REKONSTRUKTION UND
RELATIVE CHRONOLOGIE

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ROBERT BEEKES, ALEXANDER LUBOTSKY
und JOS WEITENBERG

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Relative Chronology and Anatolian: The Vowel System∗

H. CRAIG MELCHERT

The existence of an Anatolian family of Indo-European languages has long
been recognized. Rammehuber, RHov (1969) 119—357 and 428—546, summa-
rizes some of the features which distinguish this set of languages from other sub-
families of Indo-European. Her discussion focuses on Hittite, Palaeo-Canaanite
and Hieroglyphic Luvian, but there has been no general agreement for some time
that we should also add Lycian and Lydia to the Indo-European languages of
Anatolia: see for Lycian especially Meriggi, Fs Hirt 2 (1938) 207—232, and
Laroche, BN 86 (1939) 157—185, 55 (1940) 155—185, 58 (1943) 58—79 and 62
(1947) 44—66; for Lydia see Meriggi, Fs Hirt 2 283—290.

Despite the long recognition of an Anatolian family, there has been little work
to date on reconstructing the features of Common Anatolian, whether in phonol-
ogy, nominal or verbal morphology. To the extent that they have discussed at all,
scholars have generally treated Common Anatolian as a sort of backward exten-
sion of Hittite, abstracting from the features of Old Hittite a few obvious Hittite
innovations (such as */* >/ before */*/p/) and calling what is left Common Anatol-
ian. The main reason for this behaviour is evident: for many years our knowledge
of the "minor" Indo-European languages of Anatolia was so inferior that these lan-
guages seemed of little use for historical reconstruction.

Recent developments have drastically changed this situation. The revised
readings of several crucial Hieroglyphic Luvian signs established by Hawkins,
Morgan-Davies and Neumann, 
BZ 71: 1974, based on suggestions of earlier schol-
ars, have revolutionized our understanding of Luvian. An authoritative new ed-
tion by Hawkins of all the first millennium texts in this language will also surely

∗ Bibliographical abbreviations are those of The Hittite Dictionary of the University of Chi-
ago (CDH), edited by Hans G. Gitterbock and Harry A. Hoffner, Chicago: 1990 (FH). Older
Lycian texts are cited after K. Kaltsas, Tilas Lycian (TL), Vienna: 1901. They are also avail-
able in J. Friedrich, Klauserntische Sprachensammler, Berlin: 1933. More recent
Lycian texts are cited with the prefix N after G. Neumann, Neuende lycische Schriftzeichen
seit 1901, Vienna: 1978. Note that by this numbering the Trilingual of Lession is in N 250.

One exception to this trend has been the work of Heiner Kiechler, who has explicitly
treated many problems of Common Anatolian. See for example his articles in MSS 31
(1973) 52—107; Sprachschriften 31 (1986) 23—31, KE 99 (1986) 233—239. However, since he has
not yet presented his analyses in a systematic fashion, they have not had the overall
impact they deserve.
lead to many new results.\textsuperscript{5} The publication of the \textit{Lédon Trilingual} has likewise entirely renewed the study of Lydian; see in the first instance Laroche, \textit{Foilsnt de Xanhis} 8 (1970) 49 - 127. We are indebted to F. Starke, \textit{Studet} 30 (1986), for a splendid new edition of all the Cuneiform Lyvian texts. Developments in Palaeo and Lydian have been less dramatic, but considerable progress has also been made in the elucidation of these languages.\textsuperscript{1} I am convinced that our understanding of the \textquote{minor} IE languages has now progressed to the point where we are no longer justified in treating Common Anatolian merely as an adjunct of Hitite. The time has come for serious reconstruction of Common Anatolian based on the contributions of all the assured languages of the family.\textsuperscript{2}

The relevance of relative chronology to the reconstruction of Common Anatolian is crucial and twofold. First of all, data from the other languages can be used as a control on relative chronology proposed for Hitite. So long as one is restricted to Hitite as the end-point and PIE as the starting point, relative chronologies of changes in the development of Hitite are in principle verifiable: one assumes the relative chronology required by the analysis one adopts. If someone proposes an alternative relative chronology based on a different chronology of the other languages, one can argue the overall merits of the competing analyses, but one has no basis for choosing between them in relation to the relative chronology.\textsuperscript{3}

