pode*, but the Anatolian ending is indistinguishable from the neuter plural. The latter is frequently used to form a collective plural opposed to an individual (count) plural of animate nouns: *alpāš* "cloud," individual accusative plural *alpuš*, collective *alpa^{HI.A}*.

4.2.3 Case

The Old Hittite noun shows nine cases. These are nominative, vocative, accusative, genitive, dative-locative, directive (also termed allative), ablative, instrumental, and ergative. The function of most of these cases is the one that is familiar in an older Indo-European language, largely self-explanatory. The dative-locative marks both location and the indirect object, and may represent a syncretism of two earlier distinct cases. Directive (allative) and ablative mark motion to or from. Hittite and the other Anatolian languages show a *split-ergative* system, in which neuter nouns functioning as agents, subjects of transitive verbs, are marked by a special ergative case ending (see Garrett 1990, 1996). The development of the system of split ergativity is an important common innovation of the Anatolian branch of the Indo-European family. It is closely connected with another important morpho-syntactic innovation of Common Anatolian, the development of enclitic subject pronouns with "unaccusative" intransitive verbs (Garrett, *ibid.*). See further the sections on voice, on the pronominal system, and on diachronic syntax.

The distribution of the Old Hittite cases between the two numbers, with their usual formal exponents, is as follows (commas separate variants):

Table 18.1 Old Hittite noun inflection

	Singular		Plural	
	Animate	Inanimate	Animate	Inanimate
Nominative	-aš, -š, -Ø	-an, -Ø	-eš	-a
Vocative	-i, -Ø	-an, -Ø	-eš	-a
Accusative	-an	-an, -Ø	-uš	-a
Genitive		-aš		-an
Dative-locative		-i, -Ø		-aš
Directive		-a		-aš
Ablative		-az		-az
Instrumental		-it		-it
Ergative		-anz(a)		-anteš

By Neo-Hittite this system had undergone a number of changes. The separate vocative is disused, and the directive is lost by merger with the dative-locative; the genitive plural

merges with the dative-locative, and ablative and instrumental become noncontrastive, as do nominative and accusative animate plurals. The result is as follows:

Table 18.2 Neo-Hittite noun inflection

	Singular		Plural	
	Animate	Inanimate	Animate	Inanimate
Nominative	-aš, -š	-an, -Ø	-eš, -uš	-a
Accusative	-an	-an, -Ø	-eš, -uš	-a
Genitive	-aš		-aš	
Dative-locative	-i		-aš	
Abl.-instr.	-az, -it		-az, -it	
Ergative	-anz(a)		-anteš	

4.2.4 Adjectives

Hittite adjectives show agreement in gender and number with nouns. The endings are the same as for the nouns. Adjectives are not inflected for degrees of comparison; comparative and superlative are expressed by syntactic means alone, positive plus dative-locative or ablative, and positive plus genitive plural (dative-locative plural?) respectively: *iškiši šalli* “big to the (other’s) back” = “bigger than the (other’s) back,” *šallayaš=kan* DINGIR^{MEŠ} -aš *kuiš šallis* “who of the great gods (is the) great(est).” This syntactic pattern is found marginally in other ancient Indo-European languages as well, like Vedic *yé devânām yajñīyā yajñīyānam* “who of the worshipworthy gods is (the most) worshipworthy,” or Homeric Greek *δία γυναικῶν* “(the most) divine of women.”

4.2.5 Nominal stem-classes

The stem-classes or declensions of the Hittite nominal are as follows; the case endings themselves have been given above. We distinguish first *athematic* and *thematic* formations, which differ only in the nominative singular: athematic animate -š (combining with stem-final dental to yield -z, spelled -za; *ašānt-* “being, real, true,” nom. sg. *ašānza*), Ø (OH *keššar* “hand”); inanimate -Ø (*milit* “honey”). Compare thematic animate -aš (*ḫartaggaš* “bear”), inanimate -an (*yugan* “yoke”). Athematic stems are *consonant stems* (see below); it is convenient, on the basis of the nominative singular, to term *vocalic stems* both the thematic stems (nom. -a-š, *ḫartagg-a-š* “bear”; -a-n, *pēd-a-n* “place”) and *i-* and *u-* stems (nom. -i-š, -u-š). The latter show the ending -Ø for the inanimate nominative-accusative singular (*ēšri* “form,” *gēnu* “knee”). Diphthongal stems in -ai-, -au-, -e(i)- are also found, again with the inanimate nominative-accusative singular -Ø. The thematic stem is invariant; *i-* and *u-* stems may show ablaut of the predesinential element: -a[y]/-i-, -aw/-u-, e(i)/-i-. The -u- and -i- before *a* appear as -uw-, -iy-. Intervocalic *y* in -a[y]- is subject to deletion, with coalescence of like vowels, but is sometimes analogically restored. Ablaut is characteristic of adjectival stems (*āššu-/āššaw-* “good” vs. *āššu-/āššu-* “good(s)”) but many substantives show it as well. We may illustrate typical vocalic stems (stem-vowel + case ending) of animate nouns and adjectives; it will be sufficient to give nominative, accusative, and genitive since the remaining case endings are added to the stem as it appears in the genitive:

(6)	Thematic stem	i-stem	i-stem adjective	u-stem
Nom.	-aš	-iš	-iš	-uš
Acc.	-an	-in	-in	-un
Gen.	-aš	-iyaš	-a[y]aš	-uwaš
	Diphthongal i-stem	Diphthongal u-stem	u-stem adjective	
Nom.	-aiš	-auš	-uš	
Acc.	-ain	-aun	-un	
Gen.	-iyaš	-uwaš	-awaš	

Note also the inanimate nom.-acc. *utnē* "land" (underlyingly *-ēi*), gen. *utniyaš*.

Consonantal stems of both genders are found ending in obstruents (anim. *kašt-* "hunger," nom. sg. *kašza*; inan. *šēppitt-* a cereal, "wheat"?, nom. sg. *šēppit*; inan. *nēpiš-* "heaven") and sonorants (anim. *ḫašter-* "star," nom. sg. *ḫašterza*; inan. *lāman-* "name"). Many show paradigmatic ablaut, often with accent shift: nom.-acc. *tēkan* "earth," dat.-loc. and directive (allative) *taknī*, *taknā*, suffixless *dagān*; nom. *keššar* "hand," acc. *kiššeran*, gen. *kišraš*, dat.-loc. *kiš(ša)rī*, instr. (OH) *kiššarta*, *kiššarat* ([kés(s)ard] or [kis(s)árd]). Very common in Hittite and Anatolian, though residual elsewhere in Indo-European, are *r/n*-stem inanimates with nominative-accusative singular and plural in *-r* and remaining cases in *-n-*: *ḫaršar* "head," gen. *ḫaršanaš*, pl. nom.-acc. *ḫaršār*. Compare Old Avestan *aiiārə* "day," stem *aiian-*, nom.-acc. pl. *aiiārə*.

4.3 Pronouns

The Hittite pronominal system includes the personal pronouns, the demonstratives, and the interrogative-relative-indefinite pronouns. These differ in inflection from the nominal system in a number of ways, as they do in other old Indo-European languages. The *personal pronouns* distinguish stressed (tonic) and enclitic forms. Hittite is a "PRO-drop" language, incorporating the subject into finite verb forms, and the stressed pronouns of the first and second persons both subject and other, oblique arguments are used only for emphasis or contrast. The normal expression of pronominal objects is by enclitics. The usual Old Hittite forms are as follows; note that direct and indirect object (accusative, dative-locative) in the personal pronoun proper (first and second persons) are not distinguished, and the instrumental is not found:

Table 18.3 First- and second-person pronouns.

	Singular			
	First person		Second person	
	Tonic	Enclitic	Tonic	Enclitic
Nom.	ūk		zīk	
Obl.	ammuk	=mu	tuk	=ta (=du=za)
Gen.	ammēl		tuēl	
Abl.	ammēdaz		tuēdaz	
	Plural			
	First person		Second person	
	Tonic	Enclitic	Tonic	Enclitic
Nom.	wēš		šumēš	
Obl.	anzāš	=naš	šumāš	=šmaš
Gen.	anzēl		šumenzan	
Abl.	anzēdaz		šumēdaz	

For the third person, only enclitic forms occur, in three cases: nominative, accusative, dative-locative. The third-person nominative (subject) pronouns are found, as noted above, only with the "unaccusative" subset of intransitive verbs. The Old Hittite forms are:

(7)	<i>Singular</i>		<i>Plural</i>	
	<i>Animate</i>	<i>Inanimate</i>	<i>Animate</i>	<i>Inanimate</i>
<i>Nom.</i>	-aš	-at	-e (NH -at)	-e (NH -at)
<i>Acc.</i>	-an	-at	-uš (NH -aš)	-e (NH -at)
<i>Dat.-loc.</i>	-ši		-šmaš	

If more than one third-person object enclitic is present, accusative precedes dative-locative; third person usually precedes other persons, but first and second plural dative-locative precedes third singular accusative (Friedrich 1960, §288).

Old Hittite marks possession by a set of enclitic pronouns of all three persons singular and plural, suffixed directly to the possessed noun, and agreeing with it in gender. They show the stem-vowels *-i/-e-* for the nominative animate and inanimate before the pronominal endings *-š* and *-t*, otherwise the thematic vowel *-a-*:

(8)	<i>First</i>		<i>Second</i>		<i>Third</i>	
	<i>Singular</i>					
<i>Nom.</i>	-miš	-met	-tiš	-tet	-šiš	-šet
<i>Acc.</i>	-man		-tan		šan	
<i>Gen.</i>	-maš		-taš		-šaš	
<i>Dat.-loc.</i>	-mi		etc.		etc.	
<i>Dir.</i>	-ma					
<i>Abl.-instr.</i>	-mit					
<i>Plural</i>						
	<i>Nom.</i>	-meš	-met			
	<i>Acc.</i>	-muš				
	<i>Gen.</i>	-man				

A possessed noun may appear anywhere in the sentence, but if it comes first, any other enclitics present follow the possessive suffix. Old Hittite also commonly employs the pleonastic possessive construction NOUN/PRONOUN_{gen} NOUN + poss. suff., "of X its Y" = "the Y of X."

Hittite has two demonstrative pronouns of "here" and "there" deixis, *kāš* (inan. *kī*) "this" and *apāš* (inan. *apāt*) "that," which outside the nominative singular inflect alike: acc. *kūn* (*apūn*, etc.), gen *kēl*, dat.-loc. *kēdani*, abl. *kēz*, instr. *kēt*. The stems are respectively **kó-* and **ob^hó-*; while the former has numerous cognates elsewhere in Indo-European (like the Germanic family of English *he*, *him*, *her*, dialectal *hit*), the latter is apparently found only in the Anatolian branch (Luv. *apā-* Lyc. *ebe-* "this").

The interrogative and relative "WH" pronoun is *kuiš*, inan. *kuit*, gen. *kuēl*, dat.-loc. *kuēdani*, abl. *kuēz*. The indefinite pronoun "someone" is *kuiški*, inan. *kuitki*, gen. *kuēlka*, with suffixed particle. Another suffixed particle, geminating *-a* "and," appears in *kuišša* "each," inan. *kuitta*; compare Latin *quisque* "each," with suffixed particle *-que* "and."

4.4 Verbal morphology

The inflectional categories of the Hittite finite verb are person, number, voice, tense, aspect, and mood.

4.4.1 Person

The persons are the familiar Indo-European first [+ personal, + subjective], second [+ personal, – subjective], third [– personal]: the third person is the zero-person.

4.4.2 Number

As in the noun, only two *numbers* are recognized: singular and plural. The Hittite (and Common Anatolian) first-person plural endings, however, with their characteristic *-w* (*-weni*, *-wen*) resemble Indo-European first-person dual endings, like Vedic *-vas*, *-va*, Lithuanian *-va*, rather than the first-person plural endings in *-m*- like Vedic *-mas(i)*, *-ma*, Greek *-μεν*, Lithuanian *-me*. Anatolian may thus have originally had a dual in the verb, which was generalized for the first-person plural, on the basis of the discourse-prominent first dual = “you (sg.) and I.”

4.4.3 Voice

Indo-European languages characteristically show a semantic opposition between active and middle; the latter, the marked member, indicates the subject as “internal to” the action. Similar semantics are exhibited by some reflexive verbs in many modern Romance, Germanic, and Slavic languages. Hittite distinguishes active and middle endings in the verb, with the latter also marking the syntactic category of passive as well as subject-internality, reciprocity, and impersonal-hood, as in active *akkiškizzi* “(s)he is dying” versus middle *akkiškittari* “people are dying.” Most verbs in Hittite are inflected as either active or middle only.

The expression of reflexivity and its relation to voice in Hittite is complex. The language has a particle *-za/-az* [-ts], Common Anatolian **-ti* of unknown origin, commonly termed “reflexive,” though it has other functions as well. With some transitive active verbs *-za* can express benefit of the subject: *nu-za dāi* “takes for himself.” For some others it appears to mark a real reflexive object: *nu-za apez arri* “he washes (*arri* active transitive) himself (*-za*) with this.” But some verbs in the language also show an intransitive “middle reflexive” (Garrett 1996) with middle endings, enclitic subject pronoun, and the reflexive particle *-za*: *n=aš=za ārškitta* “he (=aš) is washing (imperfective middle third singular) himself (=za); ŠA KASKAL-NI=za A-az ārrahhut “wash (imperative middle second singular) yourself (=za) with water of the road!”

4.4.4 Ergativity

As noted earlier, the semantic category of *voice* in the Hittite verb is complicated by its interaction with the syntactic and semantic category of *transitivity*. Neuter nouns functioning as agents, subjects of transitive verbs, must go into the ergative case. The counterpart of this is that the class of third-person enclitic subject pronouns – a class which has no counterpart in any other older Indo-European language – occur only with intransitive verbs, but not with all of these. Specifically, subject clitics occur only with one of the two types of intransitive verb recognized in current syntactic theory: “unaccusative” verbs, with subjects that are less “agentive” and are notionally equivalent to the object of their corresponding transitive counterparts. The other type of intransitive verb is the “unergative,” which has subjects that are more “agentive,” and are notionally identical to the subject of their corresponding transitive counterparts. The repartition is lexically conditioned: in Hittite *šarra-* “break,” “burn,” “hide,” “die,” “go” are unaccusative and take subject clitics, while *tuwarni-* “break,”

"look," "open," "speak," "clean" are unergative and do not. For the contrast between the two intransitive types in the selection of auxiliary, "be" and "have" respectively, in the formation of the periphrastic perfect see further below. For all these questions see Garrett 1990 and 1996, with earlier literature.

4.4.5 Tense-aspect

The Hittite tense-aspect system is relatively simple by comparison with that of Greek or Indo-Iranian. The fundamental tense opposition, expressed by the endings (primary : secondary), is *past* (preterite), the marked member : *non-past* (present, also functioning as future, prospective, and historical present in past narrative), the unmarked member. The stem is the same: past *kuen-ta* "he killed," non-past *kuen-zi* present "he kills," future "he will kill." For the prospective, compare *kuenzi=ma-an LUGAL-uš huišnuzi=ya=an LUGAL-uš* "The king can kill him [or] the king can let him live." For the narrative present in past time compare: "The Queen thereupon gave birth (pret. *hāšta*) to 30 daughters and she raised (pret. *šallanušket*) them herself. (Meanwhile) the sons were going back (pres. *appa yanzi*) to Nesa and driving (pres. *nanniyanzi*) a donkey. When they arrived (pret. *arer*) in Tamarmara, they said (pres. *taršikanzi*) . . ."

The fundamental aspectual opposition in Hittite is *imperfective*, the marked member, versus the *nonimperfective* base form, root or stem. The primary exponent of the imperfective, usually termed "iterative," is the suffix *-ške/a-*; sporadic instances of suffixes *-anna/i-* and *-išš(a)-* in similar function are found sometimes marking a particular mode of action or *Aktionsart*. Virtually all Hittite verbs except *eš-* "be" form an imperfective. The imperfective is inflected for tense like the base verb. The tense/aspect opposition can be illustrated by the third singular of the derived (causative) verb *parkunu-* "cleanse, purify":

- | | | |
|-----|---|--|
| (9) | pres. <i>parkunuzzi</i> "purifies" | pret. <i>parkunut</i> "purified" |
| | impftv. pres. <i>parkunuškizzi</i> "is purifying" | pret. <i>parkunuškit</i> "was purifying" |

Hittite further shows a periphrastic verbal formation usually termed "perfect," with the past participle and the verbs "have, hold" *har(k)-* and "be" *eš-*. Transitive and unergative intransitive verbs select "have," and unaccusative intransitives select "be" in the *perfect active*; with "have," the participle is invariant nominative-accusative neuter, with "be" it agrees with the surface subject: tr. *piyan harta* "had given," intr. *harkanza ešta* "had perished." The value is that of an attained state: *tarahhan harta* "held conquered." Transitive verbs select "be" for the *perfect passive*: *piyanteš ešer* "had been given," *parkunanteš ešer* "had been purified." The transitive can also form an impersonal, subjectless construction with a direct object: *išhēniuš=šmaš=kan dān ešdu* "hairs [acc.]=to them=part. let it be taken," in other words, "let their hair have been cut."

