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A historical grammar of Phrygian

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VI Other Parts of Speech

VI.1 Prepositions and preverbs

VI.1.1 The preposition αδ

αδ appears a number of times in New Phrygian, both in the form of a preverb (i.e. in αδδακετ, αββερετ, and αδειτου) and as a preposition (i.e. in α Τιε, ακ κε οι, ακ κολταη) (PhL 108). In its prepositional form, it is used almost exclusively with the dative case (*ibid.*).[609] In the New Phrygian curse formulae, the preposition αδ is most often found with Τιε: με ζεμελως κε δεος κε <u>ατ Τιε</u> τιττετικμενος (αδ)ειτου *'among men=and gods=and <u>by Ti-</u> condemned may-he-become'*. This suggests that one function of αδ was to introduce the agent of a passive clause (cf. PhL 108). The use of αδ in such constructions does not appear to have been mandatory; in many instances, αδ is omitted and the agent simply appears in the dative case on its own (cf. με ζεμελως κε δεως κε <u>Τιη</u> τιττετικμενος ειτου). When used in other types of constructions, αδ seems to function as a preposition used to

[609] There are two exceptions. In inscription °130^{NW}, the sequence αδ μεκαν Τιαν sees the αδ correlated with the accusative case 'by the great Ti-'. In inscriptions °14^{NW} and °2^{W}, the sequence αδ ατεαμας is found, but the syntactic structure is somewhat unclear; the ending -ας of ατεαμας cannot represent the accusative plural desinence (which would have been *-αις). ατεαμας may be in the genitive singular case. While uncommon and clearly substandard, there are other examples of a genitive singular being used in place of a dative singular (cf. ιος νι σεμουν κνομινος κακουν αδδακετ). Perhaps the best approach, however, is to interpret ατεαμας as a form in the dative plural case. See §IV.3.3 for the ending -ας appearing as a feminine dative plural ending in the pronouns.

reinforce the function of dative case: ακ κε οι βεκος ακκαλος τιδρεγρουν ειτου 'to=and him bread inedible may-become'.[610]

When used as a preverb, the function of αδ is somewhat easier to ascertain. We are fortunate to have access to inscription °96^{W}, where the protasis of the curse formula is written in Greek, while the apodosis is written in Phrygian. Since the characteristic protasis is known to us from other inscriptions, we may directly compare the verbal forms: the usual αδδακετ is translated as προσποιήσει. Since the verbal forms quite likely correspond to each other, it appears that Phrygian αδ was equated with Greek προσ-, which is used to indicate vicinity to or motion towards the verbal object. This does, in essence, agree with the syntactic function that αδ has in its prepositional form. Nevertheless, while the Greek preposition πρός has different directional and locative functions depending on the grammatical case of the forms it modifies, αδ is used with datives, and is, as such, presumably used in a more general locative meaning or, at best, as directional towards the indirect object (i.e. beneficiary) of a clause. This corresponds perfectly to the syntax of the New Phrygian protasis of a malediction formula: the indirect object in the dative case (most commonly κνουμαν) is where the verbal action is directed (i.e. αδδακε- 'to do to', αββερε- 'to bring to'). In terms of translation, Phrygian αδ is to be equated with Greek πρός when the latter is coordinated with a nominal form in the dative case.

[610] It is difficult to say whether ακκολταη in °30^{S} ought to be segmented as αδ=κολταη, since the syntax is somewhat unclear and the preceding part of the inscription is fragmentary: ... οι ακκολταη κε ταν ειννου 'him to-*kolta*=and that/her(?) may-they become' = 'for him and for the *kolta* may they become that/thus'(?). See also §III.3.6.1 for the derived term κολταμαν.

While the prepositional and preverbal forms (ατ Τιε, ακ κε οι, αδδακετ, αββερετ) suggest that the final consonant of this preverb was assimilated to the following consonant (PhL 156-157), αδειτου shows without question that the final consonant of this preverb was -δ. This final -δ appears to have been assimilated to a following stop.[611]

The usual etymological connection has seen *ad* as being a reflex of a PIE **h₂ed* (which can be directly compared to Latin *ad*) (PhL 108). This identification is very difficult, however. Proto-Greco-Phygian lost its final stops, meaning that a simple preposition **h₂ed* could not have surfaced with a final consonant. Even it if did, however, Phrygian underwent the *Lautverschiebung,* which would have seen an etymological *d* devoiced.[612]

The *-d-* of the preposition can likely only stem from an earlier **dʰ* which must at some earlier stage not have been word-final. Since prepositions do not tend to be individually accented, the behaviour of prepositions is best compared to that of the proclitics; a vowel that is explicitly known to have

[611] See Šorgo (2019) and §II.2.3.2.1 for more details on this phenomenon. It appears that final stops that re-emerged through various processes during the development of Phrygian, after having first been lost in early Proto-Graeco-Phrygian, underwent a weakening at some point during the Old and New Phrygian periods and became phonetically unreleased. This facilitated their assimilation to following segments and produced the characteristic geminate stops of New Phrygian. These geminates were then subsequently simplified into single stops, a process which is likely to have run its course by the very last New Phrygian inscriptions. The majority of new word-final stops would have, for all intents and purposes, been lost through this process, though it seems likely that New Phrygian (at least while the language was still written) never fully phonotactically prohibited their existence, as suggested by the continuing spelling of the 3sg secondary ending as -τ.

[612] The only way to salvage this idea is to propose that we are dealing with a generalized sandhi variant from before voiced stops, similarly to how the reflex of Proto-Slavic **otъ* ends in *-d* in some daughter languages. Against this possibility, we may note that comparatively fewer Proto-Phrygian verbs would have begun with a voiced stop than in Proto-Slavic (due to the reflex of initial laryngeals and due to the plain voiced stops developing into voiceless stops in Phrygian).

been lost in final position when part of a prosodically dependent element was *-i*.[613] If we combine these two points of data, we may, for the time being, assume that the preposition/preverb αδ is a reflex of an earlier sequence **ad^{h}i*. In Indo-European terms, a final element **-d^{h}i* may, of course, be recognized as a suffix used to impart a locative meaning.

Following this assumption, what antecedent could the preceding *a-* represent? Probably the most appealing option is to follow the usual etymological connection with the PIE preposition **h$_2$ed* and simply reconstruct a Proto-Graeco-Phrygian locative preposition, which has been reinforced by the addition of a productive locative marker: **h$_2$ed-d^{h}i*,[614] which then regularly developed into PGPh. **adzd^{h}i* > PPh. **azd^{h}i* > PPh. **azdi* > PPh. **adi* > NPh. αδ.[615] This suggests that the treatment of a double dental cluster in Phrygian was *-TT- > *-*sT*-.[616],[617]

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[613] This is not to say, however, that some other vowels would necessarily not have also been lost in this environment.

[614] While true that a reflex of this particular combination is not attested in any other Indo-European language, there is no reason to doubt the possibility of its existence. The use of *-d^{h}i* to form locative adverbs is well established; compare particularly Greek -θι, where this locative marker was certainly productively used at some point in its prehistory.

[615] The development *sC^{h} > PPh. *C^{h} is regular, as seen in 3sg mid. impv. *-*esd^{h}ō* > OPh. *-edo*.

[616] It is usually assumed that *-TT- developed into *-*sT*- in Greek as well, which would push this development into the Proto-Graeco-Phrygian period. Stefan Norbruis (2023), however, convincingly argues that the regular Greek reflex of a double dental cluster behaves differently from a cluster composed of **s* and a dental: PIE *-*TT*- > PGr. *-st^{h}- (cf. PIE **uoid-th$_2$e* > Gr. οἶσθα), with PIE *-*sT*- sufacing as *-*sT*- (i.e., without aspiration). If the Phrygian interpretation is valid, this would mean that the two clusters still had distinct reflexes in Proto-Graeco-Phrygian (presumably *-*TsT*- vs. *-*sT*-, as would have also been the case in PIE), with Phrygian subsequently merging both of them, while Greek independently developed the distinctive aspiration in the original double dental clusters.

[617] This is assuming that the creation of αδ predated the loss of final stops. It might well have been the case that PIE **h$_2$ed* regularly developed into a PGPh. preposition **a*, which was only then extended with a synchronically productive suffix **-di* that originated in PIE **-d^{h}i*.

Alternatively, one could imagine that the feminine stem of the demonstrative pronoun, i.e. **h₁eh₂-* > PGPh. **ā*, was extended with the adverbial suffix **-dʰi*. We may be reasonably sure that both the feminine and masculine locative singular forms of the demonstrative pronoun **h₁e-* were grammaticalized in Proto-Graeco-Phrygian as adverbs meaning 'where' or 'when', which developed into the conjunction 'if', i.e. **h₁ei* > Gr. εἰ 'if', **h₁eh₂(e)i* > dialectal Gr. αἰ 'if', OPh. *ay=ni*, NPh. αι=νι 'if, when' (cf. Chantraine 1999: 316; §VI.2.1). It is not impossible then, that a new locative adverb could be created from a feminine stem **h₁eh₂-* + **-dʰi*, which might have been subsequently grammaticalized as a preposition.

