The Reflexes of the Proto-Indo-European Laryngeals in Thracian

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The basic features of the Thracian comparative-historical phonology are well established by Georgiev; as it is known, one of his great achivements in the field of the Palaeo-Balkan linguistics is the identification of Thracian and Daco-Moesian as different and specific Indo-European languages¹. Although Georgiev sporadically applied the laryngeal theory to Thracian, many of the Thracian reflexes of the PIE laryngeals can be outlined on the basis of his investigations; there are also a few controversial problems which call for explanation. In any case, it seems that a systematic survey of the laryngeal developments in Thracian would be useful.

1. There are no 'prothetic vowels' in Thracian².

Thus, Thrac. $P\bar{\eta}\sigma\sigma\varsigma$ (name of a Thracian king, II. etc.) should be derived, together with Skt. $r\bar{a}j$ - 'king', Lat. $r\bar{e}x$ 'id.', OIr. $r\bar{\iota}$ 'id.'³, from PIE * $h_3r\bar{e}g$ - which is formed with lengthened grade of the root. The reconstruction of PIE * h_3 -is guaranteed by the initial o- of the related Gk. $\dot{o}\rho\dot{\epsilon}\gamma\omega$ 'I reach, stretch out' (< PIE * h_3reg -) as well as by the h- of Hitt. harganau- 'palm, sole' (< PIE * h_3rg -, see Weitenberg 1984: 223).

If the river name $P\bar{\eta}\sigma\sigma\varsigma$ (II. etc.) is Thracian, it can be connected with ON $r\bar{a}s$ 'rush', OE $r\bar{\omega}s$ 'rush, leap; onrush, storm', etc. (see Detschew 1957: 393, Georgiev 1977: 92); then, PIE * $h_I reh_I s$ - should be reconstructed. The initial non-colouring laryngeal can be identified on the basis of the related Gk. $\dot{\epsilon}\rho\omega\dot{\eta}$ 'quick, violent motion' which is formed with o-grade of the root and comes from PIE * $h_I roh_I s$ - eh_2 .

These two instances suggest that the PIE initial laryngeals are lost before consonants (and consonantal r, l, m, n) in Thracian; it is worth mentioning that counter-examples to this rule are lacking⁴.

True, the e- in the river names 'Epiyiov, 'Epiywv and Erginos continues PIE $*h_1$ -, cf. the related Gk. &pephog 'darkness of the underworld' and Arm. erek 'evening' which point to PIE $*h_1$ regw-. However, these river names are Proto-Phrygian, see Georgiev (1981: 119) and Duridanov (1993: 67).

There is also no reason for assuming a reflex of PIE $*h_1C$ - in the Thracian river names $A\chi \epsilon \lambda \bar{\omega} o \varsigma$, $A\chi \epsilon \lambda \bar{\omega} v$ which are possibly cognate of Goth. ahva 'river' and Lat. aqua 'water'5. In fact, since the initial laryngeals before consonants are lost in Latin (cf. Lat. gerō < PIE $*h_2g$ -es-, etc.) and the Germanic languages (cf. Goth.

riqis 'darkness' beside Gk. ἔρεβος; OHG māen 'to mow' beside Gk. ἀμάω 'I mow', etc.), the derivation of Lat. aqua and Goth. ahva from PIE *akw-ā (beside * \bar{e} kw-6, see for instance Pokorny 1959: 23) is wrong. It is clear that Lat. aqua and Goth. ahva, together with Thrac. 'Αχελῶος, 'Αχελῶν, can continue PIE *h₂ekw-, whereas OIcel. ἀgir 'sea, see-god' is a vṛddhi- derivative which is formed with lengthened grade of the root and goes back, according to Eichner's law, to *h₂ēkw-yo-(see Darms 1978: 29-33)⁷.

Then, Thrac. ' $A\chi\epsilon\lambda\bar{\omega}o\varsigma$, ' $A\chi\epsilon\lambda\bar{\omega}v$ represent the regular development of PIE * h_2e - into Thrac. a- which is well attested by cases such as Thrac. $Al\zeta\iota\kappa\hat{\eta}$ (toponym; cf. Gk. $ai\zeta$ 'goat', Arm. aic 'id.'), - $a\pi\iota ov$, -apa (toponyms $M\epsilon\sigma\sigma$ - $a\pi\iota ov$, Burd-apa; cf. OPruss. apc 'river', etc.), etc.