However, facts from the other Anatolian languages can often verify or falsify a relative chronology and the dependent analysis made for Hitite. For example, there is in the Hitite \textquote{M-eastigation} subtype which shows a consistent morpho-phonemic alternation: the present third singular (and other \textquote{stressed} forms) show an apparent long vowel followed by a single stem-final consonant, while the present third plural has a short vowel and double stem-final consonant. See for example pres. 3rd sg. udi\textquoteright{\textquoteright}beit\textquoteright{\textquoteright} versus pres. 3rd pl. uaka\textquoteright{\textquoteright}hit\textquoteright{\textquoteright}; Oettinger, \textit{Stemmabildung} 1974 - 449, 440, explains the origin of this type according to two prehistoric sound changes in Hitite. The single consonant in the third singular is due to \textquote{lentition} after an accented long vowel. This is the \textquote{Yenipity} phase of MSS 21 (1973) 79 - 83. Oettinger sees the long vowel here as produced by another change by which a short accented vowel was lengthened in an open syllable before another short vowel in disyllabic words: \textquoteright\textquoteright{\textquoteright}VC\textquoteright{\textquoteright}V \textquoteright\textquoteright{\textquoteright}VC\textquoteright{\textquoteright}V.\textsuperscript{4}

Note that according to this account our analysis precedes the lenition rule. Unfortunately, evidence from Lyuvian, Palaeo and Palais shows that the lenition rule is Common Anatolian. I cite here Lyc. tadi\textquoteright{\textquoteright}pute\textquoteright{\textquoteright} < *d\textquoteright{\textquoteright}e\textquoteright{\textquoteright}k\textquoteright{\textquoteright}\textquoteright{\textquoteright}n\textquoteright{\textquoteright}\textquoteright{\textquoteright}\textquoteright{\textquoteright}\textquoteright{\textquoteright}\textquoteright{\textquoteright}{\textquoteright}{\textquoteright}{\textquoteright}{\textquoteright}{\textquoteright}{\textquoteright}{\textquoteright}{\textquoteright}{\textquoteright}{\textquoteright}{\textquoteright}{\textquoteright}{\textquoteright}{\textquoteright}{\textquoteright}{\textquoteright}{\textquoteright}{\textquoteright}{\textquoteright}{\textquoteright}{\textquoteright}{\textquoteright}{\textquoteright}{\textquoteright}{\textquoteright}{\textquoteright}{\textquoteright}{\textquoteright}{\textquoteright}{\textquoteright}{\textquoteright}{\textquoteright}{\textquoteright}{\textquoteright}{\textquoteright}{\textquoteright}{\textquoteright}{\textquoteright}{\textquoteright}{\textquoteright}{\textquoteright}{\textquoteright}{\textquoteright}{\textquoteright}{\textquoteright}{\textquoteright}{\textquoteright}{\textquoteright}{\textquoteright}{\textquoteright}{\textquoteright}{\textquoteright}{\textquoteright}{\textquoteright}{\textquoteright}{\textquoteright}{\textquoteright}{\textquoteright}{\textquoteright}{\textquoteright}{\textquoteright}{\textquoteright}{\textquoteright}{\textquoteright}{\textquoteright}{\textquoteright}{\textquoteright}{\textquoteright}{\textquoteright}{\textquoteright}{\textquoteright}{\textquoteright}{\textquoteright}{\textquoteright}{\textquoteright}{\textquoteright}{\textquoteright}{\textquoteright}{\textquoteright}{\textquoteright}{\textquoteright}{\textquoteright}{\textquoteright}{\textquoteright}{\textquoteright}{\textquoteright}{\textquoteright}{\textquoteright}{\textquoteright}{\textquoteright}{\textquoteright}{\textquoteright}{\textquoteright}{\textquoteright}{\textquoteright}{\textquoteright}{\textquoteright}{\textquoteright}{\textquoteright}{\textquoteright}{\textquoteright}{\textquoteright}{\textquoteright}{\textquoteright}{\textquoteright}{\textquoteright}{\textquoteright}{\textquoteright}{\textquoteright}{\textquoteright}{\textquoteright}{\textquoteright}{\textquoteright}{\textquoteright}{\textquoteright}{\textquoteright}{\textquoteright}{\textquoteright}{\textquoteright}{\textquoteright}{\textquoteright}{\textquoteright}{\textquoteright}{\textquote.....
beside ēmus 'I, me' also assimilated ansa; conversely beside humana 'priest' stands kumānca 'sacred'; beside mar- 'command', mere 'law' (dat. pl.). The rule is iterative, as shown by the personal name Ermēnakēs from *Armanna (i.e. brother of the moon), where the final -m unlaunched the preceding s to s, and this s unlaunched the preceding a, and so forth. There are indeed a very large number of apparent exceptions to the rule stated in this form, but to my knowledge all of these cases can be attributed to paradigm leveling. Thus the s of dat. singular lādi 'wife' remains unchanged due to the pressure of nom. sg. lada, acc. sg. lādā/lādho, nom. pl. laddā, acc. pl. lādas, where the first a is regularly maintained before the back vowels of the final syllable.