The reconstruction of the pre-form of αδ as **h₂ed-dʰi* is still preferred here for the simple reason that, while both options are formally compatible with the attested data, the assumption of a derivation from **h₂ed* requires one to only assume that the preposition was reinforced, but underwent no other changes in its syntactic behaviour, while a derivation from a pronominal **h₁eh₂-* requires the creation of a new adverbial form divorced from its point of origin and its subsequent re-interpretation as a preposition.[618],[619]

VI.1.2 The preposition αϛ

The preposition αϛ appears to occupy a syntactic niche very closely related to that occupied by αδ. In the clearly understood examples we have, αϛ is used as a preposition that introduces the agent of a passive clause; in

[618] A similar set of considerations apply to the directional preposition αϛ, for which see the following section.

[619] One may note the similarity of early Proto-Phrygian **adʰi* to Sanskrit *ádhi* 'over, above' of uncertain origin (Mayrhofer 1992: 67). The semantic mismatch would in any case require these to be independent creations.

contrast to αδ, the agent introduced by ας is in the accusative case (PhL 108).[620] The examples of this use that we find in the corpus are: ας Τιαν 'by Ti-', ας Βαταν 'by Bas' (*ibid.*). We should note that, in contrast to αδ, the use of ας when introducing the agent of a passive clause was not optional.

The sequence we find in inscription °31^{S} is more puzzling: ας σεμουν κνουμαν αδιθρερακ ξεινεοι [...]. The preposition ας is used to introduce a prepositional phrase in the accusative case (ας σεμουν κνουμαν '*as* this grave'), but since κνουμαν 'grave' refers to some part of the grave complex and the syntactic construction does not appear to be passive, the prepositional phrase clearly cannot indicate the agent. Most likely is that the ας should be understood as imparting some locative information, most likely directional in light of its use with the accusative: *'*towards this grave Adithrerak for-Xeune*'*. For an analysis of this inscription, see further in §IV.6.

The preposition ας appears not to have been used as a preverb. Since it was used with the accusative case, it is a reasonable proposition from the Indo-European perspective that it was generally used in an allative function, i.e. indicating movement towards. The use of ας in a prepositional phrase

[620] There is one example of ας being used with the dative case: ιος νι σαι κακουν αδδακεμ μανκαι <u>ας ανανκαι</u> 'whosoever to-this stele something-bad does by-force' (PhL 108). Most likely, we are dealing with an instance of case syncretism in spoken language; the inscription formula itself is non-standard, and the spelling αδδακεμ suggests we are dealing with a scribe who was not very familiar with the writing tradition of Phrygian and presumably simply wrote the language as spoken, as opposed to following the "literary" version of the language. We may also note that the entire phrase has an instrumental meaning 'by force' and does not actually introduce a verbal agent.

indicating the verbal agent must have been an outgrowth of this initial function.

As far as the etymology of αϛ is concerned, the same arguments that have been made for αδ apply. It is quite clear that, due to its association with the accusative case, the -ϛ of the preposition was originally some type of a directional marker (cf. Gr. εἰϛ < **en-s*).[621] For the time being, it is probably for the best to simply note that -ϛ could be used to impart an allative meaning to a form at some point in Phrygian pre-history.

The origin of the element *α*- is presumably the same as in αδ (PhL 183, §VI.1.1). All the considerations pertaining to the stem of that preposition apply equally to αϛ. We may note, however, that the argument for deriving αδ from **h₂ed* (cf. PhL 108) is bolstered by the addition of αϛ: if αδ and αϛ were both originally de-pronominal adverbs originating in the stem **h₁eh₂*- , both would need to have lexicalized into a purely prepositional role, whereas assuming a starting point with a preposition **h₂ed* > **a*, αδ would simply be the product of reinforcement with the reflex of *-*dʰi*, and αϛ would be the result of extension with a directional marker; their syntactic roles as prepositions would not need to have changed at all.

VI.1.3 The preverb *en*

en appears a handful of times as a preverb in a verbal formation: e.g. *eneparkes =en=e-park-es*- (PhL 109). Most likely, this preverb originated

[621] The -ϛ of Greek πρός, while directional in conjunction with the accusative, is, of course, derived from *-*ti* (Chantraine 1999: 941). Phrygian never underwent the *-*ti* > *-*si* change that took place in some dialects of Greek.

in a preposition *en* (cf. *ibid.*, PhL 227), which would have been regularly descended from PIE **h₁en* 'in, inside' (cf. Gr. ἐν, Lat. *en*, Goth. *in,* etc.) (*ibid.*). In the few verbal forms where a preverb *en* can be identified, *eneparkes* is likely to confirm the semantic identity between PIE **h₁en* and Phrygian *en-*. In this verbal form, the element *park-* is most likely originally a lengthened grade variant, **pērk-,* as would be expected of an original sigmatic aorist, of a verbal root originating in PIE **perḱ-* 'to scratch' (*ibid.*). The form *eparkes* then means 'he scratched', with the preverb *en-* modifying this verbal meaning, the resulting *en=eparkes* 'to scratch in' being used in a sense of 'to inscribe, to incise, to carve in' the inscription into the stele.[622]

VI.1.4 The preposition ις

The preposition ις likely functioned as a preverb the verbal form ιστεικετ (Lubotsky 2004: 235). It appears in a clause that expands on the malediction formula: πουρ ουανακταν κε ουρανιον ιστεικετ διουνσιν 'for/to king=and heavenly *isteiket* Dionysos' = 'and may he *isteike* for Dionysos, the heavenly king'.

From a purely formal perspective, it is appealing to segment *isteike-* as composed of a preverb *is*, a verbal root *teik-*, and the thematic vowel *-e-*. Certainly, in an Indo-European perspective, the initial *is-* can hardly be anything other than a preverb, which likely modifies the meaning of the verbal construction. Lubotsky (2004: 235) has interpreted the root as being identical to τικ- < **deiḱ-* and compared the construction of the verbal form to Gr. ἐνδείκνυμι 'to declare oneself to, (be responsible to)' or ἐκδείκνυμι

[622] For the semantics, compare Gr. γράφω 'to write' < PIE **greb^{h}-* 'to carve'.

'to expose', which would be fitting semantically, the whole clause in which it appears meaning something like 'may he be responsible to/exposed before Dionysos, the heavenly king'.

It is possible that ις originates in PGPh. **eks* (> Gr. ἐξ), in which case ιστεικετ- would be almost identical to Greek ἐκδείκνυμι 'to expose'. While we would generally expect Proto-Phrygian **eks* to develop into ***ik* due to the reduction of final clusters, prepositions do not appear in isolation, but are apparently accentually dependent on the following word, which explains why we do not find the expected word-final development of **ks* > *k*. We have already proposed that a Proto-Phrygian cluster **ks* underwent a special development into /ʃ/. The following relative chronology would produce the attested form ις:[623] 1) reduction of unaccented **e* before two consonants; 2) **ks* > ʃ.

The preposition ις as part of a prepositional phrase is only known to appear a handful of times in the Phrygian corpus.

The following attestations appear in °116[W]:

πινκε τας δακερης ονομανιαις μιρου ικ κναικαν εδαες | ις αργμεν[-] οπαρικο οαν οε αυται ις κε εν τοισνιοι κνουμαν τιαν τε[ ]μαρδι ιδετοι οινις

The first clause has been proposed to mean: πινκε τας δαρερης ονομανιαις μιρου ικ κναικαν εδαες 'five these (acc. pl.) pieces (acc. pl.) named (acc. pl.) of-*miros* (gen. sg.) for-the-sake-of/to wife he-put' = 'he placed these previously named five pieces of the *miros* for (his) wife' (Lubotsky 1993: 130-131).[624]

The following clause or clauses are unfortunately not understood well and can provide little further insight.

[623] We have already suggested that Old Phrygian ʃ develops into New Phrygian σ.
[624] In the same inscription, five pieces of the funerary plot were previously listed.

Orel (1997: 133) assumes that the prepositions appearing in °116^{W} as ικ and ις, as parts of prepositional phrases ικ κναικαν and ις αργμενα[-], are identical on an underlying level and that the spelling ικ is the result of assimilation of -ς to a following κ-. At first glance, this is somewhat suspect: we have positive evidence that a word-final -ς, even in a clitic, does not undergo assimilation when followed by a stop. There are numerous examples of -*s* followed by a velar (specifically *k*-) existing, both in Old and New Phrygian, that do not suggest an assimilation of the sibilant would have taken place. Nevertheless, Orel's proposal can still be salvaged if we assume that the preposition actually ended in /ʃ/: in that case, the assimilation to a following velar would be limited to this segment, while the more common /s/ would not undergo assimilation. See further in §II.2.3.2.1.