The development of PIE * h_1e - into Thrac. e- is also well attested, cf. the personal names $E\sigma\beta$ ενειος, Esbenus, Εζβενις (:Lat. equīnus 'belonging to a horse'), etc.⁸

PIE * $h_x i$ - and * $h_x u$ - yield Thrac. i- and u- respectively, cf. Thrac. $I\sigma\tau\rho\sigma\varsigma$ (§2.2) which represents $h_1 i$ - 9.

- 2. The PIE laryngeals between consonants yield Thrac. a in the first syllable of the word. In non-initial syllables, however, the interconsonantal laryngeals are lost in Thracian.
 - 2.1. PIE $Ch_xC_- > Thrac$. CaC in the first syllable of the word.

According to Georgiev (1977: 67), the Thracian personal name $Bai\sigma\tau a\varsigma$ corresponds to Gk. $\Phi a\tilde{\imath} \sigma\tau o\varsigma$ which represents the superlative * φaF - $i\sigma\tau o$ - ς of $\varphi \acute{a}o\varsigma$ 'light'; then, we have Thrac. $Bai\sigma\tau a\varsigma$, Gk. $\Phi a\tilde{\imath} \sigma\tau o\varsigma < *b^h h_2 w$ -isto-s, Gk. $\varphi \acute{a}o\varsigma < *b^h h_2 w o$ -s.

Thrac. $\Delta a \lambda a$ -, $\Delta a \lambda \eta$ - (in personal names, cf. $\Delta a \lambda \eta$ -ζαλις, $\Delta a \lambda a$ -ζελμις, $\Delta a \lambda \eta$ -πορις, etc.) can be connected with Gk. Θάλεια (also Θαλια, Θαλεία) 'one of the Muses', $\vartheta \dot{\alpha} \lambda \lambda \omega$ 'to spring forth or emerge with or from moisture' 10, $\vartheta a \lambda \epsilon \rho \dot{\alpha} \dot{\alpha}$ 'moist', Arm. dalar 'green', etc. (see Detschew 1957: 113, 114, Georgiev 1975: 29, 1977: 60). Then, Thrac. $\Delta a \lambda a$ -, $\Delta a \lambda \eta$ - should be formed with zero grade of the root, as Gk. $\vartheta \dot{\alpha} \lambda \lambda \omega$, $\vartheta a \lambda \epsilon \rho \dot{\alpha} \dot{\alpha}$, Arm. dalar, etc. which, as Hamp (1984: 156-158) points out, represent PIE * $d^h h_2 I$ -.

Thrac. $-\pi a\iota\beta\eta\varsigma$, $-\pi a\iota\beta\varepsilon\varsigma$, $-\pi a\iota\beta\iota\varsigma$ (in personal names, cf. $A\lambda\iota\upsilon\upsilon$ - $\pi a\iota\beta\varepsilon\varsigma$, $\Delta\iota\tau\upsilon\upsilon$ - $\pi a\iota\beta\iota\varsigma$, $M\upsilon\upsilon\kappa a$ - $\pi a\iota\beta\eta\varsigma$, etc.) and $\Pi a\iota\beta\iota\lambda a\varsigma$, $\Pi a\iota\beta\iota\upsilon\eta$ can be connected with Gk. $\pi a\tilde{\imath}\varsigma$ 'child (a son or a daughter)', see Georgiev (1977: 88-89; 1983: 1157); then, the Thracian forms can be derived from $*ph_2w$ -i- b^heh_2 , whereas Gk. $\pi a\tilde{\imath}\varsigma$ continues $*ph_2w$ -i-d-11.