4.4.6 Mood

Of the traditional moods the Hittite verb has only indicative and imperative. The Indo-European modal categories of subjunctive and optative, with their respective morphemes **-e/o-* and **-yeh₁-/-ih₁-*, are simply not present. Contrafactual, volitional, and other notions are expressed by the use of the particles *mān*, *man*, with the past or present indicative tense, or by other syntactic means.

The imperative usually shows the bare stem in the fundamental second singular, with traces of the Proto-Indo-European particle **-d^hi* in *it* "go!" = Greek *ἴθι*, as well as a particle **h₂u* with full grade of the same root in the quasi-interjection *eḫu* "come!" Both particles

are suffixed to form the imperative middle second singular: *ārraḥḥut* "wash yourself!" The third-person imperatives replace indicative *-i* with *-u*, agreeing with Vedic Sanskrit: *ēstu* = Vedic *āstu* "let him/her/it be." The first person expresses volition, the wish of the subject: *ēslit* "I'd like to be," "let me be," with a particle of obscure origin. It has variants *ēslut*, but *-lit* recurs in one other verb, *talit* "I'd like to take, let me take." A first singular imperative ending *-allu*, of somewhat different shape and perhaps origin, is also found: *ašallu* "may I be," *akkallu* "may I die."

4.4.7 Verb conjugation

The conjugation of the Hittite finite verb is dominated by two sets of endings in the active singular, with no functional difference; they are termed after the first singular present the *mi*-conjugation and the *ḥi*-conjugation. The basic endings are as follows:

(10)	Present		Preterite	
Sg. 1	-mi	-(ḥ)ḥi (OH -ḥḥe)	-(n)un	-(ḥ)ḥun
2	-ši	-ti	-š (-ta)	-(š)ta
3	-zi	-i (OH -e)	-t(a)	-š
Pl. 1	-weni		-wen	
2	-teni		-ten	
3	-anzi		-er/-ir	

We find a single set of endings of the middle voice, save that some verbs show a third singular in *-a* while others show *-ta*:

(11)	Present	Preterite
Sg. 1	-ḥḥa(ḥa)	-ḥḥa(ḥa)t
2	-ta	-tat
3	-a or -ta	-at or -tat
Pl. 1	-wašta	-waštat
2	-dduma	-ddumat
3	-anta	-antat

The endings of the present may show a further suffixed optional particle *-ri*; those of the preterite may end in *-ti* rather than the usual (apocopated) *-t*.

Middle verbs show then a present third singular in *-a(ri)* or in *-ta(ri)*; the endings are not correlated with *ḥi*- or *mi*-conjugation actives if the latter are present (most primary middles are inflected in that voice only, and show no active forms): compare *ki-tta(ri)* "lies," *kīš-a(ri)* "occurs." Some verbs show *scriptio plena* (repeating the vowel of a CV or VC sign with the matching V sign) in the third singular ending *-āri*, and here the particle *-ri* is obligatory: *tukkāri* "is prescribed, important." The ending *-ta(ri)* never shows *scriptio plena*. Originally *-ór* → *-ār+i* but unaccented *-(t)or* → *-(t)a* by phonological rule, whence analogical *-(t)a+ri*, which spreads during attested Hittite history (see Yoshida 1990). Secondary thematic middles show only the ending *-ta(ri)*, not *-a(ri)*: *-ietta(ri)*, *-iyatta(ri)*, *-škitta(ri)*.

The special endings of the imperative were given above in section 4.4.6.

4.4.8 Verbal stem-classes

A number of different stem-classes of the Hittite verb may be recognized; to distinguish all or even most of them would exceed the limits of this presentation. Important variables

include stems in final consonant (*ēdmi* "I eat," *ārhi* "I arrive") and in final vowel (*hariemi* "I bury," *tepnumi* "I belittle," *halzihi* "I call," *munnahi* "I conceal"), as well as stems with various types of ablaut (*kuenzi* "kills," 3rd pl. *kunanzi*; *ēpi* "takes," 3rd pl. *appanzi*; *wēkzi* "asks for," 3rd pl. *wekkanzi*; *ārhi* "I arrive" 3rd pl. *aranzi*; *dākki* "fits, corresponds," 3rd pl. *takkanzi*; *sākki* "knows," 3rd pl. *šekkanzi*), and reduplicated stems (*nanakkušzi* "gets dark," *lelhuw(a)i* "pours"). A complete descriptive analysis according to the chronological strata of the language remains a desideratum; the best to date is Oettinger 1979, supplement 1992.

It is noteworthy that while inherited primary athematic *mi*-verbs are common in Hittite, the Indo-European thematic conjugation is found only in active and middle secondary, derived verbs (*-škel/a-* < **škelo-*, *-ie/ya-* < **ye/o-*). The primary thematic types of Latin *agō*, Greek *ἄγω*, Vedic *ājāmi*, Latin *uehō*, Greek dial. 3rd sg. impv. *ἔχετω*, Vedic *vāhāmi* are not represented at all, and the Hittite thematic first singular active is *-škimi*, *-ie/iyami* rather than the ending of Latin *-scō*, *-iō*, etc. The fact is significant; see Jasanoff 1994.

Historically, within the *mi*-conjugation, we have a number of inherited primary formations, derived from the root: athematic presents with ablaut *é* : *Ø* (*kuen-* : *kun-*, remade in *ēš-* : *aš-*, *ēp-* : *app-*); acrostatic ("Narten") presents with ablaut *ē* : *é* (*ēdmi* : *edwani*, remade in *adweni*); nasal-infix presents (*harni(n)k-* "destroy" beside *hark-* "perish") with probably innovated transitivity value. Of secondary formations, derived from synchronically coexisting stems, we have imperfectives in *-škel/a-* (**-skélō-*); deverbative causatives in *-nu-* and in **-éye/o-* (Hittite *-e/a-*, *waššezi* "dresses (someone)"); deverbative and denominative **-ye/o-* (*karpia-*, *karpizzi* "lifts" beside root present *karapzi*; *lamniya-* from the noun *lāman-* "name"); statives in *-ē-* (**-eh₁-*) and inchoatives in *-ēš-* (**-eh₁-s-*), for example, *marše-*, *maršeš-* "be, become false" from the adjective *maršant-* "false," and the very common derivatives in *-ai/-ā-* from **-ah₂-ye/o-*, for example, *par(a)šnāizzi* "squats" (cf. Latin *perna* "ham").

Stem-classes of the Hittite *hi*-conjugation are numerous and varied. Primary formations show stems in both final consonant (*ārhi* "I arrive," 3rd sg. *ār-i*; reduplicated *wewakk-i* "requests") and final vowel (*tarna-hhi* "I leave," 3rd sg. *tarna-i*, also *tarn-i*; reduplicated *mimma-i* "refuses" < **mi-mnV-*). Several old monosyllabic long vowel or diphthongal stems are found: *dāhi* "I take," 3rd sg. *dāi*; *tehi* (< **daihi*) "I place," 3rd sg. *dāi*; *nehhi* "I lead," 3rd sg. *nāi*; *pehi* "I give," 3rd sg. *pāi*. Secondary *hi*-conjugation classes (built on existing stems) are considerably less frequent than *mi*-forms. Note the factitives in *-ahh-* built on adjectives (*šuppiy-ahh-i* "makes pure" from *šuppi-*); the iterative-imperfectives in *-šš(a)-* (*halzi-šša-i* "calls" from *halzi/a-*; *išša-i* "does" but athematic 2nd pl. *ištēni* from *iē-liya-*); and the "duratives" in *-anna-i* (*iyanna-i* "starts walking" from *ie-liya-* "walk").

4.4.9 Origin of the *hi*-conjugation

The origins of the *hi*-conjugation are surely the most hotly debated in the whole Hittite verb. The endings of the singular are basically those of the classical Indo-European perfect: Greek *-α*, *-θα*, *-ε*; compare Latin *-ī* < *-ai*, *-(is)tī* < **-tai*, *-it* < *-it* < **-ei(t)*. But while a very few *hi*-verbs agree in meaning but not in form with some Indo-European perfects (*šākki* "knows" like Greek *οἶδε*, Vedic *veda*), and while a very few look formally like Indo-European perfects (reduplicated *wewakk-i* "requests" beside *wēk-zi* in the same meaning) it has proven impossible to derive the whole *hi*-class from such an origin. It is likelier that the *hi*-conjugation of Hittite (and the other Anatolian languages) is a reflex of a distinct

present type in Proto-Indo-European originally with affinities to the (proto-)middle voice and singular endings **-h₂e*, **-th₂e*, **-e* (with Jasanoff 1994). In Anatolian, this formation then developed into the active *hi*-conjugation, and subsequently in most of the other branches into both the "classical Indo-European" perfect and in part the "classical Indo-European" simple thematic present. This explanation remains controversial, however plausible; for other earlier views compare Cowgill 1979, Kurylowicz 1979, Eichner 1975, Oettinger 1979 and 1992.

4.4.10 Nonfinite verbals

The nonfinite forms of the Hittite verb include a single adjective or participle, with the suffix *-ant-*, the function of which is to mark the accomplishment of the semantic notion of the verb. With transitive verbs the value is past passive: *ēp-zi* "takes," *app-ant-* "taken, captive"; with intransitives it denotes an attained state: *ak-i* "dies," *akk-ant-* "dead." The suffix is commonly written plene, *ap-pa-a-an-t* = *appānt-*.

Hittite has an infinitive, which functions as a complement of another verb. The infinitive has two forms. Infinitive I *-anna* (var. *-ānna*), to the weak grade of ablauting *-mi*-verbs: *ēp-zi* "takes," *app-ānna*; Infinitive II *-wanzi* (*-manzi* after stem in *-u-*), to all other verbs: *išhamai* "sings," *išhamiya-wanzi zinnizzi* "stops singing."

In addition, the imperfective in *-ške-* forms a *supine*, as it is conventionally termed, functioning as complement of the verbs *dai-* "set" and *tiya-* "step, proceed" in the meaning "begin X-ing": *akkiškiwan dāir* "they began dying."

The verb can be nominalized to form a neuter verbal noun, in *-war*, with genitive *-waš*: *ganeš-zi* "recognizes," *kanešš-uwar* "recognition." Some verbs, including but not limited to ablauting *mi*-verbs, form a verbal noun in *-atar* (*-ātar*), genitive *-annaš*: *app-atar* "taking, seizure," *akk-atar* "dying, plague."

The verbal noun *-war*, genitive *-waš* reflects an Indo-European heteroclit **-w₁*, **-wen-s* (with "closed" inflection), and the infinitive *-wanzi* is a frozen case form (ablative or instrumental) of the same suffix. That in *-atar*, genitive *-annaš* is from **(-ā)-t₁*, **-tn-os*, and the infinitive in *-anna* must be a case form (directive) from the same suffix.

Two isolated instances of a *gerundive* in *-la* are found in a single text: *dalugnula* and *parganula*, "to be lengthened" and "to be made high."

4.5 Derivational morphology

The wealth of secondary *verbal derivational* processes, both inherited and innovated, may be illustrated with forms made from the root/stem *luk(k)-* of athematic *luk-ta* "it grows light" (PIE **leuk-/louk-*): *lukk-izzi*, 3rd pl. *lukk-anzi* "set on fire" (**louk-éyelo-* in Vedic *rocáyati*, Old Latin *lūcent*), *lukkeš-* "become bright" (cf. Latin *lūcēscere* "grow light"), reduplicated *lalukke-* "be(come) bright, luminous," *lalukkeš-* "become bright, luminous," with causative *lalukkešnu-* "give light, illuminate," and its imperfective *lalukkešnuške₁a-* "keep shining." Nominal derivatives from the same root include *lalukkima-* "source of light, radiance," *lalukkiwant-* "resplendent." Compare also the set of derivatives underlying *kartimmiyatt-* "anger" given in §4.1.

Other illustrative sets are (from PIE **leg^h-*, English *lie, lay*) active *hi*-verb *lāki* "knocks out (tooth); turns (ear)," middle *lag-āri* "totters," reduplicated active *hi*-verb *lilakk-i* "causes (a tree) to fall," and *n*-stem neuter noun *lag-an* "bent, disposition" in *aliyaš laganaš* "of

the disposition of a deer"; (from PIE **lah₂-* in Greek *λαῖφος* "the people under arms") *lahh-iy-āizzi* "goes on campaign, to war," verbal noun *lahh-iya-war* in genitive *lahhiyawas* *išhiul* "the obligation of going to war," abstract *lahh-iy-atar* "campaign," *lahh-e-ma* "errand" in *lahhemuš hueškizzi* "he is always running errands" (*huwai/iya-* "run"). Note the imperfective *lahh-e-ški-ši* "you go to war, too," and the unique Neo-Hittite doubly specified iterative-durative creation *lahh-iy-anni-ška-weni* "we shall always go to war," which shows how freely these morphemes could be manipulated.

4.6 Compounds

Hittite makes considerable use of *semantic compounding* of sentential adverb ("preverb") and verb, while maintaining the phonological independence and separability of the two elements: *anda paizzi* "goes in," *āppa paizzi* "goes back, returns," *āppan paizzi* "goes after, behind," always written with a space between the two. Two preverbs are frequent: *āppan arḫa paizzi* "passes behind," *piran arḫa uizzi* "passes in front of." The first preverb may be fronted and separated from the verb: *āppa=ma=aš kuwapi uizzi* "but when he returns." Such semantic compounding occurs also in the nominalization of verb phrases of object and verb: *kurur ēpzi* "makes/begins hostility/hostile action," whence *kurur appatar* "making hostility, declaring war." But the phonological composition of two lexical elements to form a single phonological word is extremely rare in Hittite. The case of *šallakard-* "arrogant, arrogance" (*šalli-* "great," *kard-* "heart") underlying several verbal derivatives has been noted; the example of *pattarpalḫi* "kind of bird observed in divination" (*pattar* "wing," *palḫi-* "broad") was shown to be a loan-translation (calque) on Akkadian *kappu-rapaš* "id." (*Chicago Hittite Dictionary* s.v., with references). Occasional geographic names like *ḫarašḫapaš* "Eagle River" (*ḫaraš* "eagle," *ḫapaš* "river") are juxtapositions, not true compounds with first member in stem form. Negative composition with the *-ant-* participle is found in *ām(m)iyant-* "immature" from **ī-mih₁-ont-*, probably a (frozen?) archaism, cf. Vedic *āsant-* "untrue, false" from **ī-h₁s-ent-*. Otherwise Hittite (with other Anatolian languages) has a very few negative compounds in *ni-* (*niwalla-* "weak"), apparently from the old sentence negation **ne* or **nei*. A unique numerical compound is *dā-yugaš* "two-year-old" (see §4.7).

4.7 Numerals

The numerals in Hittite texts are virtually always written in cuneiform ciphers, and almost never written out. We are left with inferences from a few forms and derivatives. See on all these Eichner 1992.

1. The very occasional writing of a stem *a-a-* (*ant-*), which may be the stem of "one," **a[y]-ant-*, **oy-(ont-)*, cf. Old Latin *oi-nos*, Vedic *ēka-* < **ói-ko-*, Avestan *aēuua-* < **oi-wo-*. For the ordinal "first" *ḫantezzi(ya)š* is used, derivative of the adverb *ḫantī* "apart, in front," from *ḫant-* "front, forehead."
2. The numerical adverb *tān* (*dān*) "second(ly)," juxtaposed in such expressions as *dān pedaš* (gen. sg.) "of second place, rank" and prefixed (with loss of *n* before *y*) in the compound (?) *tā-yugaš* "two-year-old" (of animals) is apparently from PIE **dwo-yo-m*. The military term ^{LÚ}*duyanalliš* "man (officer) of the second rank" from **dwi-yo-* is probably from its phonology a Luvian loanword.
3. The numeral "three" is exceptionally written out in *teriyaš UD-aš* (gen. pl.) "of three days." The Hittite stem *teri-* shows a real anaptyctic vowel, from IE **tri-*; its Luvian

counterpart *tarri-* (in ^{LÜ}*tarriyanalliš* "man of the third rank," etc.) shows a special Luvian development of the same vowel.