As indicated above, this widespread unlaunched rule creates serious problems for determining the original distribution of a and e vocalism in Lydian. We are for the most part limited to final syllables, which escape the effects of the rule (except in profile). We can use examples from interior syllables only when their vocalism disagrees in terms of backness with that of the following syllable. That is, if we find low back a before a front vowel, or low front e before a back vowel, we can tentatively take the respective a and e vocalism as original, since it cannot be attributed to the unlaunched rule. On the other hand, an a before a back vowel or e before a front vowel is not probative, because the attested vocalism could in this case be due to umlaut.

When we turn to the historical development of the Lydian vowel system, we find that the predominant view derives the Lydian four-vowel system from a proto-Luvian three-vowel system a, i, u: see explicitly Neumann, Weitbrecht 48 and Oestinger, KE 92 (1978) 81. This account is based at least in part on the well-established conviction that Lydian and Luvian form a clearly defined dialect group within Anatolian. However, it is interesting to note that there has been some dissent from this view. see notably Pederesen, LT (1945) 33, Miletberger, Sprache 10 (1964) 59, and Carraux, Sprache 24 (1978) 167. The difficulty with this derivation is that: if Lydian a, e, i, u, reflects Proto-Luvian a, *u, *i, then (Luvian) *a must have split into Lydian a and i. If one accepts the fundamental principle of historical linguistics that there are no unconditioned splits, then this split of *a into a and e must be conditioned. No satisfactory conditioning for such a split has been proposed.

When I examined the list of Lydian a – Luvian – Hittite correspondences presented by Neumann, Lk. (1969) 375 ff, I also could see no pattern for a conditioning of Lydian e versus a. However I was struck by the fact that all equations of Lydian e with Hittite and Luvian a seemed to reflect PIE *e, while cases of Lydian
a equalling with Hittite and Luvian a either continued PIE *e or were of obscure origin. The more I pursued the Hittite, the more striking this complementary pattern became.

As examples of Lycian e = Hittite and Luvian a = PIE *e I may cite the following:

(1) The nt. nom.-acc. singular of *e- and *yo-stems is consistently *øděē 'place' < *pědē equals Hitt. pēđum (among others Carruba, Sprache 24.175); kummu tris 'sacred offering' (or similar), cf. HLV umus- and Lyc. umūši (Richner, Or. 52.59 ff.), šabatiš (part of the tomb) (Pederesen, Lif 34); šubrig (property) in N 320, 12; kərum 'upper' in TL 84,2 and prəx 'front' in TL 44a, 2811, and probably related 'huge mouth' in N 320, 16 and 23. (3) The *i-stem in TL 44a continues *-iē, also seen in Hitt.-as (cf. Pederesen, Lif 37).12 (3) Despite its partial derivative syntax, Lyc. me certainly equals Hitt. mea, which is also the second element of stemma of Lycian a < PIE *sid- (as in Latt. idem) 'indeed' < PIE *sid- (as in Latt. idem) (Kubler, EZ 98.184 ff.). (4) Lyc. eya 'into' < Hitt. ana = Latt. endo < PIE *ya> (6) Lyc. etē 'behind' = Hitt. ępās < *ępV (for the o-o vocalism see Dunke, EZ 93.83 ff.). (6) Lyc. eya, 'this' = Hitt. and Luv. oxti- 'that' from a virtual *ęxti- (7) Lyc. enē < Hitt. enē < *ens < *enē.13 (9) Lyc. pret. 3rd sg. -āt- < Luv. -āt- < Lyc. pret. 3rd pl. *tēt- < Luv. and Pal. -āta < *ənto.14 Lyc. infinitive -ētē < Hitt. -ētā < *entā.