If the phrase ικ κναικαν does use an assimilated form of ις, it would suggest that this preposition was used with the accusative case; the use of a preposition ending in an original *-*s* pairing with the accusative is also found in the preposition ας and possibly πουρ, if it originated from **por-s*.

VI.1.5 The preposition *met*/με

με is primarily used as a preposition (PhL 296), but also appears as a preverb, once in the form *met=ebaes* °G-12 'he spoke with[?]' and most commonly modifying the verb βερ-ε- (*contra* PhL 296-297).

The preposition με is generally understood rather well and appears with the dative case (PhL 108, 296). Most commonly, it appears as part of the phrase

με ζεμελως (κε) δεως (κε), translated conventionally as '*among men and gods'* (*ibid.*). The interpretation provided by Lubotsky (1998: 419-420) seems to be entirely valid with regards to this phrase: the preposition με has the meaning 'among' (clearly comparable with Greek μετά when used with a dative nominal form).

In the sequence *metebaes* °G-12, *ebaes* is most likely a 3sg aorist verbal form *ebaes* 'he spoke' (< *h_1e-b^heh_2-) and *met* seems to be the preverb meaning 'with' (cf. Gr. μετάφημι 'to speak among'). This suggests that the discussed preposition/preverb originally ended with *-t*, at least in the Old Phrygian era.

Etymologically, *met*/με derives from a PIE preposition **me*, a prepositional form of which is still attested unextended in Greek μεχρί 'until' < **me=g^hsr-i* 'by-hand' (Chantraine 1999: 692). Since Greek preserves this archaism, it seems clear that the PIE preposition **me* did not originally end in a consonant. A comparison of the Old Phrygian preverb *met* and Greek μετά suggests that **me* was extended with a final **-t* in Proto-Graeco-Phrygian already.[625] Phrygian then preserved **met* unchanged, whereas Greek innovated a new preposition μετά, likely on the basis of κατά *vel sim.* (Chantraine 1999: 690)

Recently, Obrador-Cursach (PhL 108, 112, 296-297 *et passim*) and Hämmig (*apud* PhL) have proposed that, while Phrygian did possess a preposition *me* (which is seen in the με ζεμελως δεως phrase), some

[625] This would have evidently only been possible when **met* was used as a proclitic and attached itself to the following word. In isolation, word-final stops were not permitted in Proto-Graeco-Phrygian.

instances of the sequence *me* actually represent a prohibitive particle descended from PIE **meh₁* (cf. Gr. μή, Skt. *mā́*). This proposal requires further discussion.

The primary and most convincing evidence for this assertion is supposedly to be found in phrases that appear in the apodosis of some curse formulae: με κε οι τοτοσσειτι βας βεκος and the similar βας ιοι β(ε)κος μεβερετ. So far, we have followed the analysis given by Lubotsky (1997: 126), who translates Βας ιοι βεκος μεβερετ °86^{W}, °111^{NW} as '*Bas will take his* (i.e. the perpetrator's) *bread away*', interpreting με as a prepositional element meaning '*away'*.[626] Since the enclitic pronominal form (ι)οι appears to be undeclinable and is known to be used as a genitive singular pronoun 'of/from him' (synchronically used as a possessive pronoun '*his'*) and as a dative singular *'to him, ...'*, we may in principle take (ι)οι as part of a nominal phrase (ι)οι βεκος meaning '*his bread'* or as an independent sentence element in the genitive case: '*and away from-him ought-to-bring Bas bread'* (i.e. not *'to him'*). The same principle applies for βας ιοι βεκος μεβερετ: '*Bas his bread ought-to-bring-away'* or '*Bas from-him bread ought-to-bring-away'*. Semantically, the differences are minor.

Obrador-Cursach and Hämmig argue that this interpretation of με is incorrect: they rightly point out that a sequence of a preverb and a verb in Phrygian is never separated. As such, the verb cannot be με=το- 'to give away'. They also point out the semantic problem that the verbal stem το-

[626] 'Give' and 'take' have diametrically opposite meanings, but both are, for instance, expressed with the same verb, *dádāti,* in Sanskrit. In any case, both translations would essentially mean the same in this context: if Bas is to 'give away' someone's bread, it is pragmatically clear that this is in essence a redistribution, taking from the perpetrator to give to someone else.

means ‘to give’, whereas the clause is supposed to describe the negative consequences that ought to befall anyone who damages the grave; since the basic meaning of the verb is not modified through a pre-verbal element, the conclusion they draw is that there must be a particle of negation somewhere in the clause. They identify this particle of negation as με < PIE **meh₁*. The clause under discussion can then be translated as *‘and may Bas not give him bread’*.

The primary issue with this interpretation, and one both authors clearly point out, is that PIE **meh₁* should surface as Phrygian **mā/μα. Both argue that, on this basis, the traditional assumption that older **ē* becomes Phrygian *ā* ought to be re-examined and that this development might have been conditional; presumably, in word-final position, then, **ē* > **e*.[627] We must concede that we do not have any other potential examples of what word-final PGPh. **ē* (either from PIE **ē* or **eh₁*) could have developed into in Phrygian, simply by the virtue of such a desinence being exceedingly rare to begin with. Taking into account the broader vocalic system of Phrygian, however, there is no evidence whatsoever that a final long vowel was ever shortened; indeed, while we have no clear example of what the development of a final **-ō* would have been (again, simply due to the fact that such a desinence would be rare), we can unambiguously see that the long diphthong **-ōi* was not shortened before the Old Phrygian era, which holds for **-āi* as well (since the treatment of **-ai* and **-āi* is

[627] Hämmig argues further that it was actually **ē* > **ā* that was the less common reflex of **ē*. Since no conditioning factors are provided, it is unclear why **dʰeh₁-* > **dʰē-* would regularly develop into *dā-* (e. g. *daket*, *dedasitiy*, δακαρεν, …) or **meh₂tēr* into *mātār*. Hämmig bases her reasoning on interpreting βερετ as being a subjunctive, i.e. **bʰer-ē-t*. This is hardly tenable: there is no necessary reason to assume a synchronic subjunctive at the expense of an imperfect, and even if there were, it would be more parsimonious to assume that the -ε- element was levelled from athematic subjunctives.

generally different in New Phrygian). In systemic terms, then, *-*ē* > *-*e* is unlikely. One may sidestep this argument by proposing that the shortening of **mē* to **me* was not unconditioned. Rather, what springs to mind are the vocalic reductions found in clitics: *si* > *s,* **adi* > αδ, etc. One could then assume that **mē*, being a particle bound to a verbal form, would not have been accented, which resulted in a shortening of the vowel, producing *me.* Unfortunately, the clitic elements we can identify do not end in what would have been an etymologically long vowel, so we cannot ascertain how a clitic reduction would have affected those.[628] Do note that the PIE particle **meh₁* was accented on its own and did not function as a clitic at all, though we may, for the sake of argument, assume that it might have become cliticised at some point. A more pressing problem is that the clitic reductions we find are actually comparatively late, likely only taking place during the Old Phrygian era, whereas the **mē* > **me* reduction would need to have preceded the early **ē* > **ā* development.

Even if we were to concede to shortening and the very strained chronology, however, the rest of the argument is not convincing. The verbal root meaning 'to give' is not actually semantically problematic if we include some element meaning 'away', as proposed by Lubotsky; in that case, we are dealing with a redistribution, i.e. 'giving away' pragmatically meaning 'taking to give away', as is argued in footnote #626 above.

The argument that a preverb and verb are never separated anywhere else in the corpus remains relevant, however. It is clear that the verbal form is not

[628] One could argue that the clitic (ι)οι, ostensibly an original dative, shows a shortening of the vowel if its declension was thematic: **h₁iōi* > **jōi* > **joi* > NPh. (ι)οι. This seems not to be the case, however; the enclitic dative of this type actually had an ending *-*oi*, i.e. with a short vowel, as clearly seen in Skt. *me, te* < **h₁moi*, *toi*. See §IV.9.

με=το- that is separated by intermediate elements. There is, however, no good reason to assume that these two elements must belong to a single lexical item. με was likely a preposition simply modifying the enclitic pronoun (ι)οι: με κε οι τοτοσσειτι βας βεκος 'from him ought-to-give Bas bread'. Alternatively, and less likely, με might have been used adverbially in this context, simply meaning '*away from':* με (...) οι τοτοσσειτι βας βεκος 'away his ought-to-give Bas bread'.

The analysis of με as **meh₁* by Obrador-Cursach and Hämmig, while raising some interesting questions, is ultimately rejected in this work, since the proposed development **meh₁* > με simply cannot be endorsed.