2.2. PIE Ch_xC > Thrac. CC in non-initial syllables of the word.

Thrac. $^{\prime\prime}I\sigma\tau\rho\sigma\zeta$ (Hes. etc.) corresponds to Skt. *iṣirá*- 'refreshing, fresh, flourishing, vigorous', Gk. $i\epsilon\rho\delta\zeta$, Doric $ia\rho\delta\zeta^{12}$ which go back to PIE * $h_Iish_Iro^{-13}$.

Then, Thrac. represents a loss of the interconsonantal $*h_I$ and a subsequent epenthesis of t between s and r.

Georgiev (1975: 40; 1977: 84-85) connected the Thracian personal names Kερσης, Κερσος, Κερσουλας, etc. with Lith. $k\'er\~sis$, $k\'er\~sas$ 'weiß und schwarz gefleckt', Bulg 'er 'black' and reconstructed PIE * $k^{(w)}erh_2s$ -. According to Georgiev (1958: 25-26), Slav. * $\'er\~sija$ (> Bulg. $\'ere\~sa$, dial. $\'ere\~sa$), * $\'ere\~sija$ (> Russ. $\'ere\~sija$, etc.) 'cherry (-tree)' and Gk. κέρασος, κερασός 'cherry-tree' (which can be borrowed either form Thracian or Phrygian¹4) are also related to Lith. $\'ere\~sas$ and Bulg. 'ere; see also Hamp. (1963: 298-300). In view of Thrac. 'eresas which represents the change of PIE 'eresas into Thrac. \reresas of the interval 'eresas is borrowed from Phrygian, it clearly points to PIE *'eresas 'eresas of 'eresas is borrowed from Phrygian, it clearly points to PIE *'eresas 'eresas of 'eresas is borrowed from Phrygian, it clearly points to PIE *'eresas 'eresas of 'eresas is borrowed, as the 'eresas dentification of the laryngeal, lost in Thrac. 'eresas 'eresas 'eresas 'eresas is hardly compatible with Skt. \reresas black-dark' which is clearly an 'eresas 'eresas 'eresas is hardly compatible with Skt. \reresas black-dark' which is clearly an 'eresas 'eresas

Thrac. $\Pi \epsilon i \rho o o \varsigma$, $\Pi \epsilon i \rho \omega \varsigma$ are derived by Georgiev (1981a: 15) from *perh₂w-ow-os. If so, the related Skt. pūrva- 'the first, prior', pūrvyá- 'former, ancient, first', etc. clearly confirm the reconstruction of the laryngeal; yet the colour of this laryngeal remains unknown. Then, we have Skt. pūrva-, OBulg. prbvb < PIE *pṛh_xwo-, Thrac. $\Pi \epsilon i \rho o o \varsigma$, $\Pi \epsilon i \rho \omega \varsigma$ < PIE *perh_xw-ow-os¹⁵. Yet this etymology is uncertain.

3. PIE $CRh_{x}C$ (R = r, l, m, n) yield Thrac. CoRC (CuRC).

Thrac. Corsulae (later Maximianopolis) is explained by Georgiev (1977: 85) as $*k^{(w)}rh_2s$ -ulo- which is formed with zero grade of the root and appears beside the full-grade Thrac. $K\varepsilon\rho\sigma\eta\varsigma$, $K\varepsilon\rho\sigma\sigma\varsigma$, $K\varepsilon\rho\sigma\sigma\upsilon\lambda\alpha\varsigma$ which are discussed above (§2.2).

Thrac. πόλτυν 'ζυλόκαστρον' (Etym. M.), which is also attested as the first member of the compound Πολτυμβρία¹⁶, is related to Skt. ρὐh (acc. sg. ρὐram, loc. sg. ρωri, instr. pl. ρωrbhih), Gk. πόλις, Ep. Arc. Cypr. Cret. πτόλις 'city' (Att. πόλις signifies 'fortress of the city, citadel', whereas the rest of the city is called αστυ), Lith. pilis 'castle', Latv. pils 'id.', cf. Tomaschek (1893/4 II 1: 18), Detschew (1976: 374). The Sanskrit forms point to a disyllabic root and the -ε- of Gk. πόλεμος, Epic πτόλεμος 'battle, fight; war' indicates that the laryngeal of this disyllabic root can be identified as the non-colouring one, see Hamp (1985: 52). If the alternating pt- and p- (in Gk. πτόλις and πόλις, Skt. ρωh, Lith. pilis) point to an initial PIE cluster *tp- (see Hamp, loc. cit.), these words should be separated from the Indo-European forms, signifying 'to fill' and 'full' (cf. Skt. prnati 'fills', pωrna-'full', Lith. pilnas'id.', etc.). Then, Thrac. πόλτυν can be derived rather from PIE * $tplh_1ton$ than from * plh_1ton 17.