11 Forms such as pēdēē (TL 106,1) and pōdēē (N 320,3) make it possible that this word is the syncretic of a -i-stem, but this does not affect the derivation. For confusions among neuter o- and e-stems, cf. Hitt. ɾənē 'barly' (gen. once eōn eōs eōs), -iet- 'tree', both eōs and eēsēu.

12 The adjectives kərum and prəx are in origin *yo-stems like Hitt. ummu tris thence: Qenē- and Luvian, these adjectives for the most part entered the inflections of the *e- and *yo-stems.

13 Pederesen derives e from a contraction of *-e- and likewise the dat. plural of *i-stems for *-e. However, it is likewise found in various contractions in Lycian. It is likely that Lycian, like Hittite and Luvian, lost intervocalic *e-. Thus in the oblique forms of aban-12:16
dating *-e- stems are always found to have been developed forms in *-ē and *-ē from the original genitive and dative plural forms *-ēpēs and *-ōyō from *-ēēēs and *-ēōēs (of Hitt. polāsākan gen. pl. polēbā-'broad and all afraid dat. pl. for '垓kil-'great' (Mehirits, Phor 44)). In Hittian those forms were replaced by new etymological NE suffixes. The Lycian forms, however, the contracted forms *-ē and *-ē could have been generalized to the *e-stem nouns. However, this doesn't happen in Lycia, and shows *e-stem influence in this area. Another theory is that, the same equating of Lyc. šēbbē (secondarily also *šēbē) 'their' with Hitt. šēbbē means would show directly gen. pl. < *-e-.

14 Ov. like also Hitt. -ēēs and Lyc. eya, and Luv. -ēēs < *ēēs < Hitt. -ēēs 'house'

15 The Lycian infinitive form has generally been equated with Luvian -āna via *anē- see nēe.< Laroche, BSS 55.172--173. However, as Laroche himself notes, the gentilic suffix which appears as -anes in Luvian is clearly derived from the o-o vocalism, which is usually represented as a laryngeal, as in eāna < Lycian *eēneānā (see also Laroche, BSS 55.172--173). In the genitive, however, the same equating of Lyc. šēbbē (secondarily also *šēbē) 'their' with Hitt. šēbbē means would show directly gen. pl. < *e-.

12 Hence just as the sing. 3rd person, the same equating of Lyc. šēbbē (secondarily also *šēbē) 'their' with Hitt. šēbbē means would show directly gen. pl. < *-e-.
kuama (`sacrifice'), manu (`law'), manusriya (`correct'), shibya (`these'), a`esusriya (`memory') (or similar) plus kruu and pruul of uncertain meaning and probably kruu `how many'. If they are functioning as adverbs, are `properly' and areusu `freely' would also continue neuter plurals, but see below for another possibility. (3) Demonstrative adjectives in -a represent -<a> (`Hist. -ah); pruusu `build', kruusu `rule', yade/Ina `be the straw', hrakumse `be the be'. Note that this class cannot be equated with the extended use in -<ape> (`Hist. alpe), because this generally continued in Lycean by the type of sahu, bariu = Lat. `vacuum'.

(4) In contrast to the neuter collectives in -a seen above, Lycean also shows a class of animate nouns in -a. Several of these have feminine references: ina `grandmother' Maljys `goddesse equated with Athena.' Others refer to concrete objects: yapa `-tomb', stiayu `-chamber', pruusu `-grave/hoouse', yadey `altar'. Note that the animate a-stem noun pruusu is the base of the demonstrative adjective pruusu- derived from *prususu-tis `<the screw/screw'; Lat. .fugado, Grk. tiyntu. Although its gender is not secured, because it occurs only in the abl.-inst. yada, there is no reason to doubt that *yade-y `altar' is animate, since it is formally consistent with Hist. itiayal `hearth, altar' (note the secondarily added *-ark marking animacy in Hittite) and Lat. atr. Taking all these facts into account, we can hardly avoid concluding with Pedersen LII 53, that this class of animate nouns in -a represents PIE feminine *-e (15).