There is no need to interpret the sequences μεβερετ and με [...] τοτοσσειτι as being syntactically equivalent. Rather, in the case of μεβερετ 'may-bring-away' we are dealing with an actual preverb, whereas in the sequence με [...] οι τοτοσσειτι 'away from-him may-give', με is used as a preposition modifying the pronoun οι. In this light, the preposition με is best understood as meaning 'from, away from' when paired with the genitive case.

VI.1.6 The preverbs οδ and οτ

The preverb οδ is rare (cf. PhL 109, where it is listed as *o*), only appearing a single time, in *od=eketoy* °B-07. There is one additional example that can be interpreted as showing this preverb: οττιττετικμενος °124^{C}. As a preposition, οδ may appear in the sequence οτ τιαμα °18^{W} (cf. PhL 321).

The verbal form *odeketoy* is usually interpreted as consisting of the preverb *ot* (i.e. the preverb assumed to be present in οτεκτει[) and a conjugated form of the verb *dāk-* (as most famously found in (αδ)δακετ): **ot=deketoy* (PhL 157-159). This interpretation is far from satisfying, however: the desinence

-e-toy would mean that this is a thematic middle form with a primary ending, which is hard to reconcile with the zero grade of the root, *dek-*. Not only does the verbal root *dāk-* never appear in zero grade, even if this absence were simply due to chance, we would not expect a thematic verb to exhibit different ablaut grades in the active and middle voices.[629] In addition to this issue, *o=deketoy* would need to be analysed as a simple present, which is used for expressing a future time reference or prediction.[630] This does not fit the context in which it appears: *Manes [...] estaes, va knays Manuka odeketoy* 'Manes [...] erected (the monument), his wife Manuka **_will-place/establish_'. A far more natural reading would see *odeketoy* analysed as another form in the past indicative, which requires the presence of an augment. On the basis of this consideration, *odeketoy* is best segmented as *od=e-ke-toy*, i.e. as a conjugated verbal form *eketoy* (3sg aor. mid. to a root *ke(y)-* < PIE **k*^{w}*ei-* 'to make', cf. Gr. ποιέω < **k*^{w}*oi-eie-*) preceded by a preverb *od-*.[631],[632] The two clauses are then much more in line: '*Manes [...] erected (the monument), his wife Manuka made/caused-it-to-be-made*'.

In οττιττετικμενος, we may note that the participle τετικμενο- is preceded by two preverbs: oC and τιτ.[633] Since a final dental in a preverb assimilates to a following dental, we have no way of telling whether it is the preverb οδ that appears in this sequence, but it is certainly a viable possibility.

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[629] This is in addition to the fact we would need to assume that the New Phrygian imperfect middle αδδακετορ would need to have levelled out the zero-grade at some point on the basis of the active.
[630] For the semantics of this category, see §V.1.2.
[631] Preverbs in Phrygian always appear before the augment; cf. εν=επαρκες.
[632] See also §V.3.2.2.
[633] Obrador-Cursach (PhL 109) lists the preverb as simply *o*, but a final consonant in this preverb is needed to account for the geminate spelling οττ-.

The meaning of οδ cannot currently be clearly ascertained. The origin of the element *o-* is unknown at this point. The desinence *-d*, however, can quite likely be equated to that found in αδ; i.e. it derives from an original directional adverbial suffix *-*dʰi*. This suggests some prepositional affinity between αδ and *od.*

VI.1.7 The preverb οπ

The preverb οπ- appears a single time in the Phrygian corpus, in οπεσταμεναν (PhL 110). Its precise meaning is unknown. However, since its synchronic form is οπ-, a reasonable guess may be made as far as its etymology is concerned. Of the particles found in PIE, **h₁ep-* (as found most famously in Greek ἐπί) is the most prominent one ending in *-*p.* Most likely, then, οπ- reflects this particle in the *o*-grade, the form most likely originally ending in *-*i*: **h₁opi* (cf. Gr. ὀπι- (in ὀπίσω) (Chantraine 1999: 808-809), Mycenaean *o-pi*, Latin *ob,* Oscan *op*, Old Armenian *u*) (PhL 110).

VI.1.8 The preposition *por*/πουρ

The preposition *por*/πουρ is used to indicate the beneficiary or the goal of a verbal action and is best translated as "to, for" (PhL 109). It is used alongside a nominal in the dative or accusative case; there is no discernible difference in meaning between the two.
It is used in the following instances:
[e]daes por mater[ey/an] °W-05b 'he placed for the mother (dat./acc. sg.)'
Manes (...)por niyoy est[a]es °B-07 'Manes for *niyos* (dat. sg.) erected'

πορ κοροαν °W-11 ‘for the girl (acc. sg.)’
πουρ κε ουανακταν ουρανιον ισ̣τεικετ διουνσιν °88[C] ‘and to heavenly king (acc. sg.) Dionisius[?] may-he-be-responsible’

The fact that the preposition appears written as *por* in Old Phrygian and as πουρ in New Phrygian suggests that the preposition originally included a long vowel; as such, it would have had the form **pōr* in Proto-Phrygian.
The preposition must be ultimately descended from some variant of the PIE preposition **per/pr̥/pro/*etc. (cf. PhL 109).
At first glance, the most tempting scenario would see the Phrygian form originate in the PIE variant **pr̥* (> Gr. πάρ, Lat. *por*) with a development **r̥* > **ōr* / $C_{[+labial]}$_#. The *o*-vocalism of the reflex of a syllabic resonant when next to a labial is consistent with other likely Phrygian reflexes (cf. μροτις < **mr̥tis*). The different order of the vocalic and consonantal segments compared to the intervocalic reflex of **r̥* can be explained by the word-final position of the syllabic resonant; indeed, the same situation can be found in some Greek dialects, cf. πάρ < **pr̥* and Homeric κραδίη < **kr̥dijā* > Attic καρδία ‘heart’.
Problematic, however, is the length of the vowel in this preposition. Certainly, this length cannot be the result of a development **-or#* > *-ōr#*, which is counter-indicated by the retention of the short vowel in the verbal ending -τορ < **-tor*. Monosyllabic lengthening is a theoretical possibility, though this would need to be an entirely separate Phrygian development unconnected to any proposal positing this development for PIE (cf. CIEL 143), since such a sound law was not operational at the earliest stages of Greek and thus cannot have been productive in Proto-Graeco-Phrygian either. There is also no other form that would suggest such a development,

and it seems to be actively counterindicated by PIE **h₁en* > *en*/εν, and not ***ān* or ***ḛ̄n*.

Since no other reflex of a word-final vocalic resonant is known, a development where a word-final vocalic resonant would develop into a sequence of a long vowel and a resonant is generally possible, but is not appealing at all. Phrygian seems to have had a tendency toward preserving the moraic weight of a syllable, and turning a word-final light syllable into a super-heavy syllable is an unlikely development.

Perhaps the best solution is in making note of the fact that many Phrygian prepositions and particles had some secondary element added as the desinence. If this happened with this preposition as well, a very likely candidate would be the addition of *-*s*. Such an addition would solve two issues with a single stroke: 1) the long vowel can be explained by compensatory lengthening through the following sequence of developments: **pr̥* > **por* >> **por* + *-s* > **pors* > **pōr*;[634] b) since the formant *-*s* was apparently used to impart an accusatival force to the a preposition (cf. αδ using the dative, but αδ + ς > ας using the accusative), this can explain why the preposition seemed to have allowed the use of the accusative case to indicate the beneficiary of a verbal action.[635]

In fact, such an addition of *-*s* need not have been a late Phrygian-exclusive innovation. One may directly compare Armenian *aṙ* 'at, to, near' < PIE **pr̥s(V)* (Martirosyan 2009: 100-101).

[634] Recall that the Phrygian corpus includes no examples of a resonant and sibilant cluster.
[635] Also note that PIE **pr̥* likely paired with the dative case (as is the situation with Greek πάρ and Latin *por*).

VI.1.9 The preverb *tit*

The preverb/preposition τι(C)- appears in the following forms: τιτ-τετικμενος, τιγ-γεγρειμεναν, τι-δρεγρουν, *tit-edatoy* (cf. PhL 110). What the examples clearly show is that the final consonant of this preverb was assimilated to the following consonant. The identification of what this final consonant was currently hinges on analysing *titedatoy* as being composed of the preverb *tit-* and a verbal form *edatoy*, which seems valid.

Lubotsky (2004: 235-236) has proposed that the two constituents of τιττετικνενο-, i.e. the preverb τι(C)- and the verbal root τικ, can be directly compared to the two elements of Greek διαδικάζω 'judge (< to point at)', the preverb δια- and the verbal root δικ- 'to point'. This is formally and semantically appealing.

