

## Laryngeals and Syllabicity in Balto-Slavic and Indo-European

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In this paper I will be discussing the evidence for the reconstruction of laryngeals in Balto-Slavic, and--to a lesser extent--all of Indo-European. Given the nature of the audience for a CLS paper, it is probably appropriate to review the kind of the evidence one needs to reconstruct PIE laryngeals.

I cannot possibly justify laryngeal theory in a short paper, so I will assume the existence in PIE of at least three consonants which are called laryngeals. I will follow common practice and write the three laryngeals as  $H_a$ ,  $H_o$ , and  $H_e$ , with  $H$  symbolizing any laryngeal. The subscripts  $a$  and  $o$  indicate the vowel coloring characteristic of the laryngeal;  $H_e$  is a neutral coloring laryngeal. A subset of the established reflexes of these consonants are summarized below.

1) Initial position before a vowel: Two of the laryngeals in this position are preserved as Hittite  $h$ , but elsewhere they generally disappear. They do, however, color the following vowel.  $H_a$  colors the vowel to  $a$ ,  $H_o$  to  $o$ , and  $H_e$  leaves the vowel color unaffected. A widely accepted theory of root structure assumes that PIE had no initial vowels, so any initial vowel is assumed to have been preceded by a laryngeal.

2) CVHC: This sequence yields a long vowel between the consonants, with the coloring appropriate for the laryngeal. There is some discussion as to whether  $H_a$  colored an  $o$  to  $a$ , but that will be irrelevant of our discussion.

3) CRHC (R is any sonorant): This sequence yields a long syllabic sonorant. In Balto-Slavic, the clearest indication of this reflex is in Lithuanian, where we find a diphthong beginning with  $i$  or  $u$  and acute intonation, spelled  $C\grave{u}rC$ ,  $C\grave{i}rC$ . In the case of the syllabic glides, we get long high vowels with acute intonation, spelled  $C\acute{y}C$ ,  $C\acute{u}C$ .

4) CHC: This yields a 'syllabic' laryngeal, often referred to as 'schwa indo-germanicum'. In Greek the syllable is a short  $e$ ,  $o$  or  $a$ . In Sanskrit it yields

short *i*. Elsewhere it yields short *a*. This short *\*a* shows up as *a* in Baltic, *o* in Slavic.

The primary argument which I will present in this paper is that in Balto-Slavic, and probably in PIE, word-initial sequences of RHC yielded a nonsyllabic sonorant plus a syllabic laryngeal--instead of the long syllabic sonorant which might have been expected. This has already been argued for Greek, Italo-Celtic and Germanic by Beekes (1988a). As Beekes notes, there is little evidence, but no counter evidence for Indo-Iranian. There is in fact no evidence in Pokorny (1959-69) which contradicts a claim that this was a common IE development. A less surprising claim is that when one does find word initial long syllabic sonorants, they can be traced to roots where the sonorant was not originally in word-initial position--to words of the shape *\*HRHC-*.

Given the depth of the reconstruction involved, it is not easy to prove that a Baltic or Slavic word with initial *\*RaC* (Slavic *RoC*) actually reflects a syllabic laryngeal. Balto-Slavic *\*a* can correspond to PIE *o* or *a* as well as to PIE 'schwa'. The most obvious evidence would be the existence of convincing cognates in Skt. with *i*. This kind of evidence is obviously dependent on the quality of the identification between the two languages.

Better evidence might be provided by the effects of IE ablaut. A root in one language may have one form with zero grade *\*RHC*, another with full grade *\*RVHC* > *RV:C*. Thus when we find a Slavic *o* or Baltic *a* which alternates with a long vowel, we have some evidence that the short vowel reflects a syllabic laryngeal. This kind of evidence must be used carefully, however, because Baltic and Slavic have morphophonemic lengthening of root vowels. The best examples are cases when we find the short *o/a* in an environment where we grammatically expect zero-grade ablaut, and the long vowel where we expect full grade.