(5) The first vowel of kruusu `-daughter' must reflect the *h of PIE *`dughter', either directly or by coloration of an anptic vowel. The coloration of the first vowel cannot be attributed to the unmasking effect of the second, since the first a is also seen in the dat. sg. kruas, where an original e before i would have remained. The inflection of kruusu as an a-stem may be analogous to the feminine nouns discussed above, but see also below. (6) The verb stiay is now shown by the Trilingual (N 3230, 16–17) to mean `stand', not `plow', and there is no good reason to suppose a borrowing from Greek. Lycean also may be the perfectly regular reflex of PIE *`stand'.

The family of *`properly' (or `proper action'), atesen, `free' (or `freedom'), and a`esusriya (`memory') (or similar) belongs with Hist. `true' and a`esusriya `free'. According to the attractive etymology of Benveniste, HIB (1962) 108–110, these reflect PIE *eW `to fit', with the same moral application as in English `fit', `proper' (see also Lacocque, Hommage à G. Dumézil (1980) 124–125). However, since all the Lycean forms have an a in the first syllable, they do not furnish a probative example of *(a) > Lycean a.

When we consider the fragmentary attestation of Lycean and the further limitations imposed by the unclean rule, I believe that the above contrastive lines are reasonably impressive. These facts are completely incompatible with the common assumption that the Lycean four-vowel system is derived from a Proto-Lycian three-vowel system. By such a development there could be no contrast between the contrast e < a in Lycean and the original opposition of PIE *e < a.

The consistent contrast between Lycean e < o and Lycean a < o can only be explained by assuming that Lycean, like Hittite, inherited the PIE five-vowel contrast intact from Common Anatolian and then merged original *e directly with *a, while Hittite and Lydian merged *o with *a. This account presupposes that some cases of Lycean e continue directly PIE *e (Pedersen, LII 33), and several examples can be found: (1) *e`ku let it be < *h`anu (2) *e`pap (parent) = Lat. `pass. (cf. Lat. semem). (3) -e (participle) = Lyv. `d (cf. Grk. h`e, prob. ad`e). (4) *e`e < *e`e (in the case that? (5) *e`t `i > `m (cf. Grk. a`e, a`en). (6) *e`e `em (cf. Grk. a`e, a`en). (7) *e`e `e`m (cf. Grk. a`e, a`en). (8) *e` `em (cf. Grk. a`e, a`en). (9) *e` `em (cf. Grk. a`e, a`en).

16 There is even limited evidence for a development of special feminine forms in the adjective (type of Latin novus, novum, novus). One example is epigraphus in TL 80, 3, which is generally agreed to be an excised epithet of the goddess Maljys meaning somewhat `exalted'. The ending -a was for both. nom. sg. of a participle in a's. A second unrecognised example is found in TL 100, 18, which reads in the entire: epe yapa xalb. The meaning of this type is not yet decisively settled. It may only be dat. sg. or pl. or nom. sg. It may be a dual, which is however, are eliminated by the form of the demonstrative, which would have to be respectively oblique and elements. On the other hand, from the precious expected signification, the type with us. The text must be read: This must be (o) `na-<a> = `belong to na-<a>-s. The word shoja is evidently not gen. singular or plural, rather simply a loc. singular, a relational adjective in `-sy, agreeing with ypase. This `tomb of Tiber' = `belong to Tiber'. This construction is well attested in Hittite, as we will see elsewhere. The last example is TL 18. 4067(5) of [pep]epapi(i)aprii pepe yapa `priest built this tomb. (b) for his younger brothers and his posterior (position) `posthumous? `descendants. Here the gen. plural epapi stands parallel to the relational adjective `priestly, which is fem. sing. agreeing with the understood subject yapa. This mixed construction is also common in Hittite. The productivity of the feminine definite possession in the definite is unclear. I would also not care to affirm whether the development is inherited or an innovation. 17 Shortly before the present of this paper I was pleased to learn that J. Rase- lusen of Bergen had arrived independently at the same conclusion. His formula- tion, based on some of the same contrastive-examples but with a different version of the unclean rule, is presented in the year previous.
lism, contrary to the evidence for \( d < * o m \) given above: see Laroche, *Formes de Xandar* 6.67. However, ara- and ara- could also be interpreted not as adjectives, but as derived abstractions (see *ARA-: freedom* and *PROPORTION*). In the Trilingual N 320, the accented ara- is in fact translated as Grk. αὐλίας, while ara- αδί in N 320, 21 may be interpreted as ‘release into freedom’; see the discussion of this passage by a series of scholars in *Journalique* 4:1 (1978) 89 ff. The examples of ara- in TL 128, 2 and TL 135, 3 could also mean ‘freedom’. The hapax ara occurs in an unclear context in TL 44a, 34, while ara in N 320, 27 as the object of hupazii ‘sacrifice’ may be understood as ‘rite’. For ara hupazii (hupa- zig) ‘sacrifices a rite with a sacrifice’ = ‘perform a rite’ compare Hist. TIRKHUR x ἱππαζεῖν ‘sacrifice ritual x’ = ‘perform ritual x’. Therefore ara and ara- may be accessional singulars to feminine abstract nouns with regular a vocalism, and need not be taken as irregular nt. nom.-acc. singulars.