The Greek preposition διά 'in two, apart, through' originated as **diha* < **dis-a,* where the element *-*a* was adopted from prepositions such as μετά, παρά, κατά, etc. **dis-* is a regular reflex of PIE **dis* 'apart' (as in, e.g., Latin *dis-*) (EDG 327).

Assuming that Greek διά and Phrygian *tit-* are etymologically related and in some type of a derivational relationship, we may draw some preliminary conclusions. The addition of -ά was most likely a purely Greek development, since no Phrygian prepositional or adverbial form shows this desinence. It would thus seem to follow that one Proto-Graeco-Phrygian variant of this preposition was simply **dis*. The Phrygian evidence, however, clearly suggests that an earlier form of its preverb *tit-* was **di-t/d.*[636] We may reasonably conclude that this final stop was not added in

[636] Even if one were to entirely disregard the somewhat contentious *tit=edatoy* as a piece of evidence, Phrygian τιC could not have originally ended in *-*s,* since word final *-*s*, in a clitic or otherwise, never assimilated to a following dental stop at any point in Phrygian

Proto-Graeco-Phrygian, since that would not have been phonotactically permissible at the time. Thus, either a final stop was added comparatively late, analogically to other prepositions/preverbs ending in -τ, once Proto-Phrygian began to allow word final stops again, or what is synchronically a final stop in τιτ- was originally an adverbial suffix ending in a vowel that was later syncopated (i.e. *-*t/dV* > *-*t/d*). In the latter case, the addition of this suffix could have taken place at any point between Proto-Graeco-Phrygian up to any point shortly before the advent of written Phrygian.

If we take *tit=edatoy* as legitimately showing the final consonant of *tit*, as seems most prudent with the available data, it suggests that there existed a Proto-Phrygian prepositional suffix *-t*. Whether it was a simple late addition of a prepositional *-t* or whether both derive from an earlier syncopated suffix *-*tV*, we must in either case analyse *tit* as having lost its *-*s* element: a simple agglutinative process of **tis* (< **dis*) + *-t* would have produced a preverbal ***tist-* before a vowel, whereas the associated preposition would have surfaced as **tis*.[637] The fact that *-*s-* does not appear in *tit-* suggests that **dis* > PPh. *tis* was metanalysed as **ti-s*. It was thus not the full imparseable form **tis* that was suffixed, but rather an extracted stem **ti-*.

What the origin of this prepositional suffix *-t* in Phrygian was is currently best left to speculation. In purely comparative terms, if inherited, it must have originated from PIE **t/dV*.[638]

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history; see ας Τιαν. Furthermore, inherited *-*sT-* clusters never underwent assimilation in Phrygian; cf. *estates*, οπεσταμεναν.

[637] In accordance with *-C_1C_2... > -C_1. See further §II.3.2.3.10.

[638] Formally, any number of possible sources that have cognates in Greek are possible; cf. e.g. Gr. -τι (as in πρό-τι), Gr. -δε (as in ὅδε), etc. We have no formal way of differentiating between these in Phrygian.

VI.1.10 Other possible prepositions and preverbs

Some other sequences that have been proposed to be prepositions or preverbs are: *an, per, pos, o,* οτ*, art, ando* (PhL 108ff.). Since it is unclear whether these are separate forms and whether they are prepositions at all, no comprehensive analysis can be performed on them.

VI.2 Particles and conjunctions

VI.2.1 The conjunctions *ai* and *aini*

The conjunction *ai* appears a handful of times in the Phrygian corpus; by far the more common is its variant *ayni* (PhL 113).

ai seems to have the meanings ‘when’ and ‘if’ (cf. LL 1822, PhL 166).

ayni has the meanings ‘if’, ‘or’ (PhL 166-167), and likely ‘when’.

The element *ai* with its meaning ‘when’ and ‘if’ is almost certainly cognate to Greek dialectal αι ‘if’ (PhL 113). Both can be quite easily derived from a fossilised form of the pronoun originating in **h₁e-*, specifically the locative singular feminine **h₁eh₂i* ‘in/at this (fem.)’ (cf. PhL 113, Chantraine 1999: 316, EDG 379)). **h₁eh₂i* would develop regularly into

Greek αἰ and Phrygian *ai*/αι and the semantic development of such a fossilised form is very trivial: 'in/at this' > 'where' > 'when' > 'if'.[639]

For the discussion of the creation of *ayni* through the addition of *-ni*, see §VI.2.3.

VI.2.2 The enclitic conjunction *ke*

The coordinating enclitic conjunction *ke*/κε uncontroversially derives from the PIE coordinating enclitic particle **k*^{w}*e* (PhL 113). The formal and semantic match is perfect, as is the syntactic behaviour.

This conjunction can be used both as a clause and phrase connector; most commonly, the conjunction is used to link two nouns. The conjunction *ke*/κε is always enclitic and binds to an immediately preceding fully accented element (PhL 113).
Syntactically, the conjunction *ke*/κε is placed after the second of the two phrases or clauses that it binds together (LL 1829). If the two linked elements are clauses, the conjunction appears after the first fully accented word of the second clause.

An example of *ke* linking two nouns:
ζεμελως δεως κε '(among) men gods=and' 'among men and gods'

[639] The masculine locative singular form of the same pronoun, i.e. **hɪei*, would have regularly developed into Attic Greek εἰ 'if', following the same semantic trajectory.

An example of *ke*/κε linking two clauses in the apodosis of a curse formula: °99^{NW} [τιτετικμενος ας τιαν ειτου] [με κε οι τοτοσσειτι βας βεκος] '[condemned by Ti- may-he-become] [away=and from-him may-give Bas bread]' '[may he become cursed by Ti-] *and* [may Bas give bread away from him]'

Two nouns can also be linked by both having the enclitic *ke*/κε appended (PhL 113). Such sequences are best compared directly to the Greek τε ... καί or the Sanskrit *ca ... ca* constructions; a Phrygian X=*ke* Y=*ke* is best translated as "both X and Y" (LL 1829).

> με ζεμελως κε δεως κε 'among men=and gods=and' 'among both men and gods'

When the coordinating conjunction *ke*/κε is followed by a vowel, its final vowel may be lost (PhL 268):
°106^{E} γεγρειμενον κ̲ εγεδου ορουενος ουτον

VI.2.3 The modal particles ni/νι, αν, κε

The independent particle *ni*/νι appears exclusively after pronominal forms, in almost all cases after an indefinite relative pronoun *yos*/ιος, and a handful of times after an anaphoric pronoun τος. It is always the second word in a clause, immediately following the introductory pronoun, which suggests it was an enclitic element. This pattern of use can be seen time and again in the New Phrygian curse fomulae, the canonical version of which began as ιος νι σεμουν κνουμανει [...].

The particle *ni*/νι also appears as the second element of the conjunction *ayni*/αινι 'if, or'. The conjunction *ay*/αι is treated in the §VI.2.1.

Some analyses have interpreted the particle as imparting an indefinite force on a preceding relative pronoun (as in PhL 309-310), shifting its meaning from 'who' to 'whoever', but the fact that this particle is not obligatory in New Phrygian curse formulae and also appears to be optional in Old Phrygian conditional relative clauses rather suggests this interpretation to be incorrect. Also, while one could see the conjunction *ayni*/αινι, which is composed of a de-pronominal adverb *ai*/αι 'when' < *'at this (time/location)' (**h₁eh₂i* 'this (loc. sg.)') and *ni*/νι, as giving credence to the fact that *ni* was originally an element attaching itself exclusively to pronouns, the syntax is unlikely to bear this out.

In inscription °96^{W}, the protasis of the curse formula is written in Greek, apparently translated from the canonical Phrygian formula, and the Greek counterpart of Phrygian νι appears to be the modal particle ἄν.

°96^{W}	ὃς	ἂν	τούτῳ	τῷ μνημείῳ	κακῶς	προσποιήσει	...
Phr. transl.	ιος	νι	σεμουν	κνουμανει	κακουν	αδδακετ	

Table #62: A comparison of the Greek part of inscription °96^{W} to the standard Phrygian malediction formula protasis.

In inscription °44^{S}, the curse formula in Phrygian replaces νι with αν:
°44^{S} ιος αν σ[εμουν κακουν] κνουμμανει δοκετ ...
It seems probable that the particle αν in this inscription is borrowed from Greek. While a Phrygian origin of this αν and its cognacy to Greek ἄν cannot be entirely excluded, the fact it only appears a single time in the corpus, in an inscription with two unusual spellings (i.e. κνουμμανει for

usual κνουμανει and δοκετ for δακετ), suggests that it is not of native origin.

