

# Conditioned Palatalization in Phrygian

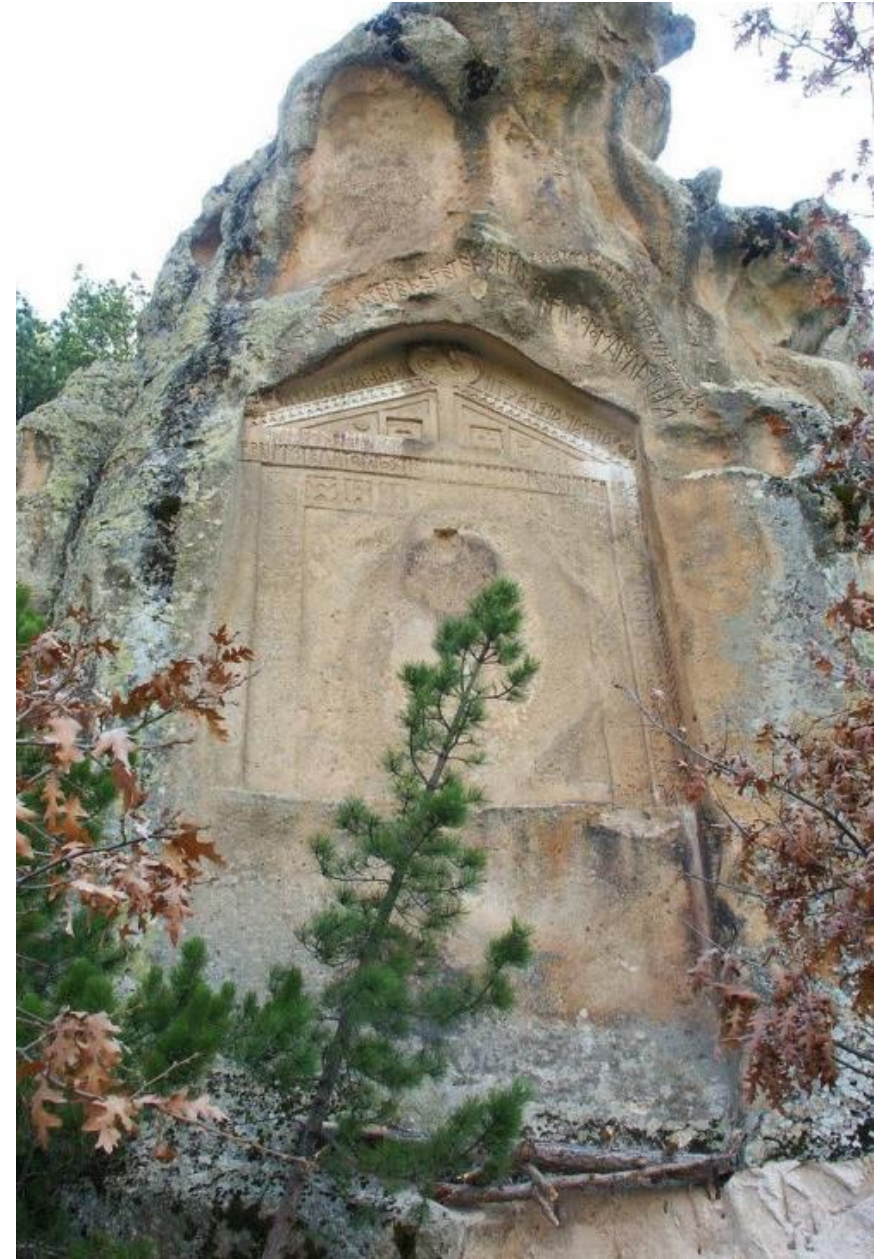
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Comparative Indo-European Linguistics Seminars



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# The Phrygian language

- Attested in two phases: Old Phrygian (8th to 4th century BCE) and New Phrygian (2nd to 3rd century CE).
- Old Phrygian:
  - around 400 inscriptions;
  - written in a native alphabet.
- New Phrygian:
  - around 100 inscriptions, mostly malediction formulae;
  - written in the Greek alphabet.
- One inscription in the Greek alphabet can be dated to the "Middle Phrygian" era (4th century BCE) and provides a glimpse into a stage of the language partway between Old and New Phrygian.