4. Hittite and the Luvian languages, thus perhaps already Common Anatolian, apparently replaced the Indo-European word for "four" by a neologism of disputed inflection and origin, occasionally written out as *mēuw* (-*aš* dat. pl.), *meu-*, and in Luvian *māuw* (-*ati* abl.-instr.). It may go back to a **meyu-/myeu-* (simplified to *meu-*?) and originally have meant "little" hand (minus the thumb).

The remaining numerals are never written out, and can only be guessed at, with the exception of the ritual libation drink *šiptamiyal 7-miya* (beside *teriyalla 3-yalla*), which doubtless contains a reflex of PIE **septm̥* "seven" (beside *teri-* "three") in cardinal, ordinal, or fractional function.

The formation of ordinals is not clear. For other suffixed forms, like the distributive *-anki* "n-times" see Eichner 1992, as well as the several dictionaries (under Sumerograms).

5. SYNTAX

5.1 Word order and clause structure

Hittite in its ordinary unmarked word order is by and large regularly verb-final (OV [Object-Verb] in the case of transitive verbs), with the possibility of emphatic initial position of the verb (VO in the case of transitive verbs) as special or marked order. In fact, we can distinguish a number of different syntactic constituents in the Hittite sentence which show a fairly fixed order relative to each other. These include the *sentence connective particles* (symbol N) *nu* (OH also *ta*, *šu*) which regularly begin most clauses. The virtually obligatory use of overt markers, sentence-initial or enclitic, to connect all but the first sentence in a discourse is one of the three defining syntactic isoglosses of Common Anatolian (Melchert 1994).

Sentence-initial particles or other words may be followed by one or more (up to six) *enclitics* (symbol E), which thus occupy second, *Wackernagel's Law*, position. The enclitic chain of particles and anaphoric pronouns is one of the most striking and salient features of Hittite syntax, and indeed another defining syntactic isogloss of Common Anatolian. The enclitic chain may include members of each of six ordered classes: (i) connectives =*a* (geminating), =*ya* "and," =*a* (nongeminating) "but, however," correlative focus =*ma*, weakly adversative adding new information; (ii) quotative particle =*wa(r)* marking direct speech; (iii) pronominal third-person object accusative (of transitive verbs) or subject nominative (cf. certain intransitive verbs); (iv) pronominal third-person dative-locative or first-/second-person oblique; (v) reflexive particle =*za*(= *-z*); (vi) local (/aspectual?) sentential particles =*kan*, =*šan*, =*ašta*, OH =(*a*)*p(a)*, =*an*. While usually no more than three of these are present, up to five are not uncommon, for example, =*ma*=*war*=*an*=*z*=*šan*.

Conjunctions like *mān* "when, if," OH *takku* "if," *māḫhan* "as, how, when" occupy the C(omplementizer) slot, following optional connective and enclitic(s) (X indicates the rest of the sentence):

(12) ## (N) (E) C X ##

If no N is present, the C slot becomes sentence-initial, and E follows if present. E always occupies sentence second position. Thus:

- (13) A. *n=aš māḥḥan*... "when he..."
 N E C
 B. *māḥḥann=a=kan*... "and when..."
 C E₁ E₂
 C. *n=ašta mān*... "(then) if..."
 N E C
 D. *mān=a=šta*... "but if..."
 C E₁ E₂

When conjunctions *mān* and *takku* are initial and followed by optional enclitics, the enclitic *=ma* is in Old Hittite and Middle Hittite delayed to the second word in its clause: *mān* ^{URU}*Hattuša=ma* "but when to Hattusas...", *mān āppa=ma* ^{URU}*Nēsa* "but when back to Nesas..." This rule is no longer observed in Neo-Hittite (*mān=ma* *passim*); we have a diachronic syntactic change.

Any sentence element can be fronted, by moving into a TOP(icalization) Phrase to the left of C, thus

- (14) ## (N) (E) TOP (C) X ##
 n=ašta ^DIM-*unni-ma mān* "and when to the Stormgod..."

If no N is present, as often for C and usually for TOP, we have

- (15) ## TOP (E) CX ##
 kinun=a=wa mān "but now how...?"

Coordinated clauses of the type "if X, (then) Y," "when X, (then) Y," "because X, (then) Y," are almost always in that order (X,Y). Similarly in "subordinate" clauses the R(elative) C(lause) virtually always precedes the M(ain) or M(atrix) C(lause). The basic rule for *indefinite* RC ("whoever") is "Move *kui-* ("wh-") to C(omplementizer)":

- (16) ## (N) (E) *kui-* X V ##

That for definite RC ("s/he who") is the above rule, followed by a fronting rule, "Move something else to TOP(icalizer), to the left of *kui-* in C":

- (17) ## (N) (E) ____ *kui-* X V ##

Compare, with connective, *nu kuiš MEŠEDI* "whichever guard" beside *nu 1 MEŠEDI kuiš* "The one guard who." In the absence of connective and other elements save V, we have just two-word sentences: *kuiš paprezzi* "Whoever is unclean" beside *paprezzi kuiš* "He who is unclean."

These movement rules are complex. In the following example, the interrogative *wh-* has been fronted around the RC, even though its domain is actually the MC:

- (18) *kuwat=wa* URUDU-*an* *kuin* *lāhun* *nu=wa=mu* *āppa* *hūrzakizi*
 Why=quot. copper which I cast N=quot.=me back is cursing
 "Why is the copper which I cast cursing me back?"

In the following example the whole of the RC has fronted to precede the *wh-* word "because" in C:

- (19) *nu* ^m*Aparruš* *LÚ* ^{URU}*Kalašma* *kūruriahta* *kuit*
 N Aparrus the Kalasmean had begun hostilities because
nu=za 3 LIM KASKAL *ninikta*
 N=refl. 3,000 army he raised
 "Because Aparrus the Kalasmean had begun hostilities he raised an army of 3,000"

Note also that the antecedent of the relative clause commonly appears in both the RC and the MC:

- (20) *ḥaššikkitten* *kuedani* *šiwatti* *nu=wa* *kāša* *apēl* *šiwattaš* *laleš*
 you quarreled on which day N=quot. behold of that day the tongues
 "Behold the tongues of the day on which you quarreled"

5.2 Agreement

In Hittite and other Anatolian languages agreement is generally like that of other old Indo-European languages: attributive adjectives, participles, and pronouns agree in gender, case, and number. In conformity to their origin as collectives, neuter plurals take a singular verb, as in some other old Indo-European languages. Agreement in predicates, nominal and verbal, frequently shows *constructio ad sensum*, especially in number: *n=an* GIM-*an* KUR-*eanza aušta* *n=at* *naḥšariyandari* "When the land (erg. sg.) saw him, they (nom. pl.) were afraid (3rd pl.)." In a single sentence the animate plural and collective (neuter plural or singular) may shift back and forth freely: *nu=mu* MUŠEN^{HLA} *kue* *uppešta* *n=at* *arḥa* *ḥarranteš* *ešir* *n=aš* *edunn=a* *ŪL* *ūḥḥunn=a* *a=aš* *ŪL* *man=at* SIG₅-*anteš* *man=at* *ŪL* "the birds (neut. pl. acc. coll.) which (neut. pl. acc.) you sent, they (anim. pl. nom.) were spoiled (3rd pl.), and I neither ate them (anim. pl. acc.) nor did I see them (anim. pl. acc.) whether they (anim. pl. nom.) [were] good (anim. pl. nom.) [or] whether they (anim. pl. nom.) [were] not." The sentence is a good example of Hittite complex clauses; notice the right dislocation of the two negatives, and the respective positions of the coordinated verbs *n=aš* *edunn=a* and fronted *ūḥḥunn=a* *a=aš* vis-à-vis their enclitic objects. The underlying presence of enclitic *=a* "and" in the latter is guaranteed by the gemination of the final *n* of the first singular preterite *-un* in both verbs. Historically, *=a* "and" developed from **h₂o* (Luv. =*ḥa*), and the gemination reflects generalization to all consonants of a phonetic rule *-VRHV- → -VRRV-*. Compare *kuišša* "each," acc. *kuinna*, with Luvian *kuišḫa* "some/any(one)," acc. *kuinḫa*.

5.3 Syntactic innovation

The most interesting and striking syntactic innovations of Hittite and the other Anatolian languages are doubtless the system of split ergativity and the related development of enclitic subject pronouns with certain ("unaccusative") intransitive verbs, both of which (with references) have been discussed above. Both are illustrated in the sentences cited in the preceding paragraph. Likewise striking is the enclitic chain of Hittite and the other Anatolian languages, also discussed above (see §§4.2.3, 4.4.4). As the incorporation into the chain of the innovated subject pronouns would suggest, the elaboration of these lengthy chains of enclitic elements, particles, and pronouns is itself a syntactic innovation built on much smaller inherited beginnings. Given the presence of such apparent chains in the unrelated Hattic, and to some extent Hurrian, languages it is likely that we are in the presence of an Anatolian areal feature.

6. LEXICON

The core grammatical structure of Hittite in nominal, pronominal, and verbal morphology is clearly Indo-European, with a few innovations like the loss of the categories of subjunctive and optative mood, the comparative **-yos-* (but not contrastive **-tero-*) and superlative, and the feminine gender. Features like the *hi*-conjugation are now seen to be archaisms, and the perfect and thematic conjugation of later Indo-European are innovations posterior to the separation of Anatolian. The former view, current early in this century, that the Hittite lexicon was largely of "foreign" non-Indo-European provenience, has proved incorrect. That false impression was due to the technical character of the vocabulary of a large number of texts dealing with public and private ritual, cult, augury, and the like, on the one hand, and details of social and military organization, on the other, all of which reflect the culture of Asia Minor and the Near Eastern world of the second millennium BC. On the level of basic core vocabulary, Hittite (and the rest of the Anatolian family) is firmly Indo-European. The existence of two large and ongoing etymological dictionaries or glossaries (Tischler 1977–, Puhvel 1984–) and a monumental Anatolian historical phonology (Melchert 1994) is ample testimony to the mine of information now available on the Indo-European origins of the Hittite lexicon. About half of the 230-odd Indo-European roots cited in Watkins 2000a, 2000b are represented in Hittite, and studies of selected semantic fields like body parts show a high percentage with Indo-European etymology. "Foot" (*pad-*) agrees with English and Greek, and "hand" (*kešsar-*) with Greek; if "tooth" (*kaga-*) is cognate with English "hook," we need only recall that the Slavic and Tocharian words for "tooth" are cognate with English "comb." Sometimes the Hittite facts require revision of accepted semantic views: thus the usual Indo-European verb "drink" (**pō-*, **poh₃-*) means "take a swallow" in Hittite (*pāš-*), and the usual Hittite verb "drink" (*eg^w-*, *eku-*) has a cognate in Tocharian, and otherwise survives only residually in the Greek verb for "go without drink" and the Latin for "drunk" (*eb-rius*).

The Hittites settled in their homeland of central Anatolia when it was already populated by urbanized non-Indo-European Hattic speakers, and they borrowed or absorbed many features of Hattic culture, especially in the sphere of religion and cult. Our documents include many bilingual Hattic-Hittite texts, and the continued use of Hattic as a cultic language in the Old Kingdom accounts for numerous lexical and onomastic borrowings in this cultural area. The existence of a Hattic substratum of speakers having given up Hattic for Hittite (or dialects related to each) in the early centuries of the second millennium or earlier may also be ultimately responsible for such apparently areal syntactic features as the clitic chain in Hittite and other Indo-European languages, or such areal phonological features as the preservation as *h*, *hh* of two of the three Proto-Indo-European laryngeals.

Already in the nineteenth century BC the Hittites in Kaneš (Nešaš) were in contact with the Semitic world, with the Old Assyrian merchant colonies. The cuneiform documents of the latter attest intermarriage and far-reaching cultural and economic contact between Assyrians and Anatolians, many of whom were Hittite-speaking. The use of writing in cuneiform on clay tablets came to the Hittites only later, from contacts with Peripheral Akkadian speakers and scribal schools in Northern Syria writing a form of Akkadian similar to Old Babylonian. Akkadian was, at the beginning of the historical period, the language of Hittite literary productions like the Siege of Uršu, and of bilinguals conceived in Hittite and then translated into Akkadian; it continued in use for ceremonial purposes in Middle Hittite, witness the inscription on an Aegean sword by Duthaliyaš II commemorating his destruction of the Aššuwa coalition, and throughout the Middle Kingdom and empire as the language of some treaties and international correspondence.

The Hittites were in contact with the non-Indo-European Hurrians from at least the time of the Old Kingdom on, and the early hostilities were succeeded in Middle Hittite times by a period of intense cultural symbiosis, particularly in religion and cult. The translation of some Hurrian texts and the composition of others on Hurrian models was a major factor in the flowering of Hittite culture, and the Hurrian linguistic legacy in the technical terminology of ritual as well as the onomastics of the new pantheon was immense.

The Hittites were also in continual contact since the Old Kingdom with other Indo-European languages of Anatolia. Palaic, the language of Palā to the northeast (classical Paphlagonia) was preserved as the language of local cults in a few tablets in Hattusas; the language appears to have died during the time of the Old Kingdom. Luvian, the language of Arzawa to the west and Kizzuwatna to the south, is attested in a number of rituals of Kizzuwatnan provenience in Hattusas from the Old Kingdom on. Both onomastics and prosopography attest a growing Luvian presence throughout Hittite history, and with the establishment of the empire and probably long before we may assume widespread Luvian-Hittite, bilingualism. Already at the end of the Old Kingdom or the beginning of Middle Hittite one text describes some orders to the palace guard to be given in Hittite, and others in Luvian. The use of the Hieroglyphic Luvian script and language for monumental and identificational (glyptic) purposes surely contributed to this linguistically cosmopolitan atmosphere which is so characteristic of Hittite culture. From the last recorded Hittite king, Suppiluliumas II, we have not only Hittite cuneiform texts, but two Hieroglyphic Luvian monuments setting forth his manly deeds, as well as the pathetic letter in Akkadian inquiring after the *šikalāyu*, the Sea Peoples who brought about his own and his empire's downfall.

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Luvian

H. CRAIG MELCHERT

1. HISTORICAL AND CULTURAL CONTEXTS

Luvian (or Luwian) was arguably the most widely spoken member of the Anatolian subgroup of Indo-European. Evidence for the language is twofold. First, the cuneiform archives of the Hittite capital Hattuša in central Anatolia contain a number of texts with passages in a language designated *luwili*; that is, of the land *Luwiya*, which the Old Hittite Laws list as one of three major divisions of the Hittite state.

Starke (1985) has shown in his excellent edition of the Cuneiform Luvian (CLuvian) corpus that the apparently extensive texts actually represent variations on scarcely a dozen distinct compositions (aside from a few fragments). With one or two exceptions, the texts are rituals, some of a private, therapeutic nature, others belonging to the state cult. The CLuvian manuscripts, like the Hittite, date from the sixteenth to thirteenth centuries BC, including a few from the Old Hittite period (see Ch. 18, §1). Beyond this highly restricted material, there are also many isolated Luvianisms scattered throughout the Hittite texts, both as foreign words and as genuine loanwords adapted to Hittite inflection. Starke (1990 and elsewhere) has demonstrated that Luvian influence on Hittite was both earlier (including prehistoric) and more extensive than previously acknowledged. However, the fact that the two languages are very closely related makes it difficult to distinguish with certainty Luvian loanwords into Hittite from native Hittite cognates of Luvian lexemes, and not all of Starke's claims are equally persuasive (see Melchert 1992).

The second source for Luvian consists of texts written in a system of Anatolian hieroglyphs. Aside from a few letters and economic documents on soft lead strips, the vast majority are monumental inscriptions on stone, both natural rock-faces and man-made structures. A few date from the fourteenth and thirteenth centuries BC, the later period of the Hittite Empire, and most of these are attributable to known Hittite kings. Most Hieroglyphic Luvian (HLuvian) texts, however, date from the tenth to seventh centuries, after the fall of the Hittite Empire itself, and describe the activities of local rulers and their subordinates in the various newly independent small states of southern Anatolia and northern Syria. These inscriptions on stone are generally dedicatory in content, but often contain lengthy historical sections.

Both references in the Hittite texts and the geographical distribution of the extant HLuvian inscriptions suggest that the Luvian "heartland" lay in southern and southwestern Anatolia, penetrating into what is now northern Syria. However, inscriptions have also been found in western and central Anatolia (including at Hattuša itself). The status of Luvian as a spoken language in the latter areas is quite unclear. The influence of Luvian on Hittite, particularly in the Late Empire period, has led to suggestions that by this time Luvian was the spoken

language in Hattuša, with Hittite preserved only as a written "chancellery" language. This possibility must be taken seriously, but it should be regarded as merely one of several hypotheses.