4. PIE Cih_xC and Cuh_xC yield Thrac. CiC and CuC respectively, but there is no evidence for the quantity of Thrac. i and u; cf. Georgiev (1977: 165; 1983: 1166).

Thrac. $T\pi \bar{\imath}\zeta$ (cf. also the personal names $T\imath \vartheta a$, $\Theta\imath \vartheta a$, $\Theta\imath \vartheta \vartheta \eta$, Tithi) probably corresponds to Skt. $d\bar{\imath}ti$ -'brightness, splendour' which reflects * dih_2 -ti-; on the identification of the laryngeal as * h_2 see Beekes (1969: 262).

Thrac. Syra- (in toponyms, cf. Syracella, Syrascel(1)e, Syrasele) comes from PIE *suh_x-ro-, to which OIcel. sūrr 'sour', Lith. sūras 'saline, salty' and OBg. syrъ 'moist' are also traced back.

5. PIE $CVh_{\chi}C$ yields Thrac. $C\overline{V}C$, cf. Georgiev (1977: 164-165; 1983: 1165-1166).

Thrac. $-\zeta\eta\tau a$, $-\zeta\eta\tau\eta\varsigma$, $-\zeta\varepsilon\tau a$ (cf. the personal names $B\varepsilon\nu\delta\iota$ - $\zeta\eta\tau a$, $\Delta\iota\nu\iota$ - $\zeta\eta\tau\eta\varsigma$, $E\tau a$ - $\zeta\varepsilon\tau a$) comes from * seh_I -to-, which is also continued by Goth. $s\bar{e}$ /bs (cf. mana- $s\bar{e}$ /bs 'world, mankind', lit. 'seed of man'), OHG $s\bar{a}t$ 'seed'; the zero-grade verbal adjective * sh_I -to- is attested by Lat. satus 'sown'.

Thrac. -deva (cf. Pulpu-deva) comes from * dheh 1-weh 1.

Thrac. Λα-, λη-, -λας (cf. the personal names Λ α-ζενος, Λα-ζερης, Λη-ζελμις, Ταρου-λας, Ταru-la) correspond to Gk. Λᾶ-, Λεω- (in personal names, cf. Λα-γένης, Λᾶρχος, Λεω-κήδης, Δορύ-λᾶς, λαός, Ion. ληός 'men' (i.e., 'soldiers'), 'a land army', 'people', see Detschew (1957: 273), Georgiev (1977: 86; 1983: 1157); then, we must reconstruct PIE *leh2wo-.

The Thracian suffix - $\eta vo \zeta$ (also - $avo \zeta$) comes from *- eh_2 -no-s.

6. PIE CVh_xiC and CVh_xuC are continued by Thrac. CViC and CVuC respectively.

Thrac. Γαιδρ(α)- (personal name Γαιδρεους gen. sg.) is compared by Georgiev (1977: 71; 1983: 1156) with the Greek names Φαῖδρος, Φαιδρίας, Φαιδρέας, cf. φαιδρός 'beaming, radiant'. Then, Thrac. Γαιδρ(α)- and Gk. Φαῖδρος = φαιδρος continue PIE $*g^{wh}eh_2idro-$.

According to Georgiev (1977: 89; 1983: 1157), Thrac. -paus (in the personal name Vitu-paus) corresponds to Gk. Attic. $\pi a \tilde{v} \zeta$ 'child', $\pi a \tilde{v} \zeta$; we have also the Cypriote gen. sg. $\Phi \iota \lambda \delta - \pi a F o \zeta$. Then, Attic. $\pi a \tilde{v} \zeta$ goes back to PIE nom. sg. *peh₂u-s which is continued also by Thrac. -paus, whereas Cypr. - $\pi a F o \zeta$ can be traced back to the genitive singular *ph₂w-os.