# Evidence for a Graeco-Phrygian branch of Indo-European

- Development of the laryngeals:
  - $*Ch_{1/2/3}C > *Ce/a/oC$ ;  $\#h_{1/2/3}C- > *e/a/oC-$ ;  $*-Ch_{1/2/3}\# > *-Ce/a/o\#$ ;  $*CRHV- > *CaRHV-$ ;  
 $*CRh_{1/2/3}C > *Cr\bar{e}/\bar{a}/\bar{o}C$ ;
- $*s / \#\_V, V\_V > *h$ ;
- loss of final stops;
- $*-m > *-n$ ;
- generalization of pronominal endings g.sg.  $*-oso$  and nom.pl.  $*-oi$  to the *o*-stem nouns;
- masculine  $\bar{a}$ -stem nom. sg. ending  $*-\bar{a}s$ ;
- the proximal demonstrative pronoun  $*(e)ki-$ ;
- 3sg. middle imperative ending  $*-sd^h\bar{o}(d)$ ;
- 3pl. active imperative ending  $*-nt\bar{o}(d)$ .

(Neumann 1988; Ligorio & Lubotsky 2018; Obrador-Cursach 2020: 121-126)

# Phrygian as a *kentum* language

- $*k̑ > \text{PGPh. } *k > \text{Phr. } k, (t)s$ 
  - PIE  $*perk-$  'to scratch, to dig' > Phr. *perk-*; PIE  $*knuH-$  'to scratch' > Phr. *κνουμαν*, Gr. *κνύω*
- $*g̑ > \text{PGPh. } *g > \text{Phr. } k, (t)s$ 
  - PIE  $*gēnh_1-os$  'offspring, race' > Phr. *κενος*, Gr. *γένος*; PIE  $*b^h_1g-$  'to bake' > Phr. *bekos* 'bread', Gr. *φώγω* 'to roast';
- $*g̑^h > \text{PGPh. } *g^h > \text{Phr. } g, (d)z$ 
  - PIE  $*seǵ^h-e/o-$  'to hold, to have' > Phr. *eg-e-*, Gr. *ἔχω*; PIE  $*ǵ^hrHit-$  'grace, thanks' > Phr. *γαριτ-*, Gr. *χάρις*;
- $*k^w > \text{PGPh. } *k^w > \text{Phr. } k$ 
  - PIE  $*k^we$  'and' > PGPh.  $*k^we$  > Phr. *ke*, Gr. *τε*; PIE  $*k^wi-$  '(interrogative pronoun)' > Phr. *ki-*, Gr. *τι-*;
- $*g^w > \text{PGPh. } *g^w > \text{Phr. } k$ 
  - PIE  $*sleh_2g^w-$  'to take, to grasp' > PGPh.  $*lāg^w-$  > Phr. *lak-*, Gr. *ἔλαβον*; PIE  $*g^wenh_2$  'wife, woman' > Phr. *knays*, Gr. *γυνή/γυναικ-*
- $*g^{wh} > \text{PGPh. } *g^{wh} > \text{Phr. } g$ 
  - *no good Phrygian example*

(Ligorio & Lubotsky 2018: 1823-1824)

# Old Phrygian ↑

- The Old Phrygian grapheme ↑ is attested a total of 23 times (Obrador-Cursach 2020: 33-37).
  - The relevant examples for our purposes are: *a↑iiai*, *a↑ion*, *a↑ios*, *a↑ses*, *k↑ianaveyos*, *Jor↑es*, *si↑eto*, *si↑idos*, *vi↑e*, *↑ek/*, *↑ekmatin*, *↑emeney*, *↑iray*.
- In all of these examples, save one, ↑ appears before a front vowel, suggesting (Brixhe 1982: 37):
  - a) it is a palatalized sound of some kind;
  - b) its palatal nature is contingent on the following vowel.
- Neighbouring languages:
  - Lydian ↑ [c] (Kearns 1994: 44);
  - Carian ↑ [ts]/[tʃ] (Adiego 2007: 251);
  - Greek T [ts] (Obrador-Cursach 2020: 37).