Also problematic is the precise relationship between CLuvian and HLuvian. There is nothing to recommend the view that CLuvian is in any sense the "Hattuša dialect" of Luvian. The highly restricted nature of the CLuvian evidence and limited understanding of the contemporary HLuvian inscriptions of the second millennium preclude any definitive statements at present. The prudent current consensus is to treat the two as closely related but independent coequal dialects of a single language with no further presumptions. A last complication to be mentioned is the chance that one set of CLuvian texts, the so-called "Istanuvian songs," represents a dialect distinct from the rest of CLuvian (and HLuvian). The evidence is suggestive (see the references in Melchert 1994a:11), but the Istanuvian texts are too poorly understood to assert anything with confidence. Radical revision of the readings of many basic HLuvian signs by Hawkins, Morpurgo Davies, and Neumann (1974) has shown that differences between CLuvian and HLuvian are minimal. The single description which follows is meant to apply to both unless stated otherwise.

2. WRITING SYSTEMS

2.1 Cuneiform Luvian





















CLuvian was written by Hittite scribes, using the same version of the Old Babylonian syllabary that they used to write Hittite, and the writing conventions are mostly the same (see Ch. 18, §2). Word spacing and paragraph dividers are used consistently. Logograms are less frequent than in Hittite, but more common than in Palaic. One should certainly regard *scriptio plena* (repeating the V of a VC or CV sign with the matching V sign) as a marker of vowel length (Melchert 1994a:27, extending the claims of Kimball and Eichner for Hittite). The contrast of intervocalic single and geminate consonants is significant as in Hittite, however one interprets this in phonetic terms (see the lengthy discussion with references in Melchert 1994a:13ff.). The most striking spelling habit is the free use of word-initial *scriptio plena*, almost nonexistent in Hittite: CLuvian *i-i-ti* for /īdi/ "goes," *a-an-ta* for /ānda/ "in(to)." Since it is virtually certain that Luvian does not distinguish /i/ and /e/, the sporadic use of cuneiform signs with *e*-vocalism for /i/ is surely insignificant.

Emil Forrer in 1919 already established CLuvian as a distinct language with close affinities to Hittite. Further significant progress came following World War II with the publication of a large number of texts and analyses by Bernhard Rosenkranz, Heinrich Otten, and Emmanuel Laroche. A new era in CLuvian studies began with the publication of the radically reorganized corpus by Starke (1985).

2.2 Hieroglyphic Luvian

The Anatolian hieroglyphs are first attested on Hittite personal seals dating from the fifteenth and fourteenth centuries. These inscriptions, consisting of names, titles, and good luck signs, can hardly be said to represent texts in a given language. Except for a few isolated cases (Urartean glosses on pithoi, Hurrian divine names in the pantheon at Yazilikaya), all genuine texts in the hieroglyphs discovered thus far are in Luvian. That the system was invented for writing Luvian is supported by evidence from acrophony (secondary use of a logogram as a phonetic sign based on the initial sequence of the word represented): e.g., the

Table 19.1 Examples of Hieroglyphic Luvian logograms

Character	Value	Character	Value	Character	Value
	"head"		"god"		"offer"
	"I"		"moon"		"put"
	"speak"		"sun"		"below"
	"anger"		"boundary"		"above"
	"king"		"scribe"		"after"
	"kingdom"		"Aleppo"		"before"
	"camp"		"give"		

sign *tara/i-* clearly is based on Luvian /tarri-/ "three" (vs. Hittite *tēri-*). The precise time and place of development of the hieroglyphs and the relationship of their use on seals to that for writing texts remain to be elucidated: see Hawkins 1986 for further discussion.

The HLuvian system is mixed logographic-syllabic. A word may be written as a logogram (particularly common in the second-millennium texts), entirely phonetically, or as a logogram with phonetic complements. The logogram may also stand before the complete phonetic word as a determinative (semantic marker). The nominative singular of "cow" may thus be written in four ways: (i) BOS (by a now widely accepted convention, logograms are with a few exceptions represented by capitalized Latin equivalents); (ii) *wa/i-wa/i-sa*; (iii) BOS-*wa/i-sa*; or (iv) (BOS)*wa/i-wa/i-sa* (where BOS is used as a determinative). The phonetic portion of the system includes only signs for V and CV sequences (and rarely CVCV). This fact means that neither word-final consonants nor any consonant clusters may be directly represented: see *wa/i-wa/i-sa* for /wawīs/ above. One should note in particular the failure to indicate preconsonantal nasals: the animate nominative plural ending /-intsi/ is spelled -*Ci-zi*. For a provisional list of logograms and phonetic signs see Hawkins 1975:153ff.

The system does not distinguish simple from geminate consonants nor a possible voicing contrast in stops. Repetition of the vowel of a CV sign by a V sign does **not** indicate vowel length, but is regulated by aesthetic principles (there is a strong tendency to fill available space evenly). The syllabary only gradually and imperfectly developed separate CV signs for /a/ and /i/ vocalism, hence the rather awkward use of spellings like *wa/i-wa/i-sa*. For more on the system see Melchert 1996.

It had long been surmised that the monumental inscriptions in Anatolian hieroglyphs were associated with the Hittite Empire, but it was only the discovery of the cuneiform Hittite documents at Hattuša/Boğazköy in the early twentieth century that permitted serious work on deciphering the hieroglyphs. Emil Forrer, Bedřich Hrozný, Piero Meriggi, and Ignace Gelb all made important pioneering contributions, and by 1940 a partial decipherment of the script and basic understanding of many texts had been achieved. It was also clear that "Hieroglyphic Hittite" was closely related to cuneiform Hittite and Luvian, but the precise relationship remained uncertain. The discovery of an extensive Hieroglyphic-Phoenician

bilingual at Karatepe in 1947, published in stages by Helmut Bossert, promised to revolutionize study of the hieroglyphs, but it was not until the mid-seventies that David Hawkins, Anna Morpurgo Davies, and Günter Neumann, building on work of Bossert, could demonstrate that the phonetic readings of a number of basic signs required radical revision. The major reassessment demanded by these changes confirmed the early claim of Meriggi that the language of the hieroglyphs is a form of Luvian, and indeed one very closely related to CLuvian.

The multiple ambiguities of the HLuvian syllabary mean that analysis of Luvian phonology is based primarily on CLuvian data. In compensation, the much more varied content of the HLuvian texts tends to give a broader picture of Luvian morphology.

3. PHONOLOGY

3.1 Consonants

The Luvian phonemic inventory consists of at least the following consonants:

(1) Luwian consonantal phonemes

p	t	k
b	d	g
	ts	
	s	h
		ʃ
m	n	
	l	r
w		y

The absence of positive evidence for a unitary labiovelar /k^w/ as in Hittite may be accidental, and words like *ku-i-* 'who, which' from *k^wi- may still contain /k^w/. It is certain that there is no corresponding voiced stop, because inherited *g^w merges with *w: recall /wawī-/ 'cow' from *g^wow- above. As already noted, the orthography of stops in CLuvian follows the same principles as in Hittite (intervocalic contrast of simple vs. geminate; see Ch. 18, §3.1), although the specific distribution diverges due to different prehistoric changes. Interpretation of this orthography remains controversial. HLuvian obviously can render no assistance, but the restriction of rhotacism (see below) to the voiced dental stop confirms that some kind of phonemic contrast remained between inherited voiceless and voiced stops, whatever its precise synchronic realization.

The sound conventionally transliterated z represents sequences of /t/ + /s/, as well as the result of prehistoric assibilation of *t before *y and Proto-Indo-European palatal *k̑ (for the last see Melchert 1987 and 1989). While there is no reason to assume more than one synchronic phoneme, it is quite possible that /ts/ includes a palatal or palatalized allophone. Despite the hesitation of Melchert (1994a:274), there is good reason to suspect that graphic z also in some cases represents a voiced dental fricative /z/ (cf. the same possibility for Lycian z). The transliteration of the voiceless coronal sibilant as š in CLuvian is merely conventional, as in Hittite, and there is no reason to suppose that the sound is anything other than a dental-alveolar /s/. As in the case of Hittite and Palaic, the characterization of the sounds spelled -ḫḫ- and -ḫ- in CLuvian as pharyngeals is by no means assured, and velar fricatives /x/ and /ɣ/ are quite viable alternatives.

3.1.1 Diachronic variation

Two diachronic developments affecting Luvian consonants are worthy of mention. The first is Čop's Law, by which a prehistoric sequence $*\check{e}.C_1$ becomes Luvian $aC_1.C_1$: for example, $*n\check{e}b^{(h)}es-$ > CLuvian *tappaš-* "heaven"; $*m\check{e}lid-$ > CLuvian *mallit-* "honey" (see Čop 1970 and Melchert 1994b:305 for further details). The second is *rhotacism*, a sporadic change by which *d*, *l*, and rarely *n* become *r* in HLuvian: for example, HLuvian /iri/ beside /īdi/ "goes," /wara-/ beside /wala-/ "die" (see Morpurgo Davies 1982–1983 for details).

3.2 Vowels

Luvian has only three vowels, /a/, /i/, and /u/, in contrasting short and long varieties. While there are some underlying long vowels, most phonetic length is due to synchronic rules which lengthen underlying short vowels under the accent: contrast sentence-initial conjunction *pā* < /pá/ versus enclitic *-pa* < /-pa/, or adverb *ānna* "under" < /ānna/ versus *annān pātanza* "under the feet" < /annān/ with accent shift in a prepositional phrase (see Melchert 1994a:247 for further discussion). There are clearly falling diphthongs /a:y/ and /a:w/. Corresponding short /ay/ and /aw/ are likely, but difficult to prove.

Certain facts about the placement of the accent may be inferred from the prehistoric and synchronic rules cited in the preceding two paragraphs, but the evidence is limited, and the risk of circularity of argument is high.

3.3 Synchronic variation

In addition to the vowel-lengthening rules referred to above, synchronic rules include the loss of word-final /-d/ in certain noun paradigms and the insertion of /-s/ between dental stops (*aztūwari* "you (pl.) eat" < /ad-tuwari/), the latter rule inherited from Proto-Indo-European.

3.4 Phonotaxis

Phonotactic restrictions apply chiefly to initial and final consonants. Only /s/, /l/, /r/, and /n/ appear word-finally, with /-(n)ts/ the only final cluster. All consonants appear regularly word-initially except /r/, for which HLuvian shows a single example. For the possibility that only voiceless obstruents appear word-initially see Melchert 1994a:18ff. The very limited evidence regarding consonant clusters is summarized by Melchert 1994a:248ff. Vowels occur freely in all positions. There are no assured cases of hiatus.

4. MORPHOLOGY

4.1 Nominal morphology

Luvian is a typical older Indo-European language with a well-developed, almost exclusively suffixing derivational and inflectional morphology. The noun inflects for two numbers, singular and plural. Some animate nouns have a collective beside a count plural: *dušduma* "(set of) vouchers" beside unattested $*dušduminzi$ "vouchers" to *dušduma/i-*. Reference to more than one collective set requires a special "individualizing" suffix *-ant-*: for example, /tawal/ (collective plural) "eyes" (of one person), but /tawanta/ "sets of eyes." There are

two genders, animate and inanimate. The former is in most stem-classes marked not only by a distinct set of endings, but also by an obligatory /-ī-/ inserted between stem and ending just in the nominative and accusative cases (see Starke 1990:59ff.). The origin of this latter feature is a matter of lively debate. CLuvian has five cases: nominative, vocative, accusative, dative-locative, and ablative-instrumental. The vocative is rare and restricted to the singular. The inanimate gender expectedly has a single nominative and accusative, and the ablative-instrumental does not distinguish number. HLuvian merges the animate nominative and accusative plural. CLuvian replaces the genitive entirely with a "relational adjective" modifying the head noun: "divine favor" for "favor of the god(s)." HLuvian uses both the modifying adjective and a true nominal genitive case, sometimes combining them in remarkable ways (see the examples cited in Melchert 1990:202ff.). Both dialects permit use of the relational adjective even when a noun phrase includes a second genitive dependent on another ("the son of the lord of the country"), in which case both genitives are expressed by adjectives agreeing in case and number with the head noun (see Neumann 1982).

A disadvantage of the relational adjective is that it cannot express the number of the possessor. CLuvian has partially remedied this situation by developing a marker *-anz-* which is inserted between the stem and nondirect case endings in the relational adjective to mark the possessor as plural: *waššaraḫitati maššanaššanazati* "by the favor of the gods" (see Melchert 2000).

In HLuvian the inanimate nominative-accusative singular of nouns is obligatorily marked by a postposed particle *-sa/-za*. This marker is also frequent in CLuvian, where some trace of an original anaphoric or deictic function seems visible (see Arbeitman 1992:22ff. for discussion).

The suffixes marking number, gender, and case are mostly recognizable as inherited from Proto-Indo-European: for example, animate nominative singular /-s/ and accusative singular /-n/ < *-m. However, Luvian has innovated significantly in the plural, building a new system apparently based on the old animate accusative plural *-ons: animate nominative plural /-Vntsi/, animate accusative plural /-Vnts/, dative-locative plural /-ants/.

4.2 Pronouns

The personal pronouns, as far as attested, are recognizable as inherited from Proto-Indo-European, with the peculiar Anatolian *u*-vocalism in the first person singular: HLuvian *amu* "I, me." Luvian also shows the characteristic Anatolian demonstratives *apā-* "that" and *za/i-* "this" (the latter equaling Hittite *ka/i-*) and the inherited relative-interrogative *kui-*. Inflection appears to follow that of the noun more closely than in Hittite, but evidence for the nondirect cases is sparse.

4.3 Verbal morphology

The verb has the expected three persons and two numbers. There are only two moods, indicative and imperative. Evidence for a medio-passive beside the active voice is limited, but use of the middle of *a(ya)-* "make, do" effectively as a passive ("be made, become") suggests that the functions of the medio-passive are of the expected sort. Tenses are limited to a present-future and a preterite. The basic verb-stem is unmarked for aspect, but there is also an imperfective marked with the suffixes *-sa-* and *-za-*. Luvian shows the same division into *mi-* and *ḫi-* conjugations as Hittite (see Ch. 18, §§4.4.7, 4.4.9; Morpurgo Davies 1979). The verbal endings are mostly clearly inherited, but there may have been a noteworthy

replacement of the preterite third-person active endings by the medial endings (see Yoshida 1993).

Luvian has a single participle formed with the suffix *-a(i)mma-*, with a past passive value for transitive verbs and a stative one for intransitives, and an infinitive in *-una*.

4.4 Derivational morphology

Luvian shows a rich set of derivational suffixes in both the noun and verb. Even the massive study of Starke (1990) covers systematically only the consonant stems in the noun.

4.5 Compounds

There are no assured compounds among appellatives, but examples in personal names suggest that further analysis and additional evidence will reveal some.

4.6 Numerals

Knowledge of numerals in Luvian is limited by their frequent spelling with logograms. See Eichner 1992 for what is known.

5. SYNTAX

5.1 Word order and clause structure

The functionally unmarked word order is SOV (Subject–Object–Verb), but any major constituent may be fronted to initial position for emphasis, and elements may also be extraposed to the right of the verb for the same purpose. Relative clauses typically precede the main clause with a resumptive pronoun, but postposed relatives also occur. Luvian has several subordinating conjunctions marking temporal or conditional clauses. There are no coordinated clauses in the strict sense, but the enclitic conjunction *-ha* which conjoins noun phrases can be used to mean “also.” Like Hittite (see Ch. 18, §5.1), Luvian links sentences in narration with prosecutive conjunctions, *a-* (functionally = Hittite *nu-*) or *pā/-pa* (= Hittite *-ma*, marking change of topic, lightly adversative). Adjectives, including demonstratives and relational adjectives, typically precede their head noun. Luvian appears to have both prepositions and postpositions, as well as local adverbs which occur independently and as preverbs.

As in the other Indo-European Anatolian languages, anaphoric pronouns, conjunctions, and various particles regularly appear in Luvian as enclitics, attached to the first accented element in a clause by *Wackernagel's Law*. The conjunction *-ha* “and” which conjoins noun phrases is also an enclitic (like Latin *-que*), and note the particle *-sa/-za* cited above (§4.1).