The explanations of forms such as Thrac. $\Gamma ai\delta\rho(a)$ and -paus as $*g^{wh} bidro$ and *pous respectively are wrong, since PIE Ch_xiC and Ch_xuC are continued by Thrac. CiC and CuC respectively, cf. Thrac. $M\eta\delta i\sigma\tau a$ (§7).

7. The laryngeals are lost after consonants (also consonantal r, l, m, n) and before vowels (also vocalic i and u) in Thracian.

Georgiev (1974: 20) compared the Thracian personal name $M\eta\delta\iota\sigma\tau a$ (dat. sg.) with the Greek personal names $M\epsilon\gamma\iota\sigma\tau a\zeta$, $M\epsilon\gamma\iota\sigma\tau\eta\zeta$ which can be derived from the superlative $\mu\epsilon\gamma\iota\sigma\tau o\zeta$ (= Skt. mahisthá-, Av. mazišta- < *megh_risto-) of Gk. $\mu\epsilon\gamma a\zeta$ 'great' (cf. Skt. máhi 'great', Hitt. mekki- 'much, many' < PIE *megh_ri-). If so, Thrac. $M\eta\delta\iota\sigma\tau a$ can represent the development of the sequence Ch_XV into Thrac. CV.

Similarly, this development is presented by Thrac. - $\zeta avo\zeta$, -zanus (cf. the personal names $Av\lambda ov$ - $\zeta avo\zeta$, Aulu-zanus, Bri-zanus, Muca-zanus) which corresponds to Gk. - $\gamma ovo\zeta$ in $\Theta \varepsilon \acute{o}$ - $\gamma ovo\zeta$, $\Lambda a\acute{o}$ - $\gamma ovo\zeta$, etc.; see Georgiev (1977: 78) and cf. also Gk. $\check{\varepsilon} \kappa$ - $\gamma ovo\zeta$ 'descendant of'. Then, Thrac. - $\zeta avo\zeta$, -zanus and Gk. - $\gamma ovo\zeta$, Skt. $j\acute{a}na$ - 'creature, race', Av. zana- 'people' continue PIE * $\dot{g}onh_1o$ -; forms such as Gk. 3rd sg. aor. middle $\dot{\varepsilon}\gamma\dot{\varepsilon}\nu\varepsilon\tau o$ 'he arose'(< * $\dot{\varepsilon}$ - $\dot{g}enh_1$ -to), etc. indicate that the laryngeal is the non-colouring one 18.