The use of Greek ἄν to translate νι and the likely Greek-inspired replacement of νι with αν in °44^{S} suggest strongly that νι functioned as a particle in conditional and possibly other types of *irrealis* clauses.
It should be noted it was not an obligatory element in conditional clauses, as can be observed in a number of examples in both Old and New Phrygian. See, for instance:
°W-01b *yosesait materey eveteksetey ovevin onoman da*Ψ*et ...*
°78^{E} ιος σεμουν [κ]νουμανε κακουν αδ[δ]ακετ ...
Likely, then, the particle was used as an optional modal intensifier in conditional clauses.

In a number of New Phrygian inscriptions we appear to find the particle νι replaced by κε:
°27^{S} ιος κε σεμον το κακον οδ[
°34^{E} ιος κε σεμν κνουμανει κακουν αδδακετ
°36^{E} ιος κε σεμουν κνουμανι κακουν αδακετ
°37^{SW} ισος κε σεμουν κνουμανε
°54^{E} ος κε σεμουν κνουμανει κακουν δοκετ
One possibility, of course, is to analyse this κε as an enclitic connective particle κε, the same as the conjunction κε < **k*^{w}*e* (as is done by PhL 113).[640] It would be unexpected for the curse formula to begin with a

[640] For the discussion of which see §VI.2.2.

connective particle, though this might be simply a stylistic choice on the part of the author.[641]

What we may note, however, is that the inscriptions in which this particle is seemingly used in place of νι all show some unexpected peculiarity, with the sole exception of °36^{E}. Both °27^{S} and °54^{E} spell an expected Phrygian <α> as <ο> (the spelling οδ[likely being the beginning of a verbal form that is usually spelt αδδακετ in °27^{S}; the spelling δοκετ for usual δακετ, which we may directly compare to the spelling δοκετ in inscription °44^{S}, which likewise uses another particle in place of expected νι). In °37^{SW} and °54^{E}, the relative pronoun ιος is spelt incorrectly, ισος and ος, respectively, with ος °54^{E} likely being due to Greek influence. In °34^{E}, the spelling σεμν is likely to be a rendering of phonetic [semə̃], usually spelt as σεμο(υ)ν, suggesting the scribe's unfamiliarity with this particular spelling convention of Phrygian.[642],[643] Furthermore, inscriptions °34^{E} and °36^{E} use "γεγρειμεναν εγεδου τιος ουταν" 'may he hold the written punishment of Ti-' as their apodosis, an element of the Phrygian curse formulae that only appears in the eastern part of the area in which New Phrygian inscriptions have been found. The other inscriptions, °27^{S}, °37^{SW}, and °54^{E}, are all also located on the southern periphery of the area where New Phrygians inscriptions have been found.

Taking all of these peculiarities into account, it seems quite probable that the κε used was not a connecting particle, but rather a locally used modal particle with the same function as νι.

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[641] Compare the Hittite *nu* whose original connective value had eroded substantially by the New Hittite era, when it could be used as an entirely semantically empty element.

[642] For more on the phonetic realisation of a final vowel-nasal combination in New Phrygian, see §II.2.3.1.3.

[643] Note also that inscription °44^{S} shows the spelling κνομμανει for usual κνουμανει, presumably likewise as a means of rendering Phrygian nasalization.

A modal particle *ke(y)* likely existed in Old Phrygian as well. The inscriptions in which it might appear are found in the western and northwestern areas of the Phrygian speaking area.

°B-05:7: *kelmis ke umniset ...*

°W-01b: *yos=[...] ... da*Ψ*et, lakedo key ...*

Inscription °B-05 is poorly understood, so the modal value of the *ke* is uncertain. The use of *key* in °W-01b, where it is used as a particle alongside an imperative verbal form in the apodosis of a curse formula, on the other hand, precludes its function as a simple conjunction.

What this seems to suggest, then, is that Phrygian did possess an actual modal particle *ke(y)*/κε that was mostly homophonous to the conjunction *ke*/κε. The precise function of this particle is unknown at this time, as is the case with *ni*/νι.

We may note that the particle *ni*/νι in both Old and New Phrygian is almost exclusively used in the protasis of a curse formula; next to the formulaic New Phrygian examples, we may also adduce Old Phrygian *yos niy art* [...] °B-05 and *ios ni akenan egeseti* °P-04. It is likely, then, that the modal particle *ni*/νι was preferred in certain syntactic environments.

The Old Phrygian example of the use of *key* in °W-01b in the apodosis of a curse formula suggests that this particle was not originally the preferred choice in the same syntactic environments as *ni*/νι. The use of the modal particle κε < **ke(y)* instead of *ni*/νι in a relative conditional clause would have likely been an innovation of the peripheral southeastern dialectal area of New Phrygian.

The etymological origin of the modal particle *ni*/νι is difficult to ascertain.

An emphatic point that can be made regarding its final vowel is the following: Phrygian prepositions and clitics tend to, and always do in New Phrygian, lose a final *-i.* The fact that *ni*/νι was an enclitic element is strongly suggested by the fact that it appears exclusively as a second word in a clause and in the compounded conjunction *ayni*/αινι 'if, or'. As such, to explain the entirely non-optional presence of *-i* in the New Phrygian inscriptions, we need to assume that this final *-i* is not the reflex of an inherited **-i*, but rather the reduced from of something like an inherited **-e̯ī̯* < **-ī* or **-ei*.

Most likely is the origin of the Phrygian particle *ni*/νι in the PIE negation **ne* 'no, not'. Descent from the PIE variant **nei-*, whence also Latin *nī,* Lithuanian *nei* 'neither', Proto-Slavic **ni* 'none, nor', would perfectly account for Phrygian *ni*, which would have undergone reduction from **nei* as it became cliticized. A negative particle could have developed a modal meaning as a result of the complex interplay between modality and polarity.

As already noted above, *ay* of *ayni* 'if, or' originated in a locative pronominal form **h₁eh₂i* '(at that) > 'where > 'when', which would have had a secondary meaning 'if'. The addition of *ni* << **nei* to the primary meaning 'when' would have been a means of re-enforcing the indefinite meaning 'when'.
Extremely appealing is the derivation of *ayni* 'or' if we assume *ni* originated in the PIE negative particle **ne*. Typologically, a disjunctive connective is easily derived from: 1) a denied conditional clause (cf. It. *sennò* 'otherwise' < *se* 'if' + *no* 'no'); 2) a negative particle (cf. Nakanai *ka* 'not' > *ka* 'or') (Ramat & Mauri 2011: table 54.2).

Assuming the former trajectory (1), **ai* 'when, if' + **ne* 'not' > *aini* 'or' is very simple: **'A when/if not B'* = '*either A or B'*. This does assume that **ai* could have already had a secondary function of a conditional conjunction/adverbial on its own, which is supported by its use in °64[E] (αι κος 'if anyone' for usual ιος 'whoever') and Aeolic αἰ.
The latter trajectory (2) puts the onus for the creation of the meaning 'or' on the *ni* element first, with *ai* being the deictic addition: **A ni B* 'A not B' = 'A or B' > *A ai=ni B* '(A there=or B >) A or B'. This option is less likely, since it is not clear why an additional deictic would need to be added, though re-enforcement is always a possibility.

A number of other proposals exist for the origin of this particle.
Commonly suggested as Greek cognates of *ni* are Attic νή, Aeolic ναί 'indeed, so', which may, in turn, be related to TocharianB *nai* '(affirmative particle)' (EDG 993 and Adams 2013: 368) and Latin *nē* '(*id.*)' (EDG 993). The problem is that a connection between the latter three is speculative to begin with: Beekes (*ibid.*) and Chantraine (1999: 738-739) draw a connection with **(h₁e)no-* 'that one', but fail to explain the lack of the initial vowel or the apparent non-thematic form,[644] whereas Adams (2013: 368) mechanically reconstructs **neh₂i* to explain the Greek and Tocharian reflexes. While Beekes draws a connection between Attic νή and Latin *nē*, this seems dubious; the Attic term is likely to be secondarily derived from Aeolic ναί (Chantraine 1999: 733) and Latin *nē* is better derived from **ne* 'no, not'.[645]

[644] The **no-* on its own would actually only be the remnant of the original derivational suffix and no explanation is provided for the lack of an initial vowel which we would expect in this form. Chantraine's explanation simply cites a non-laryngeal **(e)no-*, thereby sidestepping the issue entirely.
[645] Or, alternatively, was borrowed from Greek νή (Chantraine 1999: 733).

If we take Adams's mechanical reconstruction of **neh₂i* without delving into the etymology of it further, such a form can only be formally related to Phrygian *ni* by assuming that the final diphthong (either **-ai* if from **neh₂i* or **-āi* if from zero-grade **nh₂i*) was reduced to *-i* as a consequence of being a clitic.

A borrowing scenario for the particle cannot be expressly excluded, though borrowing from known Greek dialects certainly can be: Aeolic ναί certainly would not have been borrowed as Phrygian *ni*, and the vowel of Ionic νή would have still been low during the Old Phrygian period and would not be borrowed as *i*.