5.2 Syntactic miscellanea

HLuvian shows at least one example of the Anatolian construction in which the direct object of an infinitive is unexpectedly in the dative: *za-ti CASTRUM-si AEDIFICARE+MI-na* “this (dat.) fort (dat.) to build” = “to build this fort.” This usage is comparable to the “double dative” of Sanskrit. Examples with the expected accusative also occur in HLuvian.

The syntax of cardinal numerals is complex. They may occur as adjectives agreeing with nouns in number and case, but one also finds singular nouns with numbers above one (see Eichner 1992, *passim*).

6. LEXICON

Luvian core vocabulary appears to be for the most part inherited from Proto-Indo-European, but evidence is limited: of the fifty-one words from the Swadesh-Voegelin hundred-word list which are known, thirty-nine or 80 percent are of Proto-Indo-European origin. The only major source of loanwords is Hurrian, from which many terms in various technical fields such as divination passed into Luvian and then into Hittite.

7. READING LIST

Marazzi 1990 offers a thorough bibliography for HLuvian along with a grammatical sketch which is mostly valid also for CLuvian, and a partial lexicon. Werner 1991 is also useful and reliable. HLuvian text editions are currently scattered through secondary works. A complete new edition of the HLuvian texts of the first millennium is now available in Hawkins 2000. The older standard works by Meriggi and Laroche (cited in Marazzi) are now rendered almost useless by the outdated phonetic values of several crucial signs. Starke 1985 gives the available CLuvian texts in transliteration. Melchert 1993 offers a complete lexicon for Starke 1985 plus selected Luvianisms in Hittite contexts. The lexicon and grammatical sketch of Laroche 1959 are still useful, but must be read in conjunction with the works cited above.

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Lycian

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1. HISTORICAL AND CULTURAL CONTEXTS

Lycian was the autochthonous language of the land of Lycia at least during the middle and late first millennium BC. Recent evidence from the Hieroglyphic Luvian inscription of Yalburt – specifically, forms of the place names for Tlos, Pinara, and Xanthos – has now proven that the “Lukka-Lands” of the second-millennium Hittite cuneiform texts do refer to historical Lycia, that is, roughly the mountainous peninsula on the southwest coast of Anatolia lying between the Gulf of Telmessos and the Bay of Attaleia (modern Gulf of Fethiye and Gulf of Antalya; see Poetto 1993). Obviously, without direct textual evidence from Lycia itself during the second millennium it is quite impossible to characterize with any precision the language of “Lukka” in that era.

Lycian shares a number of specific features, including innovations, with Luvian, and it is widely held that Lycian and Luvian form a subgroup within the Anatolian family; in other words, that they reflect a prehistoric “Proto-Luvian” language which had developed out of Proto-Anatolian along different lines from Hittite, Palaic, and Lydian, the other assured members of the Anatolian group (see, *inter alios*, Oettinger 1978). One may even read that Lycian is a later form of Luvian, though not necessarily of that form of Luvian which is directly attested in the second millennium. The shared features of Lycian and Luvian are undeniable, but several of these are also common to Lydian, while there are also crucial divergences between Lycian and Luvian (see Gusmani 1960 and Melchert 1992a). These divergences make it impossible to reconstruct a coherent Proto-Luvian language distinct from Proto-Anatolian. One should rather view the common features of Luvian and Lycian in terms of dialect geography. As the individual languages began to diverge in their development from Proto-Anatolian, they remained in contact, and innovations which arose in various places spread in the typical irregular fashion. Luvian, which occupied a geographically central position, unsurprisingly shares some isoglosses with Lycian (and to a lesser extent Lydian) to the west, and others with Hittite and Palaic to the east.

The extant Lycian corpus includes more than 150 inscriptions on stone, over 200 on coins (many not yet published), and a handful on other objects. The overwhelming majority of those on stone are sepulchral texts, with highly stereotyped content. Apart from several poorly preserved decrees, the most important exceptions are the inscribed stele of Xanthos, which describes the military exploits and building activities of a local dynasty, and the Lycian-Greek-Aramaic trilingual of the *Létôon*, which records the founding of a cult for the goddess Leto by the citizens of Xanthos at a temple a few miles south of the city. The latter text of some forty-one lines has predictably proven to be of immense importance in

advancing understanding of Lycian. Much of the text of the Xanthos stele remains opaque due to problems of vocabulary which result from the nearly unique subject matter.

Two of the Lycian texts (one of which is the last portion of the Xanthos stele) are written in a distinct dialect known either as *Lycian B* (vs. ordinary *Lycian A*) or as *Milyan*. The relationship of the two dialects is indeterminate. Milyan is more archaic than ordinary Lycian in certain features, and it is noteworthy that both Milyan texts are in verse (see Eichner 1993 with references). However, it would be dangerous to conclude from these limited facts that Milyan is merely an older stage of Lycian preserved for special literary purposes. This is only one of several viable possibilities: see Gusmani (1989–1990) for a useful discussion of the problem. Unless stated otherwise, the description which follows applies to both forms of Lycian, but the bulk of the evidence comes from Lycian (A). Extrapolation of the description to Milyan is often based on very limited evidence and should be viewed as highly provisional. Special features of Milyan will be explicitly noted where appropriate.

Thanks to the Létôon Trilingual and exploitation of the features shared with Luvian, understanding of Lycian has improved dramatically in the last two decades (with the notable exception of the Xanthos stele and Milyan). However, certain features of morphology and syntax cited below impose some quite serious limitations. One should regard the following description as intermediate in completeness and reliability between those for Palaic and Lydian on the one hand, and that for Luvian on the other.

2. WRITING SYSTEM

Lycian is written in an alphabet derived from or closely related to that of Greek. The details of the relationship remain unclear: for discussion see Carruba 1978a. The direction of writing is left to right. Use of word-dividers is frequent, but by no means absolutely consistent. This fact means that the status of certain morphemes as clitics is, strictly speaking, a matter of interpretation, which can be supported but not proven by the mode of writing. Problems involving individual letters will be dealt with below in the phonology.

3. PHONOLOGY

3.1 Consonants

The Lycian segmental inventory includes the following consonantal phonemes:

(1) Lycian consonantal phonemes

p	t	c	k<	k	k>	k ^w
	ts					
	θ	s				h
β	ð			γ		
m		n				
		l	r			
w			y			

Of the phonemes listed, /c/, /θ/, and /h/ occur only in Lycian (A), not in Milyan, due to different prehistoric sound changes. The sound very tentatively identified as /k^w/ is attested only in Milyan and in personal names. Its absence in Lycian (A) may or may not be due to chance.

Table 21.1 The Lycian alphabet

Character	Transcription
P	a
↑	e
B b	b (/β/)
~	β (/k ^w /?)
Y y	g (/γ/)
Δ	d (/δ/)
E	i
F	w
I	z (/t ^s /)
X	θ
I	γ
k	k (/k</)
*k	q (/k/)
Λ	l
~	m
~	n
X	m̃ (/m [~] /)
Ξ	ñ (/n [~] /)
O	u
P	p
◊	(≈ /k</?)
P	r
ƒ	s
T	t
Y	τ (/c/)
Y Y Y Y Y	ā
*Y Y Y Y Y	ē
+	h
Y Y Y Y	x (/k>/)

3.1.1 Stops

The stop phonemes given here as /p/, /t/, /k</, /k/, and /k>/ are spelled respectively *p*, *t*, *k*, *q*, and *x* according to the current standard transliteration (but one must be prepared to find *c* for *k* and *k* for *x* respectively in older works). There is a consensus that these stop phonemes have voiceless and voiced allophones. The conditioning is also straightforward: the voiced allophones occur after nasals (including nasalized vowels), the voiceless allophones elsewhere. Note, for example, *trqqñt-* (name of the Storm-god) for [tərkənd-], rendered in Greek as Τροκονδος/Τερκανδας.

There is on the contrary a decided absence of agreement concerning the further features of the stops aside from labial /p/ and dental/alveolar /t/. The rare sound defined here as /c/ (transliterated as τ) alternates with /t/ in all cases. We know that prehistoric **k^w* becomes Lycian (A) *t* before *i* (e.g., *ti-* < **k^wi-* “who, which”), and several plausible, but not entirely

compelling etymologies have been adduced for $t/\tau < *k^w$ before $*e$ (see Carruba 1978b: 165ff.). If we accept this derivation, a palatal stop $/c/$ seems a plausible transition sound, since the development includes fronting and delabialization (the value $/t^w/$ suggested in Melchert 1994a:282 was an unfortunate lapsus). Note that in Milyan the result of a labiovelar before front vowel is k (*ki*- "who, which"), which will be argued below to be a front velar $/k</math>. The development in Lycian (A) may be viewed as a further fronting to a palatal and eventually dental stop.$

The characterization of the dorsal stops k , q , and x as front, mid, and back velar $/k</math>, $/k/$, and $/k>/$ respectively represents a personal point of view, and one should compare the in part very different opinions of Rasmussen (1974:53ff.), Laroche (1979:84), van den Hout (1995), and Hajnal (1995:26ff.). Evidence for a relatively front value for k (formerly transliterated c) consists of its strong tendency to occur before (often between) front vowels and its rendering in Greek alternatively by *sigma* (*Tikeukepre* = $\tau\iota\sigma\epsilon\upsilon\sigma\epsilon\mu\beta\rho\alpha\nu$) and by *kappa* or *gamma* (*Sbikasa* = $\Sigma\pi\iota\gamma\alpha\sigma\alpha$). The predilection of x (formerly k) for appearing before back vowels suggests a relatively back consonant. The major point of dispute is whether it is an ordinary stop or instead an aspirated stop or even fricative. The only basis for the last assumption (hence the now standard transliteration x) is etymological: Lycian x in most cases corresponds to a cuneiform h , both in names (*Xākbi* = *Hinduwa*) and in inherited words reflecting the Proto-Indo-European second laryngeal (preterite first singular ending $-xa < *-h_2e$). There is, however, not a shred of evidence for anything but a plain stop synchronically: Greek rendering of Lycian x in names is consistently either with *kappa* or *qoppa*, never *chi* (the single exception $\mu\omicron\sigma\chi\alpha\varsigma$ for *Musxxah* [cited by van den Hout 1995:134, correcting Melchert 1993:105] says nothing, since the aspirate may be a Greek phenomenon conditioned by the preceding s).$

The question of whether q is an ordinary velar stop $/k/$ as given here or is labialized depends on etymological considerations which cannot be treated here: see Melchert (1994a:306) for a discussion with references to other opinions. Even more problematic is the status of the sound represented by the rare letter \aleph . The Létôon Trilingual assures that it is some kind of dorsal stop (personal name *ArKKazuma* = Greek Αρκεσιμα), but the tentative analysis as a labiovelar $/k^w/$ is based on etymological and distributional arguments which are merely suggestive, not compelling (see Hajnal 1995:25f. and Eichner 1993:145, among others).

3.1.2 Affricate and fricatives

Lycian z in at least some cases represents a voiceless affricate $/ts/$ (e.g., *hr-zze/i*- "upper" with suffix $-zze-$ < Proto-Anatolian $*-tso-$ < PIE $*-tyo-$). In other cases, however, a plausible case has been made for a voiced fricative $/z/$: see Melchert 1994a:314f. (with reference to Gusmani) and Hajnal 1995:21ff.

Lycian (A) θ is clearly the reflex of prehistoric $*d+h$. Since $*d$ is spirantized to voiced $[\delta]$, it seems reasonable to assume that the outcome of the sequence is a voiceless interdental fricative, and the Lycian version of a Persian name *Miθrapata*- appears to confirm this. Lycian (A) h is ignored in Greek renderings of personal names, suggesting that it is probably ordinary $/h/$ (generally absent from Anatolian Greek). It reflects a conditioned change of $*s > h$ in Lycian (A) which did not take place in Milyan.

There is near-universal agreement that the Lycian letters b , d , and g stand for voiced fricatives. Evidence cited includes $\Lambda\alpha\pi\alpha\rho\alpha\varsigma$ for *Dapara* and the Lycian rendering of Darius as *Ŋtarijeus*- (recall that voiceless stops are voiced after nasals). One may compare for the latter device Modern Greek. Neither of the cited spellings makes sense if Lycian d were a voiced stop $[d]$.

3.1.3 Sonorants

Cases such as *hrppi* "above" or *sñta* (a numeral) seem to indicate that liquids and nasals had syllabic allophones, and the standard view is that the special letters *ñ* and *ṁ* stand for syllabic nasals. This may have been true when the graphemes were invented, but this analysis cannot account for postvocalic occurrences such as *qāñti* "they slay." The gemination in *hrppi* (see below) argues that at the phonetic level the pronunciation was [hərp.pi] with an anaptyctic vowel. If one makes the reasonable inference that the same is true for nasals (*sñta* = [sənta]), then one may make the generalization that *ñ* and *ṁ* occur only in syllable-final position. This distribution suggests that they are unreleased allophones of the nasal consonants.

The glides /w/ and /y/ are usually spelled with the letters transliterated *w* and *j*, but when they represent the second part of falling diphthongs they are spelled with the corresponding vowels: *ai*, *ei*, *au*, and so forth. Examples such as *ebeiḡa* "these" (neut. nom.-acc. pl.) must apparently be interpreted as [eβej.ja]. Prehistoric **w* appears as *b* after a consonant, suggesting that it has become a fricative in this position (e.g., *esbe*- "horse" < **ekwo*-). Since this *b* never geminates after a consonant like ordinary /β/ (e.g., *erbbe*- "battle" or "defeat"), it should probably be treated as an allophone of /w/ synchronically.

3.1.4 Consonant gemination

One of the most striking and problematic features of Lycian consonantism is the widespread gemination of consonants (at least orthographically). No entirely satisfactory explanation has yet been presented: see for attempts Melchert 1994a:295f. and 316, and van den Hout 1995. Word-initial and some internal geminates probably reflect prehistoric processes (notably syncope) and must be synchronically analyzed as present in underlying structure: for example, *ttaraha*, adjective to *tetere/i*- "city" (?) (see Heubeck 1985 and Hajnal 1995:184ff.). However, the highly regular gemination of the second members of certain consonant clusters (versus its absence in others) is surely due to a synchronic rule in which syllable structure plays a crucial if not yet fully defined role: compare, for example, *hrppi* "above" (probably [hərp.pi]) versus *epre/i*- "back-, rear-" (probably [e.pre/i-]).

3.2 Vowels

Lycian has eight vowel phonemes: /i/, /u/, /e/, and /a/ and corresponding contrastive nasalized varieties of each. There are separate letters for /ā/ and /ē/, but not for the nasalized high vowels. Their likely existence is inferred from cases like Ιυβρος for Lycian *Ipre*- ([ībre-]). The non-high vowels form several falling diphthongs with the glides: *ai*, *ei*, *āi*, *ei*, *au*, *eu*. There is no evidence that Lycian has synchronic contrastive vowel length.

3.2.1 Vowel assimilation

The most important process affecting Lycian vowels is a pervasive vowel assimilation rule which may be stated in its simplest form as: V [-high] > V [α back] / __ C₀ V [α back]. The rule applies iteratively from right to left within the phonological word (including sequences with proclitics): for example, *tese*- "oath" but collective plural *tasa*; personal name */Armanani-/ attested as *Erñmenēni*. There are many exceptions to the rule as just formulated: thus, dative singular *ladi* (not **ledi*) to *lada*- "wife." Some of these may be attributed to paradigmatic analogy, but it is not clear what such a description means in synchronic terms. Furthermore, Hajnal (1995:80ff.), in the most thorough discussion of the phenomenon to the present,

rightly points out that not all exceptions may be attributed to "analogy" in any case. The existence of Lycian umlaut is assured, but a rigorous account of its diachronic and synchronic status requires further study.

3.2.2 Syncope

Lycian shows widespread prehistoric syncope. For two independent attempts at a comprehensive description see Melchert 1994a:318ff. and Hajnal 1995:175ff. The broad agreement between the two accounts, despite differences in detail, suggests that their general thrust is correct. Nevertheless, since our knowledge of Lycian accent is indirect, being based almost entirely on the effects of the syncope, the risk of circularity of argument is high, and neither analysis should be taken as remotely definitive.

3.3 Phonotaxis

The most noteworthy features of Lycian phonotaxis are the restrictions on initial and final consonants. Inherited word-initial voiced stops were devoiced prehistorically, so that neither /β/ nor /γ/ occurs initially. Initial *dd-* (virtually always spelled as a geminate) does unexpectedly occur. Its source remains unknown. Initial /r-/ occurs in Lycian (A) only rarely, as the result of aphaeresis, and the few examples in Milyan probably should be attributed to the same process. The absence of initial /y-/ may be accidental or systematic. Aside from a handful of cases with unexplained final (unreleased) nasal, Lycian permits only /-s/ in word-final position. Milyan adds -z. Initial consonant clusters are common, including stop plus stop (at least at the phonemic level). The limited number of medial clusters probably is due merely to the very restricted attested lexicon (for a list see Melchert 1994a:297ff.). No final consonant clusters are permitted. Vowels occur freely in all positions in the word. There are no assured examples of heterosyllabic vowel sequences.