Conclusion

- 1. There are no "prothetic vowels" in Thracian. This is assured by Thrac. $P\bar{\eta}\sigma o \varsigma$ name of a Thracian king (< PIE $*h_3 re\dot{g}$ -, cf. the related Gk. $\dot{\sigma}\rho\dot{\epsilon}\gamma\omega$ < PIE $*h_3 re\dot{g}$ -), probably by the river name $P\bar{\eta}\sigma o \varsigma$ (if it comes from PIE $*h_1 reh_1 s$ -, cf. Gk. $\dot{\epsilon}\rho\omega\dot{\eta}$ < PIE $*h_1 roh_1 s$ -eh_2), etc. PIE $h_x C$ cannot yield Thrac. VC; for instance, Thrac. $A\chi\epsilon\lambda\bar{\omega}o \varsigma$, $A\chi\epsilon\lambda\bar{\omega}v$ and Goth. ahva, Lat. aqua continue PIE $*h_2 e k^{*v}$ -, whereas OIcel. $\dot{\alpha}gir$ goes back, according to Eichner's law, to $*h_2\bar{e}k^{*v}$ -. Similarly, Thrac. $Ai\zeta\iota\kappa\dot{\eta}$, $-a\pi\iota o v$, -apa, etc. represent the development of PIE $*h_2 e$ -into Thrac. a-; Thrac. $E\sigma\beta\epsilon\nu\epsilon\iota o \varsigma$, etc. represent the development of PIE $*h_1 e$ into Thrac. e-. The river names $E\rho\iota\gamma\dot{\omega}v$, $E\rho\iota\gamma\omega v$ ($*E\rho\iota\gamma\omega v$), cf. Gk. $E\rho\epsilon\beta o \varsigma$, Arm. erek) are Proto-Phrygian.
- 2. Thrac. $Bai\sigma\tau\alpha\zeta$, $\Delta a\lambda a$ -, $\Delta a\lambda \eta$ -, $-\Pi ai\beta\eta\zeta$, $\Sigma\kappa\alpha\pi\tau\eta$ -, etc. indicate that the PIE interconsonantal laryngeals yield Thrac. a in the first syllable of the word. In non-initial syllables, however, the interconsonantal laryngeals are lost in Thracian, cf. ${}^{\prime\prime}I\sigma\tau\rho\sigma\zeta$ (< PIE * h_Iish_Iro -s, to which Skt. $isir\acute{a}$ and Gk. $i\epsilon\rho\acute{o}\zeta$ also go back). Parallel developments of the interconsonantal laryngeals are attested only in the Germanic languages, cf. Goth. fadar, English father (< PIE * ph_2ter -, cf. Skt. $pit\acute{a}$, Gk. $\pi\alpha\tau\acute{\eta}\rho$, Lat. pater) beside Goth. dauhtar, English daughter (< PIE * d^hugh_2ter -, cf. Skt. $duhit\acute{a}$, Gk. $\vartheta vy\acute{a}\tau\eta\rho$, etc.).
- 3. The reflexes of PIE R and Rh_{χ} merged in Thracian, cf. Thrac. $\Delta o \rho \zeta a \zeta$, Dorses (< * $d^h rs$ -, cf. Gk. $\Theta \acute{a} \rho \sigma \upsilon \zeta$, $\Theta \rho \acute{a} \sigma \upsilon \zeta$, $\Theta \rho a \sigma \acute{e} a \zeta$) beside Corsulae (if from * $k^{(w)} rh_2 s$ -ulo-, cf. Lith. $k\acute{e}r s a s$); Thrac. $Zo\lambda \tau \eta \zeta$, $\Sigma o \lambda \delta \eta \nu o \zeta$ (cf. Goth. gulp, English $gold < * g^h l$ -to-) beside Thrac. $\pi \acute{o} \lambda \tau \upsilon v$ (< PIE * $plh_l t \bar{o} n$ or * $tplh_l t \bar{o} n$ cf. Skt. $p \bar{u} h$,

púram, Gk. $\pi\delta\lambda\iota\varsigma$, $\pi\tau\delta\lambda\iota\varsigma$). This development is similar either to that in Germanic, where the reflexes of PIE R and Rh_x merged, or to that in Balto-Slavic, where the reflexes of PIE R and Rh_x are distinguished by the intonations: cf. either Goth. gulp ($<*ph_1-to-$) beside fulls, English full ($<*ph_1-no-$) or Lith. vilkas ($< wlk^wo-$, cf. Skt. vika-, Goth. wulfs, English wolf) beside Lith. pilnas 'full' ($<*ph_1-no-$). However, there is no evidence for the intonations (and the quantity of oR/uR) in Thracian.

These developments of the PIE laryngeals in Thracian are similar to the developments in the so-called 'Northern group' (Balto-Slavic and Germanic) of the Indo-European language family. From the point of view of the Indo-European dialectology, the other laryngeal developments in Thracian are less important, since $h_{\chi}V > V -$, $CVh_{\chi}C > C\overline{V}C$, $CVh_{\chi}iC/CVh_{\chi}uC > CViC/CVuC$ and $Ch_{\chi}V > CV$ are changes, shared by most of the Indo-European languages.