One issue with this account is that the particle is used exclusively in hypothetical conditional clauses, where we would not expect to find an emphatic affirmative particle, since the semantics of the sentence themselves deal with a merely imagined or supposed reality, not one that can be affirmed. The original meaning could have been bleached, but we would generally expect to find such a particle in the resultative clause as an affirmation of the projected consequence, rather than the conditional clause.

Obrador-Cursach (PhL 310) suggests that the use of *ni* in Phrygian can be compared to Pamphylian καί νι +*imperative* constructions. For its origin, he draws attention to Greek -νε/-νι, which appears following some dialectal pronominal forms, e.g. Thessalian ὅνε, τόνε, τάνε and Arcadian ὀνῑ (Chantraine 1999: 738-739). Arcadian also uses ὅ-νυ; this -νυ rather uncontroversially derives from PIE **nu* 'now'; cf. Greek νῦν (Chantraine 1999: 758). The -νε forms are more likely to be a blending of the -δε and -νυ type pronominal forms: cf. Cypriot ὅνε and ὅνυ used in the same manner as ὅδε of Idalion (a city in Cyprus). In the case of the -νι forms, Chantraine

(1999: 738-739) suggests that Arcadian ὀνῑ forms are derived from the desinence -νε extended with a deictic -ῑ. As far as the Pamphylian construction is concerned, we ought to be wary of connecting the obviously verbal particle of the καί νι imperatives with the Arcadian-exclusive pronominal forms in -νι. The Pamphylian imperative particle is far more likely to be an independent development or a borrowing.

Obrador-Cursach (PhL 320) also gives the possibility that Phrygian *ni* originates from the PIE preposition **ni-* 'here, inside, within', citing Dunkel (LIPP 225, 229-230). The problem with this proposal is that the semantic shift required for the development of this preposition into a modal particle is difficult to motivate. The introduction of an element with a proximative meaning into hypothetical conditional clauses, where the reality described is merely supposed, could only have happened if that element had previously been sufficiently semantically bleached.

As far as the etymology of the modal particle *ke(y)* is concerned, we ultimately have only one reasonable option available: a derivation from PIE **k*^{w}*e.* Formally, no other known PIE particle fits the initial *k-* of Phrygian.[646] Semantically, the reflex of the PIE particle **-k*^{w}*e* 'and' could also be used with the meaning 'if' in some specific constructions in the daughter languages; e.g. Vedic *ca* 'if, and not', Hittite *-kku* 'if', Got. *nih* 'if not' < **né k*^{w}*e* (LIPP 703-704), as well as in PSl. **at'e* 'if' < **ōd k*^{w}*e* (cf. OCS *ašte* 'if') (Snoj 2009: 80-81).

[646] One may wish to suggest a common descent of Phrygian *ke(y)* and the Greek modal particle κεν, but this is formally not viable: Phrygian *k* would not correspond to a Greek κ before a front vowel. While one could argue that the Phrygian *k* could have been levelled from some other variant of the modal particle that also gave rise to Greek κεν, no model appears to be possible. Beyond the initial velar, another problem is the Greek -ν: there is no trace of it in Phrygian.

The semantic and formal match is strong enough that any alternative explanation seems exceedingly unlikely. The only unsolved question concerns the Old Phrygian spelling *key*. If it betrays a phonetic reality, i.e. a realisation with a diphthong, the reflex of the particle *k^we* would have been secondarily extended with the addition of *-*i*. If we are dealing with a purely graphical addition of the final glide, however, no subsequent derivation from an original *k^we* needs to be assumed. Until more attestations of the modal particle *ke(y)* are found in Old Phrygian, no concrete answer can be given. At best, we may suppose that the forms with conjunctive and modal functions of the reflex of PIE *k^we* may have behaved differently in accentual terms, with the former being a purely enclitic element prone to loss of its final vowel, and the latter being independently accented and preserving its vocalism; even this is purely speculative, however.

VI.2.4 The intensive particle *ti*

A particle written as *ti, t,* τ, or το/του is found commonly in the Phrygian corpus, both in Old and New Phrygian. Its precise meaning is unclear, but since the New Phrygian curse formulae appear both with and without it, it most likely did not have a semantic function that would drastically change the meaning of a clause.
The particle most commonly, but not always, appears immediately following a demonstrative pronoun *si-*, suggesting it was used as an enclitic intensifier of the pronoun.

The enclitic nature of this particle is strongly supported by its spelling. In Old Phrygian, it is for the most part written simply as *t,* without a following

vowel, except once in inscription °B-05, where the particle is explicitly written as *ti*. It may be premature to draw the conclusion that the underlying form of the particle was **ti* from this example; in the context in which it appears, both the preceding and the following vowel is /i/.

In New Phrygian, the particle surfaces as τV, with the vowel being somewhat random in quality: e.g. σεμιν τ °76[E], σα του μανκα °82[C], σεμ[ουν] το °119[W], σα του σορου °124[C]. This specific spelling does have ramifications for our understanding of enclitic vowel reduction: whereas in a proclitic environment, a final vowel was apparently lost,[647] in an enclitic environment, the final vowel was apparently not lost, but merely lost its distinctive features and remained preserved as a neutral vowel liable to assimilation.[648],[649]

Rarely, this particle may have been used as a preverb, most clearly in *t=edatoy* (cf. PhL 110). Another potential example is τευτους < [+]τ=ευτους.[650] What meaning the particle would have imparted before a verb, either as a preverb or as an independent element, is unclear.

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[647] Though the other examples we have suggest this only happened for *-i* (cf. *s=materan* < **si*[?], αδ < **adi*), the process may well have been used for other vowels as well.

[648] This is assuming that a vowelless particle τ did not secondarily innovate a vowel at some point before New Phrygian. While possible, the lack of such an innovation in other clitics suggests otherwise.

[649] It would then seem to be the case that Old Phrygian pre-consonantal spellings of this particle as <*t*>, e.g. *yos=esai=t,* actually encoded a phonetic [tə] with a reduced vowel which was not written. This also explains the disparate spellings *sin t imenan* and *sin ti imenan* in °B-05 if we assume that this late Old Phrygian inscription already shows a stage of the language when the neutral vowel was echoed: the actual phonetic sequence being written, i.e. [sin ti imenan] < [+][sin tə imenan], would permit both spellings.

[650] For which see §III.3.9.

Etymologically speaking, the origin of *t(V)* is uncertain. Obrador-Cursach (PhL 365-366) connects it to the anaphoric pronoun *tos*, but there is nothing to suggest that that pronoun would have become an indeclinable element. Noting its tendency to attach itself to a demonstrative pronoun, drawing a parallel with Greek pronominal constructions like ὅδε seems preferable. If we assume an etymological connection between the two, PGPh. *=*de* would have developed regularly into Greek δε, whereas it would have developed into Phrygian **tə*, with its final vowel reduced as a result of its nature as a clitic element.

VI.3 Phrygian numerals

Only one Phrygian numeral has been identified so far. Lubotsky (unpubl.; also LL 1820) has made a compelling argument that NPh. πινκε means 'five'. Formally, πινκε is an entirely regular reflex of PIE **penk^{w}e* 'five'. Semantically, his argument is based on an analysis of inscription °116^{W}: [...] ιοσος κε δετουν υψοδαν κε ταν σαυναμαν κε κνουμαν κ ακροδμαν κε [...] πινκε τας δακερης ονομανιαις μιρου ικ κναικαν εδαες. Lubotsky (1993: 130-131) noted that there are five conjoined nominal phrases in the first sequence, where at least some refer to the grave or what is likely to be a part of it: '*iosos* and thing-that-is-placed above and this *saunama* (cf. Hitt. *šaman-* 'foundation') and grave and high-beam [...] five these placed-things named *mirou* for-benefit-of wife he-placed'. There can be little doubt that Lubotsky's identification of the numeral is correct. Even if we did not know the meaning of any of the five elements, the very fact that a sequence of five conjoined nominal phrases in the accusative case appears in an inscription and that subsequently a clause containing the elements πινκε,

which formally perfectly fits PIE **penk*^{w}*e*, and εδαες 'he placed' is found in the same inscription, would be reasonable enough confirmation for a language such as Phrygian that the word for 'five' has been identified. The fact we can actually identify other words in these two clauses and that they seem to fit this meaning precisely simply solidifies this identification.

VI.4 Phrygian adverbs

The various different languages originating in PIE would have created novel strategies of forming adverbs; it is generally unclear which, if any, of these would have been present in PIE itself. In addition, a great many adverbs in these post-PIE languages originated in fossilised nominal forms.