4. MORPHOLOGY

Lycian inflectional and derivational morphology seems upon first examination to be rather impoverished in comparison with that of other ancient Indo-European languages, Anatolian and non-Anatolian. Closer scrutiny shows that this probably is a misleading impression, an artifact of the relatively limited corpus and the crucial absence of distinct signs for nasalized high vowels.

4.1 Nominal morphology

The noun inflects for two numbers (singular and plural), and two genders (animate and inanimate). Animate nouns may have a collective plural beside a count plural (e.g., *wawa/uwa* "cattle" beside anim. acc. sg. *wawā* and unattested nom. and acc. pl. *wawāi*/wawas** "cows"). Synchronically, there is evidence only for two genders. However, the contrast between animate nouns with nominative singular **-e*, accusative singular **-ē < *-os, *-om* (respectively), animate nouns with nominative singular *-a*, accusative singular *-ā < *-eh₂, *-eh₂m* (respectively), and collective *pluralia tantum* in *-a < *-eh₂* argues that Lycian (and hence Proto-Anatolian) did inherit from Proto-Indo-European a feminine gender distinct from the masculine and neuter (see Melchert 1992a). There are at least five cases and perhaps six: nominative, accusative, genitive, dative-locative, and ablative-instrumental.

In some noun classes there may be a locative singular distinct from the dative (cf. *a*-stem *ladi* "for/to the wife" vs. *xupa* "in the grave"). The inanimate gender predictably has a single nominative-accusative, and the ablative-instrumental does not distinguish singular and plural, as elsewhere in Anatolian. While there is a genitive plural case, a corresponding genitive singular is found only in a handful of personal names. Possession is normally expressed by means of a relational adjective which agrees in number and case with the head noun and does not indicate the number of the possessor: *mahanahe/i* "divine; of the god(s)." This usage is inherited from Proto-Indo-European, but its nearly complete replacement of the genitive case is a characteristic feature of the western Anatolian languages. The Lycian case endings are inherited or built on inherited material, but the loss of nearly all final consonants (especially postvocalic *-s) leads to a serious degree of homonymy between case forms.

An important feature of Lycian nominal inflection, shared at least with Luvian and Lydian, is *i*-Motion (better *i*-mutation), as established by Starke (1990:59ff.): many, indeed, most animate nouns and animate forms of adjectives obligatorily add a suffix *-i* to the stem just in the (animate) nominative and accusative, singular and plural. When the base stem ends in *-e* (< PIE *-o-), the suffix *-i* replaces the stem-final *-e*: for example, *hrzze* "upper" inflects as anim. nom. sg. *hrzzi**, anim. acc. sg. *hrzzi* [hørt.tsi], anim. nom. pl. *hrzzi**, anim. acc. pl. *hrzzis**, but inan. nom.-acc. sg. *hrzzē*, nom.-acc. pl. *hrzza**, dat.-loc. pl. *hrzze**. The origin of this phenomenon is a matter of serious debate (see Melchert 1994b and Oettinger 1987), but its existence as a synchronic feature of the western Anatolian languages is beyond doubt. The effective inflection of most Lycian nominal stems as *i*-stems in the nominative and accusative has very serious consequences for understanding the Lycian texts. The *i*-stems happen to have the most genuine homonymy of any stem-class: anim. nom. sg., dat. sg., and anim. nom. pl. *-i*. The spelling of anim. acc. sg. [-i] as *-i* as well completes the confusion.

There are clear reflexes of several Proto-Indo-European derivational suffixes, and absence of others is surely due to the restricted corpus.

4.2 Pronouns

Lycian attests typical Anatolian features in the first-person singular pronoun *e/amu* "I, me" with *u*-vocalism, in the demonstrative stem *ebe* "this" (formally matching *apā* "that" of Hittite, Palaic, and Luvian), and in the interrogative-relative *ti* < **k^wi*-. The enclitic "reflexive" particle *-ti* also is clearly cognate with Luvian *-ti* and Hittite *-z(a)*, but the function of this morpheme in all these languages requires much further study. Evidence for the rest of the pronominal system is almost entirely lacking.

4.3 Verbal morphology

The very incomplete picture of the Lycian verb provided by the limited data agrees in most respects with that of the other Anatolian languages: the expected three persons, two numbers (singular and plural), two moods (indicative and imperative), two voices (active and mediopassive), and two tenses (present-future and preterite). There is very limited evidence for a *ḫi*-conjugation alongside the *mi*-conjugation, as in Hittite (see Ch. 18, §§4.4.7; 4.4.9). The inflectional endings, to the extent that they are known, are comparable to those of Hittite or Luvian, with the exception of medial endings with a nasal: for example, *sijēni* "lies" (see Melchert 1992b for the Lycian, but a convincing account of the prehistory is lacking). One unique feature of Lycian is the morphosyntactic alternation between nasalized and non-nasalized finite verbs: for example, *ade/ade* "he/she did/made." For a persuasive analysis of

this phenomenon see Garrett 1991. The most important of PIE verbal derivational suffixes are securely attested.

There is an infinitive in *-ne/a* which most likely is cognate with Luvian and Palaic *-una*, as per Laroche 1960:172f., contra Melchert 1992a:47, fn. 15. For the source of the final vowel alternation see Hajnal 1995:98. There is a single synchronic participle, with a past passive value for transitive verbs and a stative one for intransitives, as in the other Indo-European Anatolian languages. The suffix is *-Vime/i-*, matching Luvian *-V(i)mma/i-* < **(o)mno-*. All examples of the suffix *-āt-/ēti(i)-* < **-e/ont-* are lexicalized relics: for example, *lāta-* "dead" (a noun).

4.4 Compounds

Attested compounds are not frequent, but they do occur. Neumann (1993:37f.) has convincingly explained *tidere/i-* as "collacteus" < "teat-companion": compare Hittite *tēda-* "teat" and *arā-* "companion."

5. SYNTAX

5.1 Word order and clause structure

Lycian is unique among the Indo-European Anatolian languages in its configurational syntax. There are good reasons to assume an unmarked VSO (Verb–Subject–Object) word order, but two preposing rules which affect the direct object as well as other constituents lead to a surface OVS order. The particular diction of much of the extant corpus happens to make the latter the most frequently attested order. See Garrett 1994 for a discussion of both the synchrony and diachrony of this phenomenon; the same article analyzes in detail the syntax of Lycian relative clauses. Demonstratives and most adjectives typically precede the noun they modify, but the order noun plus adjective is not infrequent and indeed seems to be regular for the relational adjective in *-ahe/i-*. Lycian has several prepositions, but no postpositions. Local adverbs occur both as independent elements and as preverbs.

Lycian is also unique in Anatolian in having true coordinated clauses, marked with *se* "and" (also used to conjoin noun phrases). The conjunction *me* marks prosecutive clauses. There are subordinating temporal and conditional conjunctions, but fronting is also used to mark conditions: *hrppi=ije me tadi...* "On-it conj. puts," in other words, "If one puts thereon" versus *me=ije hrppi=tadi* "conj.-it on-puts," that is "And (then) one puts thereon" (cf. English "Were I," equivalent to "If I were").

5.2 Clitics

Lycian employs enclitic pronouns chiefly in clitic doubling in conjunction with topicalization (see Garrett 1992). Conjunctions in Lycian are proclitic (*se* and *me*), not enclitic as in the related Anatolian languages. Lycian does have a few "local particles" which appear as enclitics to the first word in a clause, corresponding to those of Luvian or Hittite.

5.3 Syntactic miscellanea

Lycian has at least one example of the Anatolian construction with the direct object of an infinitive in the dative: *esedeñnewi epttehi ntepi=tane* "collateral descendance (dat. sg.)

their in-to put," in other words, "to put in their collateral descendants." Examples with the expected accusative also occur.

6. LEXICON

The peculiar nature of the extant corpus restricts the known lexicon to an extent which makes statistics about core vocabulary meaningless. However, there is no positive reason to think that the inherited portion of the lexicon is significantly less than the 75–80 percent demonstrated for Hittite. The few identifiable loanwords are predictably from Greek and Iranian and mostly in the expected spheres of government and "high culture": for example, *sstala*- "stele," *trijere*- "trireme," and undoubtedly *sttrat*[] "general" from Greek; *xssadrapa*- "satrap" and *sixla*- "shekel" from Iranian (the last of these being ultimately a Semitic word). The only exception to this pattern known to me is *stta*- "stand, be placed standing," the phonology of which argues that it is a Greek loanword rather than an inheritance.

7. READING LIST

The standard edition of Lycian texts discovered by the turn of the century is Kalinka 1901, but these are available in more convenient and often more accurate form in Friedrich 1932. More recent texts are found in Neumann 1979, Laroche 1979 – the Létôon Trilingual – and Bousquet 1992. For inscriptions on coins see Mørkholm-Neumann 1978, but many remain unpublished. The most thorough discussion of the alphabet is found in Carruba 1978a. The best description of the synchronic grammar remains that of Neumann 1969, although it is now dated in several respects. For all aspects of Lycian grammar, synchronic and diachronic, global reference should be made to Hajnal 1995. A complete lexicon is available in Melchert 1993. Bryce 1986 offers the best account of the historical and cultural setting.

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Palaic

H. CRAIG MELCHERT

1. HISTORICAL AND CULTURAL CONTEXTS

Palaic was once the spoken language of the land of Palā, generally agreed to have been located to the northwest of Hittite territory across the Halys River (modern Kızıl Irmak) in what is now north central Turkey. The country name is surely reflected in the later classical Blaēne and Paphlagonia. Palaic is attested in scarcely a dozen ritual fragments from the cuneiform archives of the ancient Hittite capital Hattuša (modern Boğazköy). The documents are contemporary with the Hittite (sixteenth to thirteenth centuries BC), including a couple of manuscripts from the Old Hittite period.

What little Palaic we have owes its preservation to liturgical use by the Hittites, chiefly for the cult of the Hattic god Za/īparfa. Palā, mentioned in the Old Hittite Laws as one of the three divisions of the Hittite state along with Hatti and Luwiya, appears only rarely in later texts. Its decline in importance is sometimes attributed to the depredations of the Kaskeans, a people of the northern mountains who caused serious problems for the Hittites throughout their history. It is likely that Palaic was extinct as a spoken language by the thirteenth century, and it may well have been so by the time of our earliest texts in the sixteenth. The extremely sparse documentation makes all aspects of the following description provisional. Palaic is interpreted largely in light of the much better attested Hittite so far as the facts permit. This is a reasonable and necessary procedure, but its obvious risks should constantly be borne in mind.

2. WRITING SYSTEM

Palaic was written by Hittite scribes, using the same version of the Old Babylonian cuneiform syllabary they employed for writing Hittite. The spelling conventions are the same as for Hittite (see Ch. 18, §2), with very few exceptions, the most notable being the use of special signs for a phoneme /f/ absent in Hittite (see below) and the near-total absence of logograms. The syllabary has V, CV, VC, and some CVC signs. It thus can indicate initial and final consonant clusters (and internal clusters of more than two) only by the use of “empty” vowels. Such sequences are interpreted largely on comparative and etymological grounds. There is no longer any reason to doubt that the use of *scriptio plena* (repeating the vowel of a CV or VC sign with the matching V sign) marks synchronic vowel length (see for Hittite, Kimball 1983 *passim*, et al.). The system uses both word spacing and paragraph-dividers.

Emil Forrer in 1919 already recognized Palaic as one of the eight distinct languages of the Boğazköy archives, and after a brief false start tentatively identified it as an Indo-European language closely related to Hittite. It was not until 1944, however, that Heinrich Otten was

able firmly to establish the status of Palaic on the basis of further documentation. Important further contributions to understanding the language were made by Kammenhuber (1959) and Carruba (1970). There have been no new textual finds since Carruba's work.

3. PHONOLOGY

3.1 Consonants

The phonemic inventory includes at least the following consonants:

(1) Palaic consonantal phonemes

p	t	k
b	d	g
	ts	
f	s	ʒ
		ħ
		ʕ
m	n	
	l	r
w	y	

The absence of positive evidence, as in Hittite, for unitary labiovelars may easily be accidental, and there is a good chance that we should also assume a voiceless labiovelar stop /k^w/ in words such as *kui-* "who, which." Owing to a prehistoric change, there likely is no corresponding voiced stop, but there may be a labialized /ʕ^w/ in cases like *aḫu-* "drink."

3.1.1 Stops

Characterization of the Palaic stop series as voiceless versus voiced is based on their etymological value. The synchronic phonetic status of the stops in the three cuneiform languages Hittite, Palaic, and Cuneiform Luvian is a vexing and controversial problem: see Melchert 1994:13–21 for an extensive discussion with references. What is clear is that etymological voiceless stops appear as graphic and probably linguistically real geminates in intervocalic position, while inherited voiced stops appear as single stops (so-called *Sturtevant's Law*): in Palaic contrast particle *-ppa* < **-pe* (cf. Latin *nem-pe* "surely") with *apā-* "that" < **ob*^(h)*ó-*. It is tolerably certain that voiced stops have been generalized in word-final position (*šarkut=at* "—ed them," with preterite third singular *-t* [d] < **-t*), while it is likely but not assured that voiceless stops and fricatives have been generalized word-initially (see Melchert 1994:18–20, *et al.*). This partial neutralization of the voicing distinction may have contributed to a reanalysis of the stop contrast as one of fortis versus lenis, but this analysis cannot be regarded as proven.

3.1.2 Fricatives

The phoneme /f/ appears in Hattic loanwords into Palaic such as *wu_u/pu-la-a-ši-na-* (a kind of bread). As the cited example shows, the fricative /f/ is indicated by a special series of cuneiform signs, consisting of *wa* plus a *mater lectionis* marking vowel quality, transliterated *wV_v* (sometimes alternately with graphic *p*). It cannot be excluded that in some or all cases the fricative is a voiced /v/ rather than /f/.

The voiceless coronal fricative is spelled with the cuneiform series which indicates a palatal sibilant in Akkadian, whence the conventional transliteration as *š*, as in Hittite.

There is no reason, however, to think that the sound represented is anything other than a dental/alveolar /s/. The sound transliterated as *z* is in most cases a voiceless affricate /ts/, but it cannot be ruled out that in some instances it indicates a voiced sibilant /z/ instead.

The phoneme rendered above as /ɜ/ represents a weak palatal fricative, the result of a prehistoric sequence of **h₂y* (the Proto-Indo-European "second laryngeal" plus **y*), spelled alternately with -g- and zero (see Watkins 1975:373 for the derivation and Carruba 1970:39 for the spelling). The phonetic definition of this sound obviously is merely an approximation, and one may entertain other possibilities.

Palaic shows both the regular and "lenited" reflexes of the Proto-Indo-European "second laryngeal" **h₂*, spelled intervocally with geminate -*hh*- and simple -*h*- respectively (for Proto-Anatolian "lenition" see Eichner 1973:79ff.). The characterization above as pharyngeals is nonbinding, and a pair of velar fricatives /x/ and /ɣ/ is equally possible.

3.2 Vowels

There are at least three vowel phonemes /a/, /i/, and /u/ and contrasting long /a:/, /i:/, and /u:/. It is very likely that there are also /e/ and /e:/, but the phonemic status of the latter is controversial (see Melchert 1994:198f., but also Carruba 1970:9, and Wallace 1983). While there are a few nonpredictable and thus contrastive long vowels, most surface vowel length is allophonic, due to synchronic rules of lengthening under the accent: for examples see the next paragraph. The vowel /a(:)/ combines with /y/ to form a falling diphthong /a(:)i/. The absence in our data of a corresponding /a(:)u/ is probably accidental.

3.3 Synchronic variation

There is limited but solid evidence for a synchronic rule in Palaic whereby the word accent shifts one syllable to the right with the addition of an enclitic (cf. the similar rule in Latin): underlying /*hāran*-/ "eagle" appears as regular [*hā:ranas*] in the genitive singular *hāranas̄*, but compare nominative singular [*hārá:s*] in the phrase *hāráš=kuwar*. The fact that the length of the *a* in both syllables of "eagle" depends on the accent argues that the vowel in each case is underlyingly short, with the long [a:] a conditioned allophone. There are actually two such synchronic lengthening rules, one applying to all accented vowels in open syllables, the other to /a/ and /e/ in accented closed syllables (see Melchert 1994:204f. for further discussion).