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Notes

- 1. See Georgiev (1957; 1977: 7-192; 1981: 111-132; 1983).
- 2. True, according to Kortlandt (1988: 73-74), "the close relationship between Thracian and Armenian should lead us to expect non-zero reflex of PIE laryngeals in Thracian" and "prothetic vowels should be demonstrable". However, the available data do not support this hypothesis.
- 3. On the etymologies of Thrac. $P\tilde{\eta}\sigma\sigma\varsigma$ (a Thracian king) and the river name $P\tilde{\eta}\sigma\sigma\varsigma$ see Detschew (1957: 393), Georgiev (1977: 92), etc.
- 4. Georgiev's comparison of Thrac. 'Poδόπη (also 'Poδόπα, Rhodope, Rhodopa) with the Lithuanian river name Rud-upė (Georgiev 1977: 92) implies that Thrac. 'Poδ-reflects PIE * $h_1 rud^h$ -, cf. the related Gk. έρυθρός 'red' < PIE * $h_1 rud^h$ ro-s. The connection of Thrac. ρομφαία (also rumpia, romphea, romphaea, romfea) 'sword' with Lat. rumpō 'I break', etc. (Georgiev 1958: 37) also suggests that an initial laryngeal is lost in this Thracian word; cf. Schrijver (1991: 236) on Lat. rumpō (< * h_x r-). In fact, there are no Indo-European words beginning with *r-.
 - 5. On the etymology of Thrac. 'Αχελῶος, 'Αχελῶν see Georgiev (1977: 160-161).
 - 6. In fact, the reconstructed * ∂k^w - \bar{a} (beside * $\bar{e}k^w$ -) presupposes PIE * h_1k^w -.
- 7. Hitt. eku- 'to drink' and Toch. AB yok- 'id.' are related to Lat. ēbrius 'drunk' and must be separated from Lat. aqua and its cognates, see Puhvel (1984: 267-268).
- 8. PIE h_2e_- , h_3e_- and h_xo_- would fall together into Thrac. a_- , but I do not know convincing instances of h_3e_- and h_xo_- in Thracian.

- 9. There are no convincing representatives of PIE $*h_x$ RC- (R = I, I, I, I, I) in Thracian; then, it is not clear whether Rix' law operates in Thracian.
 - 10. On the meaning of Gk. θάλλω see Hamp (1984: 156) with references.
- 11. Cf. Georgiev (1977: 88), who explained Thrac. $-\pi a\iota\beta\epsilon\zeta$, $-\pi a\iota\beta\eta\zeta$ and Gk. $\pi a\bar{\iota}\zeta$ as *psw-ib^h\bar{a} and *psw-id- respectively.
- 12. On Doric $iap \delta \zeta$, Aeolic $\bar{l}po \zeta$ and the loss of the laryngeal in Thrac. $lot po \zeta$ see Beekes (1969: 184-185).
 - 13. Cf. also the Celtic river name Isara, etc. (Pokorny 1959: 300).
- 14. According to Frisk (1960-1972 I: 828), however, the origin of Gk. κέρασος, κερασός remains unknown.
- 15. According to Georgiev (1981a: 27 fn.30), Thrac. $\Pi \epsilon i \rho o o \varsigma$, $\Pi \epsilon i \rho \omega \varsigma$ can be alternatively explained as *pirw- < * prh_2w -. Then, besides Thrac. CoRC (CuRC), we can assume also Thrac. CiRC as a regular reflex of PIE CRh_xC (cf. §3).
 - 16. See Georgiev (1978: 9).
 - 17. On Thrac. u(v, ov) from $*\bar{o}$ see Georgiev (1977: 164; 1983: 1166).
- 18. I do not know convincing instances of PIE CRh_XV in Thracian. For instance, Thrac. $\Sigma\pi\alpha\rho\alpha$ (cf. the personal name $\Sigma\pi\alpha\rho\delta\delta\kappa\kappa\varsigma$, Thuc., syncopated $\Sigma\pi\alpha\rho\tau\kappa\kappa\varsigma$, Spartacus, etc.) can be derived from *sprh_xo- which is attested by Lat. sparus 'spear'; this implies PIE CRh_XV > Thrac. CaRV. However, the related Germanic forms OIcel. spart 'spear', OHG sper 'id.' point to *sporh_xo-, to which Thrac. $\Sigma\pi\alpha\rho\alpha$ can be also traced back; then, we are dealing with the development of PIE Ch_XV into Thrac. CV(cf. §7).

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