# New Phrygian ζ

- In contemporary Greek, <ζ> has the value [z(:)] (Allen 1968);
- <ζ> appears as the initial consonant of two New Phrygian lexemes:
  - ζεμελο- 'man, earthling' in the phrase με ζεμελωσ κε δεωσ κε τιτετικμενος ειτου 'among men and gods cursed may-he-become' (Lubotsky 1998: 417ff.);
  - ζειρα-, probably [zi:ra-], which is extremely similar to Old Phrygian ↑ira- (Neumann 1997: 25).
- ζ likewise only appears before front vowels.
- There is no other likely antecedent for NPh. ζ in Old Phrygian, and no other likely reflex of OPh. ↑ in New Phrygian.
- Thus: Old Phrygian ↑ > New Phrygian ζ.



# Meaning of New Phrygian ζειρα-

- Inscription °106 (Obrador-Cursach 2020: 594, 247) :

ιος νι σεμουν κνουμανει κακουν αδοκετ ζειραι, ...

*'whoever to-this grave bad does ζειραι, ...'*

- ζειραι is an *a*-stem in the dative case;
- syntactically either an adjective modifying κνουμανει (but why not neuter?) or an independent noun;
- no αινι 'or', so not '(part of the) grave';
- the dative likely has an instrumental meaning: *by-means-of-X*; *X = hand* fits semantically.

# Meaning of New Phrygian ζειρα- II.

- Inscription °12, only known from very poor copies (Obrador-Cursach 2020: 570-571, 247):

ειος νι σεμουν κνουμανι κακον αδδακετ, ζειρα κε οι πειες κε τιττετικμενα ατ τιε αδειννου

*'whoever to-this grave bad does, ζειρα and his πειες cursed (pl.) by-Zeus may-become (pl.)'*

- πειες is very likely πετες 'feet';
- 'hand' for ζειρα is a good semantic match;
- the ending -α for fem.nom.pl. is unexpected, but the word is certainly feminine in light of dat. sg. ζειραι °106;
  - engraver's error/variant spelling, copyist's error, or a dialectal development?



# The pre-history of ↑ira-/ζειρα-

|       | nom. sg.               | acc. sg.                | dat. sg.                |   |              |
|-------|------------------------|-------------------------|-------------------------|---|--------------|
| PIE   | *ǵ <sup>h</sup> esr    | *ǵ <sup>h</sup> serm    | *ǵ <sup>h</sup> srei    |   |              |
| PGPh. | *g <sup>h</sup> ehr    | *g <sup>h</sup> eh(e)rn | *g <sup>h</sup> ehrei   | *m > *n, *s > *h, level root vocalism throughout                | → Greek χεῖρ |
| PPh.1 | *gehor <sup>?</sup>    | *gehran                 | *gehrei                 | *g <sup>h</sup> > *g, *R > *VR                                  |              |
| PPh.2 | *(d)zē <sub>2</sub> r  | *(d)zē <sub>2</sub> ran | *(d)zē <sub>2</sub> rei | *g/ _e > *(d)z, *ehr > *ē <sub>2</sub> r, level nominative stem |              |
| PPh.3 | *(d)zē <sub>2</sub> rā | *(d)zē <sub>2</sub> rān | *(d)zē <sub>2</sub> rāi | transfer to ā-stem  |              |
| OPh.  | †↑ira                  | †↑iran                  | ↑iray                   | spelling of ē <sub>2</sub> with <i>/<e>                         |              |
| NPh.  | †ζειρα                 | †ζειραν                 | ζειραι                  | spelling of ē <sub>2</sub> with <ει>                            |              |

The developments in Proto-Phrygian 2 and 3 can be in any order, so long as \*-ehrV- > \*-ē<sub>2</sub>rV- is posterior to PGPh. \*ē > \*ā.

# New Phrygian ζεμελο- and γουμ-

- From quasi-PIE *\*d<sup>h</sup>ǵ<sup>h</sup>em-elo-* 'earthling' (Ligorio & Lubotsky 2018: 1820);
  - cf. Greek χθαμαλός, Latin *humilis* 'low, humble';
  - very likely simply through *\*d<sup>h</sup>ǵ<sup>h</sup>-* > *\*g-* (cf. Latin); *\*d<sup>h</sup>ǵ<sup>h</sup>emelo-* > *dgemelo-* > *gemelo-* > *(d)zemelo-*.
- This development is confirmed by New Phrygian γουμεις °130:
  - dat. pl. of an *m*-stem γουμ- as part of the phrase σως γουμεις 'to/for/in these X';
  - there are no other inherited *m*-stems, and γουμ- is easy to relate to PGPh. *\*d<sup>h</sup>ǵ<sup>h</sup>ōn* ~ *d<sup>h</sup>ǵ<sup>h</sup>om-*, whence also Greek χθών 'earth' (with Phrygian leveling the nominative vocalism, and Greek leveling the nasal).