The largest class of unexplained cases of Lykian a consists of the names of professions or social classes in -a: -μαζανος ‘priest’ (= HLEV. μαμάνος), monarch- ‘judge’, sovazii ‘lord’ (= CLEV. sovazii), yiddax ‘slave’ (see Eichner, O 92, 54 ff), ἱππαζεῖν ‘libation-priest’ (?), and the unanalysable examples naxmaan-, nuklì- disan-, naxiaan- and raxiaan-: The equation with -a in Lykian narrows down the possible sources of this class considerably. In general we are facing the problem of Anatolian x before back vowel where it cannot be due to assimilation from *a. I have recently argued in *Studia in Memory of Warren Courlill* (1987) 182 – 194 that PIE *peh-α* appears as Lykian x, but the result in Lykian is instead x, so this fails as the source of a Lykian-Lycian suffix -a. While the origin of the suffix remains obscure to me, so long as no compelling derivation is offered showing Lyc. a from PIE *a*, this class does not constitute an obstacle to the analysis presented here. In particular, the existence of names of professions and classes in -a: with masculine reference does not weaken the argument for most animate a-stems in Lykian being feminine. Compare Latin agrícola, mánio, pírito or Greek nouns in -a.

In sum, there are no solid counterexamples to the claim made above that Lykian a continues only PIE *a* and *ō*, while Lykian a reflects PIE *a* (excepting the effects of the umlaut rule). The merger of *o* with *ō* as *x* is unusual, but not unparalleled: cf. the development of PIE *o* to *x* in Albanian. R. Guzmán also kindly reminds me that the Lykian *e* is often transcribed with Greek alpha: note the names Hebæza = Arbeone or Tērbæzi = Tērendane. I emphasize again that in the Lykian synchronic system the *e* is a low front vowel. It is thus quite possible that the real phonetic value is that of an [æ] or even [a] as in French la.

I cannot pursue here all the consequences of the demonstration that Lykian distinguishes PIE *o* from *a*. The two most important have already been cited. The Lykian evidence for animate (l) stems with a vocalism distinct both from the reflexes of a-stems and from neutral collectives answers in the affirmative the long debated question as to the existence of the feminine gender in Anatolian. Evidence for Indo-Hittite or for an early separation of the Anatolian branch will have to be sought elsewhere. It is also now clear that the synchronically active preterite endings of Lykian and Lykian continue old medial *-in* and *-iati. I leave to others the task of integrating this fact into an account of the history of the Anatolian verb system.

By using together the results of a Hittite relative chronology and evidence from another Anatolian language, we have attained a much clearer picture of the vocalism and other aspects of Common Anatolian. I am confident that continued exploitation of the other Anatolian languages in conjunction with Hittite can lead to further dramatic progress in our understanding of the history of this family and of its relationship to the rest of the Indo-European languages.