In the absence of clear morphological evidence for zero grade vs. full grade, we look for comparative evidence for the length in other languages, so we can postulate a late IE long vowel, which almost always indicates a stem with a laryngeal. If the evidence is purely internal to Balto-Slavic, the best examples are cases where a single root shows variants with short *o/a* and long *ē*. Here we

know that the long  $\bar{e}$  cannot be simply a lengthening of the  $o/a$ .

An example of a nearly perfect set of correspondences for a laryngeal stem with syllabic laryngeal reflected in Baltic  $a$ , Slavic  $o$  is found in the IE root for 'stand', Pokorny's  $*st\bar{a}-$ , which could be written  $*steH_a-$ . The full grade is found in the Skt. aorist  $\acute{a}-sth\bar{a}-m$ , Gk.  $e-st\bar{e}-n$  ( $*st\bar{a}-$ ), Latin  $st\bar{a}re$ , Lith.  $st\acute{o}-ti$  ( $*st\bar{a}-$ ), OCS  $sta-ti$  ( $*st\bar{a}-$ ). We expect zero grade in derivatives in  $*-to-$ , and we find Skt.  $sthit\acute{a}s$  'standing', Gk.  $stat\acute{o}s$  'standing, placed', Latin  $status$  'placed', Lith.  $stata$ s 'row', Latvian  $stats$  'post'. We also expect zero grade in Balto-Slavic stative derivatives with infinitive/aorist stems in  $-\bar{e}-$ , and we find Slavic (OCS)  $stojati$  ( $*sto-j-\bar{e}-ti$ ) 'stand'. We also find a secondary factitive with zero grade in Lith.  $stat\acute{y}ti$  'build'.

We have no perfect etymologies of words which begin with sonorants, but every potential case of  $*\#RHC$  which I have found show B-S  $*RaC$ . I will present the etymologies in descending order of reliability.

1) The PIE root  $*m\bar{e}- < meH-$  'measure' (Skt  $mim\bar{a}ti$  'measures' Latin  $m\bar{e}tior$  'I measure') is found in OR, OCS  $m\bar{e}ra$ , OCz  $m\bar{e}n$  'measure', and in R.  $m\bar{e}tit'$  'mark, aim at'. The zero grade is apparently found Lith  $m\bar{a}tas$  'measure', and probably in Lith  $mat\acute{y}ti$  'see' (parallel in form to  $stat\acute{y}ti$  from  $*st\bar{a}-$ ),  $matr\bar{u}s$  'careful', OR  $s\bar{m}motriti$ , SC  $m\bar{o}triti$  'watch'. Latv. has  $mast$ ,  $matu$  'feel'. The zero grade in a  $*-to-$  derivative like  $m\bar{a}tas$  is morphologically motivated, and it may have provided the basis for the rest of the group. Things are complicated by the existence of Balto-Slavic  $met-$  'throw' in Lith  $m\bar{e}sti$ , Latv.  $mest$ , R.  $mest\acute{i}$ . This word is connected by Pokorny to  $*m\bar{e}-$  'measure', despite the formal problems created by the short  $*e$ . If we could semantically connect throwing with measuring, then  $m\bar{a}tas$  might be interpreted as an -o-grade derivative from  $met-$ . We do find  $m\bar{e}tas$  'measure' and  $m\bar{e}tai$  'year' with original short  $e$ .

2) Lith  $mag\acute{e}ti$ ,  $maga$  'feel like, want to',  $mag\bar{u}s$  'alluring' are apparently morphologically motivated zero grades related to original long  $\bar{e}$  in Lith  $m\bar{e}gti$  'like'. Pokorny (707) relates this stem to Gk.  $peri-\bar{e}mekt\acute{e}\bar{o}$  'be unwilling', and to Goth.  $m\bar{e}gs$  'son-in-law'<sup>1</sup>.