# Development of \*TK̑-clusters in Phrygian

- A Proto-Greco-Phrygian metathesis into \*KT is not possible:
  - a) the resulting cluster \*KT must remain unchanged in light of *εγδαεζ*, *ektetoy*, *ktevoy*s, which is contradicted by *γουμ*-;
  - b) the resulting cluster \*KT (not a simplified version of it!) must undergo a conditioned development \*KT / \_V[+front] > \*(t)s/(d)z.
- A special development of \*TK̑ in PIE, Proto-Greco-Phrygian, or Proto-Phrygian?
  - Not necessary for PIE (Kloekhorst 2014);
  - if Proto-Greco-Phrygian, some \*Kp̑ *vel sim.* would need to:
    - a) undergo fortition in Greek;
    - b<sup>1</sup>) undergo the development \*Kp̑ / \_V[+front] > \*ts/dz and \*Kp̑ / \_V[-front] > \*K OR
    - b<sup>2</sup>) be simplified before palatalization; \*Kp̑ > \*K.
- The simpler explanation is PIE \*TK̑ > PGPh. \*TK > Phr. \*K, Gr. \*KT.

# The glosses

- Hesychian gloss ζευμαν · τὴν πηγὴν 'spring, well, fountain' · Φρύγες;
  - corresponds perfectly to Greek χεῦμα 'that which is poured' < PGPh. \*ǵ<sup>h</sup>eu-mn<sub>o</sub> (Brixhe 1982: 244).
- Other glosses with ζ are less transparent:
- αζενα/αζην/αζενον 'beard';
- ζελκια 'vegetables, greens', perhaps from < \*ǵ<sup>h</sup>elh<sub>3</sub>- 'yellow, green';
- ζετνα 'door, gate'.

# Pronoun *si-*

- Descended from the particle *\*ké* 'here' and the pronominal endings of the *\*h<sub>1</sub>i/e-* and *\*k<sup>w</sup>i/e-* pronouns (cf. Obrador-Cursach 2020: 88-91):

|          |  | Phrygian            |  | Phrygian      |
|----------|--|---------------------|--|---------------|
| nom. sg. | <i>*k<sup>h</sup>is / *k<sup>h</sup>id</i> (neut.) | > <i>si</i> (neut.) | <i>*k<sup>h</sup>ih<sub>2</sub></i>      | > σα          |
| gen. sg. | <i>*k<sup>h</sup>eso-</i>                          |                     | <i>*k<sup>h</sup>esieh<sub>2</sub>s</i>  | >> σας        |
| dat. sg. | <i>*k<sup>h</sup>esm-ei</i>                        | >> σεμ-ουν          | <i>*k<sup>h</sup>esieh<sub>2</sub>ei</i> | >> <i>sai</i> |
| acc. sg. | <i>*k<sup>h</sup>im</i>                            | > <i>sin</i>        | <i>*k<sup>h</sup>ih<sub>2</sub>m</i>     | > σαν         |
| loc. sg. | <i>*kei</i>  | > Gr. (ἐ)κεῖ        |  |               |

# Alternative explanations for *s-*

- Spread from the nom. sg. of the pronoun *\*so/seh<sub>2</sub>/tod* (Lejeune 1969: 296):
  - but PIE *\*s-* > Phr.  $\emptyset$ ; cf. *\*seg<sup>h</sup>-* > *eg-*.
- From PGPh. *\*ki-* (Ligorio & Lubotsky 2018: 1824, 1826):
  - compare Gr. *σήμερον* 'today' < *\*ki-āmeron*;
  - but why would a proclitic preconsonantal variant *\*kj-* be extraced and extended with another *\*i*?

# Counterevidence

- Thematic verbal stems:
  - e.g. *eg-e-* < \**seg<sup>h</sup>-e-*, in *eg-e-se-ti*, εγ-ε-σι-τ, εγ-ε-δου;
- reduplicated formations:
  - γεγαριτμενο- 'devoted to, cursed' < \**g<sup>h</sup>e-g<sup>hr</sup>Hit-*;
  - γεγρειμενο- 'written, annointed' < \**g<sup>h</sup>eg<sup>hr</sup>riH-*;
- κενα 'offspring' < \**g<sup>h</sup>enh<sub>1</sub>-es-h<sub>2</sub>*;
- *keneman* < ?