Determining which Phrygian forms actually function as adverbs is very difficult; if a particular sequence is not understood well, potential adverbial forms may formally appear identical to nominals in specific cases and determining which syntactic reading is optimal can often be uncertain. To further complicate matters, some generic adverbials are liable to becoming grammaticalised as prepositions.

Probably the best example of what must clearly be an adverb in Phrygian appears in °B-07: *mekos aniva*Ψ*eti smanin* 'greatly may-he-*anivak* (this)=Manes'.
The adjective meaning 'great' in Phrygian is known to be *meka*-, which declines like an *a*-stem adjective: *mekas, mekas, *mekai, mekan*. There is no possibility for this adjective to appear in a case-form without *a*-vocalism (*contra* Gusmani and Polat 1999: 160). Clearly, *mekos* must be a form that

falls outside the declensional paradigm. When compared to Greek, the desinence *-os* in an otherwise *a*-stem adjective would most obviously fit an -ως adverbial ending. Should this be the case, we have two alternatives:

a) *-*ōs* was an original PGPh. adverb-forming suffix which was attached directly to an adjectival **megh₂* to produce **megh₂ōs* > Phr. *mekōs*;[651]
b) *-*ōs* was an original PGPh. adverb-forming suffix that remained productive into Proto-Phrygian, where it was attached to an adjectival **meka-* to produce **meka-ōs* > *mekōs.*

This OPh. adverbial desinence *-ōs* would have developed regularly into a New Phrygian /-us/ <-ους, -υς).

Obrador-Cursach (PhL 296-297; 2021b: 51ff.) and Hämmig (fthc.) provide a different interpretation of *mekos* 'greatly', but their analysis cannot be endorsed here. They segment the sequence into *me*= and =*kos*, 'not' and 'anybody', but, as we note in §VI.1.5, *me* cannot be a reflex of PIE **meh₁*. Furthemore, in the immediate syntactic environment of an following a relative clause functioning as a protasis, the expected pronoun would be the anaphoric pronoun *to-*, not an indefinite *ko-*.[652]

[651] In this case, a PGPh. adverb **megōs* would have been lost in Greek and replaced with PGr. **megalōs* > μεγαλῶς, whose stem **megalo-* would have been extracted from the oblique stem of the adjective.

[652] Obrador-Cursach (2021b: 51ff., 54) argues that the entire clause *mekos aniva*Ψ*eti smanin* can be compared to Aramaic *ʔyš ʔl yʕml* 'let no one do harm' of inscription °KAI 318, where the use of the indefinite pronoun is due to calquing the Aramaic expression, which, if we were to accept that *me* can mean 'not', is at least a possible explanation. The pronoun *ko-* in Phrygian has an indefinite function that is better understood as meaning something closer to 'whoever', though, so the phrasing would certainly be very odd.

In New Phrygian, προτυς °15^{NW} is likely to be an adverbial form with this desinence (cf. Lubotsky 1993: 132). Most likely, it means 'before, firstly'. The Phrygian adverb seems to derive from an earlier adjective **proto-* < **pr̥-to-* 'having the characteristic of being before, in front', apparently ultimately from the preposition **pr̥* (whence also Phr. *por* and πουρ).

There are few other examples of other known adverbs in Phrygian.
Well-established as an adverb is *upsodan* 'above, on top' (Lubotsky 1993: 131-133). The initial sequence of sounds can be directly compared to Greek ὑψόθεν 'from on high' (*ibid.*). The endings of Greek and Phrygian do not match, but in Greek dialects there does exist a locatival adverbial desinence -θα, ostensibly a zero-grade variant of -θεν < **-d^{h}en*, i.e. **-d^{h}n̥* (*ibid.,* PhL 111).
The Phrygian adverb *upsodan*, then, can be directly compared to a hypothetical Greek *ὑψόθα. This specific Greek form is not attested, but this may well be due to chance, since the adverbial desinence -θα is comparatively less common than forms with -ε- (cf. Lejeune 1939: 356-362). The building blocks for the creation of *ὑψόθα must have certainly existed in Proto-Graeco-Phrygian and later in Proto-Greek as well. The hypothetical Greek form and the attested Phrygian form can be unified as originating in a Proto-Graeco-Phrygian **upsod^{h}n̥*. Even if this individual form did not exist at this stage yet, there can be no doubt that Proto-Graeco-Phrygian did possess an adverbial locatival desinence **-d^{h}n̥*.
Lubotsky (1993: 132-133) notes that the distinction between Greek -θα and -θεν is likely one of a pure locatival (where?) against an ablatival (whence?) meaning, citing the pair ἔνθα 'there, thither' and ἔνθεν 'thence' as supporting evidence. This example is quite telling, and it seems very reasonable to assume that this was indeed the original distribution between

-θα and -θεν. Formally, the two ablaut variants would have been unlikely to originate within Greek; it is practically certain that both *-*dʰn̥* and *-*dʰen* did exist in Proto-Graeco-Phrygian. In terms of their meanings, it is currently best to assume that their distribution in PGPh. matches that found in Greek (as is also done by Lubotsky (*ibid.*)).

If PGPh. did possess the two ablaut variants *-*dʰn̥* and *-*dʰen*, both of which were preserved in Greek, there is certainly a marked possibility that both variants could have survived into Phrygian as well. Thus, while only *-dan* < *-*dʰn̥* is actually attested in Phrygian, it is entirely possible that a ⁺*-den* < *-*dʰen* also existed in the language, which ought to be taken into consideration should such a desinence ever appear in a Phrygian inscription.

Another adverb we find in Phrygian is OPh. *kakey* °B-05, NPh. κακε °21^{C}, °88^{C}, °99^{NW}, °124^{C}, meaning 'badly', derived from the adjective *kako-* (PhL 264-265).[653] The final *-y* in the Old Phrygian form is graphical (as assumed in PhL 265) or a result of word-final diphthongization specific to inscription °B-05 (cf. *ituv* for ⁺*(e)itū*), as suggested by the consistent New Phrygian spelling κακε, meaning that the canonical forms of this adverb would have ended in a monophthong /e/.[654] The adverbial desinence *-e* most likely originates in the zero-grade of the PIE athematic instrumental singular ending *-*h₁* (CIEL 186ff.; cf. PhL 111-112). As the instrumental case fell out of use in Proto-Phrygian, the ending *-*e* of remaining

[653] The similar appearing forms κακεν, κακην, and κακιν are to be understood as spellings of the common adjective κακουν with the vowel quality affected by nasalization (cf. also σεμιν for usual σεμουν; for the process refer to section §II.2.3.1.3), rather than the adverb κακε with a hypercorrect nasal (as assumed by Obrador-Cursach (PhL 265)).

[654] While -ε is used on occasion to spell expected -ει in New Phrygian, κακε appears twice in inscriptions (°88^{C} and °99^{NW}) where a final -ει is faithfully represented in dat. sg. κνουμανει.

fossilized forms would have been reinterpreted as an adverbial marker and its use extended.

Finally, beyond the adverbs in *-ōs, -dan*, and *-e*, we should add a few notes on other adverbial desinences we may potentially find in Phrygian.

Primary among these is the desinence derived from **-$d^{h}i$*, imparting a generic locative meaning, which would develop into Phrygian *+-di* or *-d*. In Phrygian this adverbial desinence can be found in the prepositions that end in *-d*. In the attested examples, the adverbial suffix was added to an original prepositional element; whether the addition of the suffix to a prepositional element produced an adverb that later once again developed into a preposition or whether a prepositional element extended with this suffix simply absorbed its semantic function without becoming a different part of speech cannot be ascertained with any degree of certainty. The final **-i* of the suffix was eventually lost due to appearing in a preposition, which would have accentually behaved like a proclitic.[655]

In Greek, -θι < **-$d^{h}i$* was used to impart a generic locative meaning as well, though it does not seem to have been synchronically productive by the historic era. Forms extended with -θι could have the function of adverbs (θηλόθι 'far away'; cf. τέλος 'end'), conjunctions (ὅθι 'where'; cf. ὁ- '(dem. pron.)'), or prepositions (ἐγγύθι + gen. 'near'; cf. ἐγγύς 'near').

A locatival adverbial desinence **-$d^{h}i$* must have existed in Proto-Graeco-Phrygian. While the only traces of its existence in Phrygian are found in the prepositions ending in *-d*, it is possible that the locatival adverbial suffix *+-d(i)* remained productive in Phrygian for some time and could be attached

[655] For which see the sections on the preposition αδ, §VI.1.1, and others.

to non-prepositional parts of speech, as was the case in Greek. As such, any Phrygian form ending in *-d* or *-di* could potentially be an adverbial form utilising this suffix; do note that the variant *-d* is only expected in clitics.

Some other Phrygian words that have been proposed to be adverbs are: *ekey,* ερα, *kan*/καν (PhL 112). Too little is known of them to permit any meaningful analysis at this stage.