3) OR  $nos\bar{z}$  'nose' shows a short vowel, presumably  $*a$  compared to the  $*a$  in Lith.  $n\bar{o}sis$  'nose', Skt  $n\bar{a}s\bar{a}$  [dual] 'nose', Lat  $n\bar{a}ris$  'nostril', Eng  $nose$ . The Skt form shows ablaut between  $a$  and  $\bar{a}$  in nom-acc dual  $n\bar{a}s\bar{a}$ , gen-loc dual  $nas\acute{o}s$ .

The Slavic form, which is an \*o-stem built on the old consonantal stem, presumably has zero grade (cf. Hamp 1974). If so, this is another example of RHC yielding a nonsyllabic sonorant followed by a syllabic laryngeal. The short *a* in Skt causes problems for the assumption of a root \**nHs-*, but it could easily be the result of a secondary development in Sanskrit.

4) R. *lopáta* 'spade', *lopátka* 'shoulder blade' seem to represent the zero grade of the long vowel in R. *lápa* 'paw', Lith. *lópa*, Latv. *lāpa* 'paw', Goth *lōfa* 'palm (of hand)', Lith *lopet`a* 'spade', Latv. *lāpsta* 'spade', OPr *lopto* 'spade'. Here the existence of forms with length outside of Balto-Slavic makes it likely that we are dealing with length from a laryngeal, rather than lengthening ablaut.

5) R. *lozà* 'vine, rod', possibly cognate with pers. *raz* 'loza', Alb. *lethi* 'Haselstaude', may represent the zero grade of the long \**ē* in SC *lijèska* 'Haselstaude', P. *laska* 'stick'. It has also been related to Lith *lazd`a* 'stick', Haselstrauch', Latv. *lazda* 'Haselstrauch', but the Slavic *z* (IE \**gh*) should be reflected by a *ž* in Lith.

6) R. *lóxma*, *loxmót'e* 'rags', P. *loch* 'rag', possibly cognate with Gk. *lakís* 'rags', Latin *lacer* 'torn', Latv. *laksis* 'piece, stick', seems to represent the zero grade of the \**ā* in R. *laxón* 'rag', U. *lax*, P. *lach* 'rag'.

7) R. *lov* 'hunt, catch', *lovít* 'catch', *lovkij* 'agile', Lith *lavus* 'agile', may be the zero grade of the \**lāw-* in Gk. (Dor) *lāiā* (\**lāwjā*) 'booty', further cognates are Gk. *apo-laiúō* 'enjoy (the use of)', Skt. *lótam* 'booty', Lat *lucrum* 'winnings'.

There are two somewhat doubtful examples with initial *r*. There are claims that PIE had no initial \**r*, (cf. Beekes 1988a) so this may not be surprising.

8) OR *roditi*, *raditi* 'look after', SC *ráditi* 'try, work', Sln *róditi* 'look after' are probably related to Skt *rādyati* 'correct, succeed', *rāda-* 'guardian.' Goth *garēdan* 'provide for', *rōdjan* 'speak', OE *rādan* 'advise'. This would indicate that the root form *rod-* in Slavic is a zero grade of a long vowel, but it is not clear why the zero grade occurs in this formation. Pokorny (55-59) assumes this to be an extension of his root \**ar-*, modern notation \**H<sub>a</sub>er-*, found in Av. *arānte* 'sie setzen sich fest', Skt. *arás* 'spoke of a wheel', Arm. *ainem* 'make, do', Gk. *arariskō* 'unite'. This is hardly a semantically transparent derivation.

9) Lith *ràsti*, [pres] *rañda*, [past] *rādo* 'find', *ródyti* 'show'. If we assume a