# \*K before thematic vowel

- In verbal forms, the *e* and *o* variants of the thematic vowel have the same distribution as in PIE:
  - consider *εγουννου* 3pl. impv. (< \**seg<sup>h</sup>-o-ntōd*) and *kakoioi* 3sg. opt. (< \**kako-j-oj-t*).
- This would produce an alternating paradigm: \**seg<sup>h</sup>-o-* ~ \**seg<sup>h</sup>-e-* > *eg-o-* ~ \*\**ez-e-*.
- The palatalization of labiovelars in Greek produces the same type of alternation and levels out the palatal allophone:
  - \**leik<sup>w</sup>-e/o-* 'to leave' > *λείπ-ω*, *λείπ-εις*, *λείπ-ει*, and NOT *λείπω*, \*\**λείτ-εις*, \*\**λείτ-ει*.

# *kenos* 'offspring'

- Most likely directly cognate to Gr. γένος 'offspring, race, lineage', from PIE *\*ǵenh<sub>1</sub>-os* (Obrador-Cursach 2020: 269).
- In Phrygian, the *k-* can be explained as leveled from a variant of the root in zero-grade:
  - *\*ǵenh<sub>1</sub>-os* ~ *\*gnh<sub>1</sub>-es-* > *\*sen-os* ~ *\*kan-eh-* >> *\*ken-os-* ~ ?
- The second type of *s*-stems in Phrygian, exemplified by *bekos*, leveled oblique-stem vocalism:
  - *\*b<sup>h</sup>eh<sub>1</sub>ǵ-os* ~ *\*b<sup>h</sup>h<sub>1</sub>ǵ-es-* > *\*bāk-os* ~ *\*bes-eh-* > *bekos-* ~ ?
- Both types of *s*-stems are required in Phrygian and suggest the preservation of the unmodified ablaut pattern *CéC-os* ~ *CC-és-* into Proto-Greco-Phrygian.

# *keneman* 'a niche'

- Compare 3sg. aor.  $\epsilon\kappa\alpha\nu\epsilon\varsigma$  <  $*e-k\bar{e}n-$  'he dug', perhaps from  $*ken-$  'rub, scrape' (Ligorio & Lubotsky 2018: 1827).
- Same root as Sanskrit  $khan^i-$  'to dig' (Beekes 1969: 20)?
  - If so, lack of palatalization in Sanskrit precludes an original palatovelar;
  - Beekes (1969: 20) reconstructs  $*kh_1enh_1-$  <  $*keh_1-$  with aspiration from  $*h_1$ ;
  - LIV<sub>2</sub> (344) reconstructs  $*k^{(w)}eh_2-$  to account for the aspiration, but  $*h_2$  is incompatible with Phrygian vocalism;
  - if we wish to connect Skt.  $khan^i-$ , we need to assume  $*h_1$ .
- Perhaps from the same root as Gr.  $\kappa\acute{\epsilon}\nu\omicron\varsigma$  'empty' <  $*ken-(e)-wo-$  <  $*ken-e/o-$  (Obrador-Cursach 2020: 269-270)?
  - Unlikely because of palatalization and the meaning of  $\epsilon\kappa\alpha\nu\epsilon\varsigma$ .

# Conclusions

- PGPh.  $*k / \_V[+\text{front}] > \text{Phr. } s$ 
  - $*(e)ki-$  'this'  $> \text{Oph. } si-$
  
- PGPh.  $*g^h / \_V[+\text{front}] > \text{OPh. } \uparrow, \text{NPh. } \zeta$ 
  - $*d^hg^hemelo-$   $> \text{NPh. } \zeta\epsilon\mu\epsilon\lambda\omicron-$
  - $*g^hesr-$   $> \text{OPh. } \uparrow ira-$ , NPh.  $\zeta\epsilon\iota\alpha-$
  - $*g^heumn$   $> \text{Phr. } \zeta\epsilon\upsilon\mu\alpha\nu$
  
- In paradigms with a  $k \sim s$  or  $g \sim z$  alternation, the palatalized sound is ousted by its non-palatalized counterpart.

# Thank you for your attention.

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