Word-final -*n* is sporadically assimilated to an initial labial of a following clitic: =*am=pi* beside =*an=pa=ti*. The sibilant /s/ appears occasionally as *z* next to a sonorant (= *kuwar=zi* for =*kuwar=ši*) and rarely other consonants. This may or may not represent voicing to [z].

3.4 Phonotaxis

Phonotactic restrictions are unremarkable, so far as the extremely limited evidence permits a judgment. Final consonants are highly restricted: voiced stops (only /d/ is actually attested), /s/, /ʃ/, /n/, /r/, and /l/. The only attested final cluster is /-(n)ts/. As indicated above, probably only voiceless obstruents are permitted word-initially, along with /m/, /n/, /l/, and /w/. The absence of examples of initial /y/ is surely accidental, but the lack of initial /r/ is systematic, as elsewhere in the ancient Anatolian languages. Initial clusters are mostly limited to biconsonantal sequences of rising sonority, but there may be some cases of fricative plus stop. Medial clusters are predictably more varied and complex: for an exhaustive list of examples, see Melchert 1994:206f. All vowels occur freely in initial, medial, and final position. Sequences with hiatus are rare, but *iu* "come!" (cf. Hittite *ehu*) certainly represents [i_u] historically and probably also synchronically.

4. MORPHOLOGY

Palaic is a typical ancient Indo-European language in its morphological typology: that is, fusional, with a well-developed system of derivation and inflection, the latter exclusively suffixing, the former nearly so. However, it is also characteristically Anatolian in having a relatively limited set of inflectional categories in the nominal and verbal systems in comparison to Sanskrit or Ancient Greek.

4.1 Nominal morphology

The noun distinguishes two numbers, singular and plural, and two genders, animate and inanimate. There is no evidence for a separate dual or a feminine gender. There are at least six cases in the singular: nominative, vocative, accusative, genitive, dative, and locative. The last two cases are not distinguished in the plural, and as expected the nominative plural serves also for the vocative. It seems extremely likely that Palaic also has an ablative-instrumental corresponding to that of the other Anatolian languages, but no examples have yet been found. As usual in Indo-European, the nominative and accusative are not distinguished in the inanimate gender. In addition to the genitive case, Palaic also expresses possession by means of a relational adjective ("paternal house" for "father's house"), but this usage does not seem to be as widely developed as in the western Anatolian languages. It is impossible to tell whether there is any functional distinction between the two constructions.

The case endings are mostly recognizable as Indo-European: animate nominative singular /-s/, vocative singular zero, animate accusative singular /-n/, inanimate nominative-accusative singular zero or /-an/, genitive singular /-as/, dative singular /-i/ or /-ai/, animate nominative plural /-es/ (or /-as/ < *-ōs), inanimate nominative-accusative plural /-a/. The animate accusative plural is not securely attested. The locative ending /-a/ is cognate with the allative of Hittite continuing Proto-Indo-European *-h₂e and *-oh₂ (cf. for the latter Latin *quō* "whither"). The dative-locative plural /-as/ matches the endings of Hittite and Lycian, reflecting Proto-Indo-European *-os (cf. Latin *-bus*, etc. minus the initial labial).

4.2 Pronouns

The only reasonably well-attested pronominal stem is the relative-interrogative *kui-*, but the existence of the characteristic Anatolian demonstratives *kā-* "this" and *apā-* "that" is at least assured. For the few other extant pronominal forms see Carruba 1970:44.

4.3 Verbal morphology

The verb is inflected for singular and plural and the expected three persons. There are two moods, indicative and imperative, and two tenses, present (also used for the future) and preterite. Beside the active voice there is a medio-passive, surely with the usual range of functions, although the few attested examples happen to be *media tantum* with intransitive meaning ("lie" and "be warm"). The basic verbal stem may express various aspectual nuances according to context, but imperfective aspect may also be overtly marked by suffixes cognate with those which serve the same function in Hittite: *pī-ša* "give!" (distributive, with multiple objects) or *i-škā* "be!" (durative, in a construction indicating possession). The verbal endings formally are cognate with those of the other Anatolian languages, but the limited evidence suggests that the distribution in Palaic does not quite match that of Hittite or Luvian.

There is an infinitive in *-una* (e.g., *aḥuna* “to drink”) cognate with that in Luvian. Palaic interestingly appears to employ both *-ant-* and *-amma-* as suffixes to form participles (*takkuwānteš* and *patamman*), but the meaning of the latter example is quite uncertain, and it may be a lexicalized relic. It is likely that there is a single functional category expressing an attained state (passive for transitive verbs), as in Hittite (see Ch. 18, §4.4.5).

4.4 Morphological miscellanea

Palaic has a range of nominal stem-classes (at least *-a-*, *-i-*, *-u-*, *-(n)t-*, *-n-*, and *-r-*) and probably two verbal conjugations corresponding to the *mi-* and *hi-* conjugations of Hittite (see Ch. 18, §§4.4.7; 4.4.9), although evidence for the latter is arguable. It is not clear to what extent Palaic shows the phenomenon of “i-mutation” so characteristic of the western Anatolian languages (see Starke 1990:71ff.). Several well-known Indo-European nominal and verbal derivational suffixes are attested, and further data would undoubtedly yield further examples.

4.5 Compounds

There is one assured compound: *aš=kummawa-*, literally “mouth-pure,” i.e., “sacralized and fit for the gods to eat” (see Watkins 1987:399f., after Szemerényi). The absence of additional examples is undoubtedly due to chance.

5. SYNTAX

5.1 Word order and clause structure

As an inflected language, Palaic predictably has rather free word order. The unmarked order is SOV (Subject–Object–Verb), but others are by no means rare. Essentially any major constituent may be placed in clause-initial position for emphasis: verb, direct or indirect object, adverb, and preverb are all attested besides subject.

There are no assured cases of coordinated clauses. Probably not by accident there are also no clear examples of coordinated noun phrases, while asyndeton is common. Palaic has the enclitic conjunctions *-ku* and *-ḥa*, but the latter certainly means “also,” and probably so does the former. Neither is a simple connective “and.” The only certain subordinating conjunction is *mān* “when(ever), if,” cognate with Hittite *mān*. Relative clauses preceding the main clause with a resumptive pronoun are assured (*kuiš=a...=apan* “whichever... that one”), and there likely is at least one example of a postposed relative clause.

5.2 Agreement

Gender and number agreement is mostly of a standard sort, but Palaic does preserve the Proto-Indo-European construction whereby a neuter plural (actually an old collective) as subject takes a singular verb: *tilila ḥāri* “the t. (a food) are warm” (lit. “is warm”). As in other Anatolian languages, one also finds in Palaic a singular verb apparently agreeing with the first of multiple subjects: *lukīt=ku tabarnaš tawannannaš* “The king (and) queen have also distributed” (*lukīt* is preterite third singular).

5.3 Clitics

The Indo-European Anatolian languages are famous for their use of clitics, and Palaic is no exception. There is ample evidence for the appearance of subject and object pronouns and various sentence particles (often ill-defined) as enclitics to the first accented word in the clause (so-called *Wackernagel's Law*): *arūn=am=pi witeši* "tall=him=particle you shall build," that is, "You shall build him tall." In addition, however, Palaic shows sporadic cliticism of words which are normally accented: *nū=wašu* (sentence conjunction plus "good") versus normal *wāšu* (note the loss of length on the first vowel of the noun, as per the rule mentioned above). The conditioning and function of this usage are unclear. There is also evidence for enclitic use of the demonstrative (see Melchert 1984:28ff.). The apparent restriction of this usage to the neuter singular seems strange, but is probably paralleled in Luvian.

6. LEXICON

The severely restricted corpus precludes definitive statements about the lexicon: only twenty-two of the words in the Swadesh-Voegelin hundred-word core vocabulary list are attested and identified. One cannot place too much weight on the fact that 87 percent of these are inherited. The facts of Hittite suggest, however, that the nature of our evidence presents a misleading picture. The apparent heavy influence of Hattic is probably due simply to the fact that our texts nearly all deal with the cult of the Hattic pantheon. Palaic has also borrowed at least the title for the Hittite king, *tabarna-*, from Luvian (not from Hattic), and this is likely for the queen's title, *tawananna-*, as well.

7. READING LIST

Carruba (1970) provides a convenient and excellent vade mecum: all texts in transliteration (but without translation), grammar, and lexicon, plus bibliography to that date.

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Lydian

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1. HISTORICAL AND CULTURAL CONTEXTS

The land called Lydia in Greek sources lay during the first millennium BC on the west central coast of Anatolia, centering on the River Hermos (modern Gediz), with its capital at Sardis (near modern Turgutlu). The indigenous language is attested in graffiti and on coins from the end of the eighth or beginning of the seventh century down to the third, but well-preserved inscriptions of significant length are presently limited to the fifth and fourth centuries, during the period of Persian domination. Lydian texts are thus effectively contemporaneous with those in Lycian.

Extant Lydian texts now number slightly over one hundred, but fewer than thirty of these consist of more than a few words and are reasonably complete. Aside from coins, graffiti, and very short inscriptions on various objects, the overwhelming majority of the inscriptions are on stone. The bulk of these are sepulchral in content, but several of the texts are decrees of one sort or another. Some half-dozen texts are in verse, with a stress-based meter and vowel assonance at line end (see Eichner 1986a and 1993:114ff., with references). All but a handful of the Lydian texts have been found in or near Sardis. For several isolated finds much farther afield see Gusmani 1995:9f. One short Lydian–Aramaic bilingual text helped establish the rudiments of Lydian grammar, but no extensive Lydian–Greek bilingual comparable to the Létôon Trilingual for Lycian (see Ch. 21, §1) has yet come to light.

Lydian shares several characterizing innovations with Hittite and related languages and definitely belongs to the Anatolian subgroup of Indo-European as narrowly defined (see Meriggi 1936, and Melchert 1994a:6f.). Lydian is thus to be derived from an intermediate prehistoric stage we may call Proto-Anatolian. Earlier suggestions that the resemblances between Lydian and the other Anatolian languages are due to convergence are no longer tenable. Nevertheless, the position of Lydian within the Anatolian group is unique and problematic, for at least two reasons.

First, understanding of Lydian remains very limited, comparable to that of Palaic and markedly inferior to that of Luvian or Lycian. The basic grammatical structure of most sentences is clear (aside from some in the verse texts, where unusual word order retards analysis). With rare exceptions, however, grasp of the semantic content ranges from approximate at best to zero at worst. All aspects of the following description should thus be viewed as representing mere hypotheses, of varying degrees of plausibility, not as established facts.

A second difficulty is that Lydian undeniably shows a number of features which are not shared by any other language of the Anatolian group. The limited evidence makes assessment of this fact difficult: are these unique features archaisms preserved only in Lydian, or do

they result from a series of peculiarly pre-Lybian developments? Until a more satisfactory answer to this question is available, the status of Lybian within Anatolian will remain a "special" one.

2. WRITING SYSTEM

The Lybian writing system, which is strictly alphabetic, is related to or derived from that of Greek. The exact relationship remains unclear (see Gusmani 1978 and 1995:12). The direction of writing in the older texts is either left to right or right to left. Later texts show exclusively the latter. Use of word-dividers is variable. Values of individual letters are discussed below in the phonology.

Table 22.1 The Lybian alphabet

Character	Transcription
A	a
B	b
C	g
D	d (/d/)
E	e
F	v
G	i
H	y
I	k
J	l
K	m
L	n
M	o
N	r
O	s (/s/)
P	t
Q	u
R	f
S	q (/k*/)
T	s (/q/)
U	z (/r/)
V	z
W	e
X	h
Y	u
Z	u
+	c (/d*/)

3. PHONOLOGY

3.1 Consonants

The Lydian phonemic inventory consists of the following consonants:

(1) Lydian consonantal phonemes

p	t	k	k ^w
	ts		
	dz		
f	s	ç	
v	ð		
m	n	v	
	l	r	ʎ

The nasal conventionally transliterated as *v* (Greek *nu*) is of indeterminate value (see §3.1.3).

3.1.1 Stops

Lydian has a single set of stop phonemes which are probably underlyingly voiceless (for Lydian graphic *b* as /p/ see Gusmani 1965:204ff.). It is very likely that they are realized as voiced allophones in favorable environments, regularly so after nasals (including nasalized vowels), as in Lycian. The name *Alexander* appears as *Alīksāntru-*, while **endo* "in(to)" results in [ēd-] spelled *ēt-*. There is at least a strong tendency to voicing also next to /r/: note the names *Srkaštu-* and *Atrašta-* rendered in Greek as Σρυγαστής and Αδραστής respectively. In rare cases the voiced allophone of the velar /k/ is spelled with a separate letter *g* (e.g., the hapax *qig* for normal *qik* "whatever"), but the allophonic variation is, as expected, not normally indicated in the spelling. Since there is no voicing contrast, there may well be some free variation (note the Greek equivalents of intervocalic /t/ in personal names cited by Gusmani 1988a:191ff.). The place of articulation of /p/ (letter *b*), /t/, and /k/ is undisputed. For arguments that *q* represents a synchronic as well as etymological labiovelar /k^w/ (e.g., in *qi-* "who, which") see Heubeck 1959:1–50 and especially Gusmani 1964:33f.

3.1.2 Fricatives and affricates

The letter transliterated as *τ* (Greek tau) is certainly a voiceless coronal affricate: see Gusmani 1969 with references to Shevoroshkin and others. The definition as a dental alveolar is based on etymological considerations, and a palatal or palatalized articulation cannot be excluded. Characterization of the letter conventionally transliterated *c* as the corresponding voiced affricate is merely an educated guess, and almost any voiced coronal affricate or fricative is possible. The one assured source of the sound is an assibilated **d*: *civ-* "god" < **diw-*.

The synchronic status of the fricatives /f/, /v/, /s/, and /ç/ is clear. The last is the result of prehistoric palatalization of **s*, and obviously a palatalized [s] instead of an alveo-palatal or pure palatal is quite possible. By an unfortunate convention too long established to be changed, the sibilant transliterated as *ś* is the dental-alveolar /s/, while *s* is the palatal /ç/. There is strong evidence that the sound represented by the letter *d* is not a voiced stop: the borrowing of the name *Demeter* as *Lamētru-* and internal evidence suggest that Lydian had

no word-initial voiced stops, but *d*- occurs word-initially. The likeliest possibility is a voiced interdental fricative /ð/ (compare Lycian), for which see Melchert 1994c with references to prior works, but some other kind of voiced coronal fricative would also fit the current facts.

3.1.3 Sonorants

The nasals and liquids are mostly straightforward. Synchronic /*λ*/ (transliterated with Greek *lambda*) is the result of prehistoric palatalization of **l*, and once again a palatalized instead of palatal articulation is possible. The value of the nasal transliterated as *ν* (Greek *nu*) is problematic. Its only clear source is **original** word-final nasal (both **m* and **n*): loss of word-final vowels makes it synchronically contrastive with the other nasals. This and other distributional facts point to some kind of weakly articulated nasal consonant, but a precise definition is elusive: see Gusmani 1978:842ff. and Melchert 1994a:339 for discussion. The presence of special letters for nasalized vowels (see below) makes it unlikely that the letter *ν* merely indicates nasalization of the preceding vowel. It seems reasonably certain that the sonorants could function as syllabic peaks in Lydian when occurring between other consonants (or alternatively that such sequences were realized phonetically with inserted [ə]): for /*m*/ note the sentence-initial sequence *fa=k=m=s=ad*, for /*ɾ*/ *caqla-* and so forth, and for /*λ*/ *bλtarvod*. Examples such as *kšbλta-* and *dctdid* suggest that even fricatives could form syllabic peaks, at least phonologically (see Eichner 1986a:8).

It is noteworthy that Lydian has no glides, unlike all the other ancient Indo-European Anatolian languages.

3.2 Vowels

Lydian probably has a standard five-vowel system /*i*/, /*u*/, /*e*/, /*o*/, and /*a*/ plus two contrastive nasalized vowels, though the precise place of articulation of these vowels is open to debate. The vowel transliterated as *y* is in all likelihood merely an unstressed allophone of /*i*/ (see Gusmani 1983:57ff. and Melchert 1994a:342). Evidence of Greek transliterations of Lydian names and etymological considerations suggest that the mid vowels /*e*/ and /*o*/ were relatively high and long phonetically. It is unlikely that vowel length was synchronically contrastive in Lydian. While the status of occasional spellings in *aa* has not been fully clarified, the existence of other inconsistent attempts to indicate allophonic variation (note *g* and *y* above) makes it likely that the length of the /*a*/ in such cases is likewise merely conditioned lengthening under the accent (see Eichner 1986b:215f., and below).