laryngeal in the stem the relationship is coherent, with zero grade (*\*rH<sub>a</sub>d-*) in the primary verb and possibly o-grade (*\*roH<sub>a</sub>d-*) in the causative. Vasmer relates Lith. *rodyti* (*\*rādīti*) to the set above. The Lith. and the Germanic forms cannot both be phonologically regular and be related. The Gmc. forms indicate a neutral coloring laryngeal, while the Lith. form has a long *\*ā* where one would expect o-grade ablaut, indicating *\*H<sub>a</sub>*. East Baltic often replaces *\*ō* (Lith. *uo*) with *\*ā* (Lith. *o*) when it is in ablaut with *ǎ* or *\*ē* (earlier *\*ǣ*), so this is a possibility. The same assumption is necessary if we relate *rasti* to Goth *wratôn* 'wander', and (with a 't-extension' rather than a 'd extension') to Slavic *\*rēt-* in R *obrěsti* 'find', Lith *su-rėsti*, *sūrėtė* 'catch' (Vasmer III, 107). If this proposal is correct, we are dealing with an initial *\*wrH-* sequence.

There are two doubtful cases with *\*w*, and none at all with *\*j*.

10) Lith. *vagis* 'thief', *vōgti*, *vāgia* 'steal', shows an alternation between *\*a* and *\*ā*, but the *\*ā* in *vogti* could easily be a specifically Baltic lengthening. Frankel relates this root to Lat. *vagus* 'wandering, undecided', which Pokorny (1120) further relates to Celtic *\*vāg-n-* in OI *fān* 'slope, hollow'. One might also relate it to a suggested root *\*wag-/wāg-* (Pokorny 1110) in Gk. *ágnumi* 'break', *agmós*, m. 'break', Toch. *wāk* 'split'. This would be an extension of the root *\*wā-/wH-* (Pokorny 1108) in Gk *aáo* 'injure'. We would expect lengthening by Winter's law before *\*g*, so both of these etymologies must be considered doubtful. However, there is no clear case of Winter's lengthening of PIE schwa.

11) R. *vozgrjá* 'snot' might have the zero grade of the long vowel of *vázgat* 'soil'. This pair was related by Petersson (Fasmer I, 333) to Skt. *vijjalas* 'slimy', *viṣ-* 'feces'. The Skt. noun may represent the zero grade of *vāsa-* 'perfume'; note *samvāsita-* 'fragrant' or 'having an offensive smell'. Pokorny (1134), however, relates Skt. *viṣ* to *\*weis-* in Skt. *veṣati* 'flow', *viṣá-*, n., m. 'poison', Gk. *íos* 'poison', Latin *vīrus* 'poison, slime', Mlr. *fi* 'poison'. There is no apparent reason for the length of the *\*i* in the western words. Pokorny also relates an initial sequence *\*wis-* in the Germanic words for weasel (Ice. *visla*) and bison (OHG *wisunt*) to this root. This is justified as being related to their offensive odor. Eng. *ooze* is either related to *\*wois-* 'flow' Pokorny 1134) or to a root given by Pokorny (1171-2) as *\*wes-*. For this root there is no clear connection of the Germanic forms with a form with *\*e*. Pokorny gives Gk. *earónb loutēra*, *hē*

*prókhoun*, Umbrian *vestikatu* 'libato'. We find OHG *wasal* 'rain', *waso* 'turf', OE *waso* 'wet ground, mire', OE *wōs* 'wetness, juice', MLD *wōs* 'extract, juice', Older Danish, Norwegian *ōs* 'sap'. It would not be unreasonable to relate *vozgljǎ* to these forms. The Germanic short vowels could be from a syllabic laryngeal, or the length could be secondary. Ultimately, we must say that there is no pressing reason to accept any etymology of *vozglja*.

The evidence which points to \*HRHC is just as sparse, but equally consistent. The root initial long syllabic sonorants found in Pokorny, when they alternate, show variants with initial vowels to the left of the sonorant. This at least indicates that the sonorant was not originally in word-initial position. (The variant with the initial vowel may be taken to indicate an older initial vowel which has been deleted in the formation of zero-grade ablaut.) If we take the position that there were no initial vowels in PIE, then the initial vowels indicate an old initial laryngeal, and these roots are of the shape \*H(V)RHC. Only one has a cognate in Hittite which shows a direct reflex of initial Laryngeal. Examples are:

Lith *ántis*, Lat, *anat-*, R. *útka* 'duck', from \*H<sub>a</sub>enHt-. The zero grade \*HnHt- is found in Skt. *ātís* 'waterbird', Gk. *nāssa* 'duck'

Skt. *arítras*, Gk. *erētēs* 'oar', from *HerHt-*, Lith. *irklas* 'oar' from \*HrHt-, OI *rā-* 'row', Latin *rēmus* 'oar' from \*HreH-.