Eichner (1986b, especially 211, n. 21) has presented compelling arguments that the vowels transliterated as *ā* and *ē* represent nasalized vowels, confirming a long-held but occasionally doubted interpretation. The transliteration of *ē* is misleading, however, in that it alternates morphophonemically with /*a*/ (never with /*e*/): compare *cēqra-* and derivative *caqla-*. Etymological considerations (see Melchert 1994a:343) point to a phonetic contrast in length (*ā* = /ā:/, *ē* = /ā/), but this is anything but assured, and one may entertain several other possibilities. As there are no glides, there are no diphthongs.

3.3 Accent

Eichner (1986a and 1986b) has convincingly established the essentials of the Lydian accent. While certain details of his analysis may require revision, the skepticism of Gusmani (1988b and elsewhere) of the overall scheme is wholly unjustified. As Eichner demonstrates, the Lydian vowels /*e*/, /*o*/, /*ā*/, and /*ē*/ regularly occur only under the accent. Using this and other

evidence (syncope and meter), he concludes that all simplex Lydian words are marked by a single accent, which is free to appear on any syllable. Aside from obscure and unanalyzable sequences, the only exceptions to this rule are univerbations of preverb and verb, and indeed, virtually all cases involve specifically the preverbs *ēn-* and *ēt-* "in(to)." Since metrical evidence suggests that in preverb-verb combinations the accent falls on the verb, the irregular appearance of *ē* in these cases is probably due to the influence of the associated free-standing adverb *ēn*.

3.4 Synchronic variation

Various cases of allophonic variation have already been cited above. Aside from "sandhi-rules" simplifying certain consonant clusters at morpheme boundary (see Melchert 1994a:351), the only known morphophonemic rule is that by which the nasalized vowels *ā* and *ē* become *a* when unaccented: note again *čēqra-* versus *caqrlā-* cited above and see Eichner 1986b:211ff.

3.5 Phonotaxis

Lydian phonotactic restrictions differ markedly from those of the other Anatolian languages – in fact, this is superficially perhaps the most striking feature of the language from a comparative point of view. Prehistoric syncope at least as massive as that in Lycian plus regular apocope of original final short vowels combine to produce consonant clusters more typical of Caucasian languages than Indo-European: recall *dc̥did* or *k̥sb̥l̥tok-*. For a very preliminary first attempt to describe the syncope see Melchert 1994a:373ff. All Lydian consonants occur word-initially except /*ʎ*/ and /*ʋ*/. Initial /*r*-/ is rare and surely secondary. Unlike its immediate Anatolian relatives, Lydian permits a wide range of final consonants, including several clusters. As the extreme examples cited above indicate, initial and medial clusters are frequent: for an exhaustive list see Melchert 1994a:352ff.

4. MORPHOLOGY

Lydian inflectional morphology is significantly reduced in comparison with other Anatolian languages or older Indo-European languages in general, but typologically it must still be regarded as belonging to the traditional *inflectional* class. The near-absence of demonstrable derivational morphology is surely also due to our limited understanding of the language.

4.1 Nominal morphology

The Lydian noun and adjective inflect for the expected two numbers (singular and plural) and two genders (animate and inanimate). Alleged examples of a separate feminine gender have conclusively been shown to be instead collective *pluralia tantum* (see Carruba 1969:44ff.). Assured cases include only nominative, accusative, and dative-locative. The inanimate gender naturally does not distinguish nominative and accusative in either singular or plural. One or two examples of the dative-locative plural (which formally represents the PIE genitive plural **-om*) appear to function as an adnominal genitive (*artimulibsimvav* "(to) Artemis of the Ephesians"), but this fact hardly justifies positing a distinct genitive case. Possession and appurtenance are regularly expressed in Lydian by a relational adjective which agrees with the head noun in gender, number, and case: for example, *siuvala/i-* "divine, of the

god(s).” This virtually complete replacement of the genitive case by a relational adjective is a characterizing feature of western Anatolian, shared with Luvian, Lycian, and surely also the poorly attested Carian, Pisidian, and Sidetic. The one or two alleged examples of an ablative-instrumental are almost surely false. The absence of evidence for such a case could be accidental, but one must seriously consider the possibility that Lydian expresses such relationships by the use of adpositions with the dative: note *artimuλdāv* probably “from Artemis.” The formal markers for number, gender, and case are mostly recognizable as inherited, with the notable exception of the dative-locative singular in *-λ*, the origin of which is disputed. Noteworthy is the spread of the Proto-Indo-European pronominal neuter nominative-accusative singular ending in **-d* to the noun and adjective: for example, *šfarvad* “oath.”

Lydian shares the feature of “*i*-mutation” described above for Luvian and Lycian (see §4.1), but the phenomenon does not appear to be as widespread: see Starke 1990:82ff. and Melchert 1994b:232ff.

4.2 Pronouns

Lydian *amu* “I, me” shows the peculiar Anatolian *u*-vocalism of the first-person singular pronoun. The only assured deictic pronoun is *es-* “this,” of uncertain origin. Decidedly less certain are *os-* “that” (see Eichner 1988) or *āna-* “this” and *ēna-* “that” (see Melchert 1991:137f.). The stem *bi-*, cognate with the deictic stem *apā-* “that” of Hittite, Palaic, and Luvian, functions in Lydian only as the stressed third-person pronoun “he, she, it, they.” Lydian also has as expected enclitic personal pronouns, some formally straightforward (*-av* “him, her, it,” acc. sg. < **-om*), others much less so (*-mλ* “to/for him, her,” dat. sg.).

4.3 Verbal morphology

The verb has the expected three persons, and two tenses (present-future and preterite). Evidence for a mediopassive beside the active is uncertain, as are possible examples of an imperative contrasting with the indicative. It is tolerably certain that there is a distinction between singular and plural (preterite first singular *-v* vs. preterite first plural *-vv*), but there clearly is no number distinction in the third person, either in the present or in the preterite (respectively *-t/d* and *-l*). An infinitive in *-l* seems reasonably assured, but the status of various proposed participial formations remains uncertain: see for all of this Gusmani 1964:42f.

5. SYNTAX

5.1 Word order and clause structure

The unmarked word order is SOV (Subject–Object–Verb), but fronting of the verb and other elements for emphasis is not uncommon, and one also finds extraposing of constituents to the right of the verb. These phenomena are by no means limited to the texts in verse. Relative clauses typically precede, with a resumptive pronoun in the main clause, but there are likely examples of postposed relative clauses. Adjectives, including demonstratives and relational adjectives, usually precede their head noun. At least one postposition, *dāv* “from,” seems assured, and others are likely. Lydian cognates of the local adverbs found in other Anatolian languages appear to be limited to use as preverbs, and indeed only unverbated with the verb.

The conjunction *ak-* apparently links Lydian clauses prosecutively (cf. Luvian *a-* and functionally Hittite *nu*). The disjunctive conjunction *buk* "or" conjoins both clauses and noun phrases, while *-k* "also, and" apparently links only noun phrases. Putative subordinating conjunctions are all uncertain.

5.2 Clitics

Lydian shows the typical Anatolian use of anaphoric pronouns and sentential "particles" as enclitics to the first accented word in the clause. The function of the various particles is poorly understood, but see Melchert 1991 for the reflexive *-š/is*.

5.3 Syntactic miscellanea

Lydian attests at least one example of the Anatolian usage of the dative for the direct object of an infinitive: *karola(v)=š šfēndav arvol*, literally, "of Karos (dat. pl.)-emphatic particle property (dat. pl.) to steal"; in other words, "to steal the property of **Karos**." The expected accusative is also found.

6. LEXICON

For reasons cited in §1 above, it is impossible to say anything useful concerning the Lydian lexicon.

7. READING LIST

Gusmani 1964 with supplements (1980, 1982, 1986) furnishes grammar, texts in transliteration, and lexicon combined, along with extensive bibliography. The most thorough discussion of the writing system is Gusmani (1978).

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Carian

H. CRAIG MELCHERT

1. HISTORICAL AND CULTURAL CONTEXTS

The land of Caria lay during the first millennium BC in the southwest of Anatolia between Lydia and Lycia. A few dozen texts in the epichoric language, mostly very short or fragmentary, have been found in Caria itself or on objects likely to have originated there. These are dated very approximately to the fourth to third centuries BC. There is also a very fragmentary Carian–Greek bilingual from Athens, dated to the sixth century. By far the largest number of Carian texts consists of tomb inscriptions and graffiti left by Carian mercenaries in Egypt, dating from the seventh to fifth centuries BC. A new epoch in Carian studies has now begun with the dramatic discovery in 1996 of an extensive Carian–Greek bilingual by Turkish excavators in Kaunos and its remarkably swift publication by Frei and Marek (1997).

2. WRITING SYSTEM

The Carian script surely stands in some relationship to the Greek alphabet. The direction of writing is predominantly right to left in texts from Egypt, and left to right in those from Caria. *Scriptio continua* is frequent, and use of word-dividers is sporadic.

Decipherment of the Carian script has been a long and arduous task. Pioneering efforts by A. H. Sayce at the end of the nineteenth century were followed by several false steps based on the erroneous assumption of a syllabic or semisyllabic system and a long period of relative neglect. It was the merit of V. Shevoroshkin (1965) to have shown that the Carian script is an alphabet. However, the specific values he and others assigned to individual letters led to no breakthrough in our understanding of the language. Particularly striking was the virtually complete absence of any matches between Carian personal names, as attested in Greek sources, and putative examples in the native alphabet.

A new era began in 1981 when John Ray first successfully exploited the evidence of the Carian–Egyptian bilingual tomb inscriptions to establish radically new values for several Carian letters, as well as to confirm the values of others. Additional investigation, notably by Ray, Ignacio-Javier Adiego, and Diether Schürr, has led to further revisions and refinements of the new system. The basic validity of this approach was shown by its correct prediction of Carian personal names which have subsequently appeared in Greek sources. Nevertheless, many uncertainties and unsolved problems remained, and several reputable experts were skeptical of the new interpretation of the Carian alphabet. One can

conveniently gain a sense of the state of Carian studies prior to 1997 from Giannotta *et al.* 1994.

The new Carian-Greek bilingual from Kaunos has shown conclusively the essential validity of the Ray-Adiego-Schürr system, while also confirming the suspicion of local variation in the use of the Carian alphabet. While some rarer signs remain to be elucidated, the question of the Carian alphabet may be viewed as decided. The new bilingual has not led to immediate equally dramatic progress in our grasp of the language. One reason for this is that the Greek text of the Kaunos Bilingual is a formulaic proxenia decree, while the corresponding Carian is manifestly quite independent in its phrasing of what must be essentially the same contents. The Kaunos Bilingual has provided welcome confirmation of the view that Carian is an Indo-European Anatolian language, and indeed, of the western type of Luvian, Lycian, and Lydian. However, one cannot speak of a complete decipherment until there are generally accepted interpretations of a substantial body of texts – a stage not yet fully attained. This remark applies even to the new bilingual, as one can easily confirm by reading the competing linguistic analyses in Blümel, Frei, and Marek 1998. The following very sketchy description of the language must therefore be taken as highly provisional!

Table 23.1 A subset of characters of the Carian alphabet

Character	Transcription
A	a
C	d
Δ	l
E	ù
F	r
I	λ
Θ	q
Γ	b
N	m
O	o
Φ	t
Ϛ	s
M	s
Y	u
X	x
Υ	n
ΔΔ	p
Θ	š
Ϛ	i
Π	e
Φ	w
V	k
Π	ā
Η	f
Ϛ	r
W	w

3. PHONOLOGY

3.1 Consonants

3.1.1 Obstruents

Carian certainly has a series of voiceless stops /p/, /t/, and /k/. There are actually three letters for dorsal stops: *k*, *q*, and *x*. It is quite unclear whether this orthographic distinction reflects a linguistic contrast, phonetic or phonemic, and if so, of what nature. There are also letters for *b* and *d* the basic value of which is assured by Greek renderings of Carian names. Whether these sounds are voiced stops or fricatives cannot yet be determined. Several indications point to the latter: the existence of separate signs for [mb] and [nd] (Schürr, 1991–1993: 169ff.); the absence or extreme rarity of a corresponding velar; and the apparent lack of voicing contrast in the velar stop(s) as suggested by Greek correspondences. Compare for the first and last points the situation in Lycian. One should, however, avoid premature conclusions.

There are three contrasting sibilant phonemes. Carian *š* is palatal or palatalized, based on Egyptian correspondences in personal names and etymological considerations (*šr*-“up(per)” or similar < **ser*-; cf. Lydian *serli*-“supreme” likewise with palatal(ized) sibilant). Carian *ś* reflects Proto-Anatolian *-*ss*- in the relational adjective suffix -*ś*-. The nature of the contrast with the third sibilant *s* remains to be defined. The Carian sound transliterated as *τ* is some kind of coronal obstruent, probably an affricate, but its source and hence its precise value is unknown.

3.1.2 Sonorants

Carian sonorants include /m/, /n/, /r/, and /l/. There is a second lateral transliterated λ, which definitely contrasts with ordinary l (/l/). The former is rendered consistently in Greek as geminate λλ or λδ and probably continues prehistoric geminate *-ll-. It is reasonably certain that the sonorants have syllabic allophones.

There are no certain distinct signs for glides, but there are undoubtedly nonsyllabic correspondents of the high vowels /i/ and /u/. Their phonemic status is indeterminate.

3.2 Vowels

Carian appears to have a standard five-vowel system: /i/, /u/, /e/, /o/, and /a/. That the mid-vowels /e/ and /o/ are relatively close and long is suggested by both their likely historical sources and by Greek renderings (Adiego 1994:48ff.). A synchronic contrast in vowel length is unlikely. There is an apparent surfeit of letters for /u/ (*u*, *ú*, *û*, *ü*, *w*), and additional linguistically real contrasts may eventually emerge, but the possibility of multiple graphemes for a single phoneme must also be taken seriously. Diphthongs /ai/ and /au/ seem assured.

4. MORPHOLOGY

4.1 Nominal morphology

Only fragments of Carian morphology are as yet recoverable. In the noun one may identify an animate accusative singular ending /-n/ contrasting with animate nominative singular

ending zero (for the first see Melchert 1993: 79, and now the confirmatory evidence of the Kaunos Bilingual). Possession or appurtenance is indicated by a suffix which appears as *-ś* in the frequent patronymics and ethnica of the sepulchral inscriptions. Identification by Schürr (1992:138) of an animate accusative form in *-śñ* argues that the examples in *-ś* represent the corresponding animate nominative singular of a relational adjective (thus also Adiego 1994:54), rather than a nominal genitive case-marker. The equation of this relational adjective suffix *-ś* with that of Luvian and Lycian is one of the strongest arguments for the status of Carian as an Indo-European Anatolian language. The Kaunos Bilingual has now also given us *kbdun-* "Caunian," where the *-un-* clearly is cognate with the Luvian suffix *-wann(i)-* which also derives adjectives from place names.

4.2 Pronouns

Adiego (1992:32f.) and Melchert (1993:79) have identified a demonstrative stem *s(a)n-* "this." Hajnal (1997) has now fully confirmed the earlier suspicion that Carian enclitic *-xi* represents the Proto-Indo-European relative pronoun **k^wi-*.

4.3 Verbal morphology

Melchert (1993:78f.) has argued that *wbt* represents a preterite third singular verb "has dedicated" (matching Lycian *ubete*). Janda (1994:178) proposes that the verb of the sentence in question is rather *pídl* "has given," corresponding to Lydian *bil(l)* (< **bidl*). A choice between these alternatives depends on finding further convincing examples of one or the other. The lack thus far of any other persuasive identifications of finite verb forms, due in part to the nature of the available corpus, is the most serious obstacle to a complete decipherment of the language. The Kaunos Bilingual has not yet remedied this situation.

5. SYNTAX

Hajnal (1997) has compellingly analyzed the enclitic *-xi* as functioning in some instances as a relative pronoun, but in most cases as an invariant particle marking a definite noun phrase. Also noteworthy is the coordinating conjunction *sb* "and," first correctly identified by Neumann (comparing Milyan *sebe*).

6. LEXICON

In addition to various lexemes cited above, one should note the recent identification of *ted* "father" and *en* "mother" (Schürr 1996). Important also is the stem *otr-* "oneself" of the Kaunos Bilingual, independently identified by several scholars with Lycian *atra-* "oneself."

7. READING LIST

The most complete survey is Adiego 1993. One should also consult Giannotta *et al.* 1994, and Blümel, Frei, and Marek 1998.

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