OCS *oriti*, R. *raz-orít'* 'destroy', Hittite *har-ra-an-zi* 'break' from \*HorH- ; Lith *irti* 'disintegrate', Skt. *irma* 'wound' from \*HrH-C.

R. *výmja* (\*ūd-men-), Skt. *ūdhar* 'udder', Lith. *ūdrúoti* 'milk', from \*HwHdh-; R *udit'* 'swell', Gk *oūthar* 'udder' from \*HouHdh-. ON *jū(d)r* 'udder' from \*eudhr (Pokorny) < HeuHdhr-.

R. *vyt'* 'howl', Skt. *ūtís* 'shout' < \*HuH-, Gk. *auō* 'I shout' < \*H<sub>a</sub>euH-

R. *rama*, SC *rāme* (\*ármen) 'shoulder', Goth *arms* 'arm' from \*H<sub>a</sub>erHmen. OPr *irmo* 'shoulder, arm', Lith *irmos* [pl] 'crossed supports for a post', Skt. *irmás* 'shoulder' from \*HrHm-.

The only apparent counterexamples which have been proposed are the etymologies of R. *roditi*, Lith *ràsti* given above, if they are relatable to Pokorny's projected root \*ar- (\*H<sub>a</sub>er-). There is no evidence that we could call remotely convincing that these roots are related to stem variants with initial \*ar-. If we take the view that Lith *irklas*, *irti*, *irmos* are phonologically regular, then

*roditi, ràsti* must either be new formations (and therefore irrelevant) or be from \*RHC-. In fact, our proposed differentiation between \*RHC- and \*HRHC- could be used as a diagnostic to determine whether there are any initial \*r in PIE. An old \*r|C- should unambiguously indicate initial \*r. The Balto-Slavic data with \*r, however, are not good enough to be used for this purpose.

It does then seem reasonable to propose that in PIE the word-initial sequence RHC- produced a syllabic laryngeal rather than a long syllabic sonorant. This causes apparent problems for the claim that laryngeals were inherently less sonorous than the true sonorants (Gamkrelidze-Ivanov 1984: 198, Lindeman 1987: 29-30)--at least if we assume that syllabicity was predictable from a sonority hierarchy.

It turns out that syllabicity is not predictable from a sonority hierarchy. Indo-European shows a definite preference for nonsyllabics in word initial position. Until the loss of laryngeals, we never find an initial syllabic when the second segment could serve as a syllabic nucleus. We can treat laryngeals and sonorants as a single class, which we will represent as S. We find that initial SSC- > ṢC, and SSV > SSV or ṢV with Sievers-Edgerton type syllabification of the second sonorant<sup>2</sup>.

Examples of initial SSC- are:

\*jugom 'yoke', R. *igo*, Skt. *yugám*.

\*jnHter 'sister-in-law': Skt. *jātar*.

\*wntós: Goth *wunds*.

\*wlk<sup>W</sup>os 'wolf': Skt. *vrkas*, OR *вѣлкѣ*, Lith. *vilkas*.

\*wrsus 'top': OR *вѣрхъ*, Lith. *virbus*.

\*widhoṵa 'widow': OR *вѣдова*, Skt. *vidhāva*.

\*mrtis 'death': Skt. *mrtís*, Lith. *mirtis*, OR. *сѣмьртѣ*;

\*mntis 'thought': Skt. *matís*, Lith. *mintis*.

\*nmtós: Skt. *natá-*, the zero grade with *-to-* from *námati* 'bend'.

\*nrt-: Latv. *nirt* 'dive', the zero grade of Lith. *nerti* 'dive'.

\*lnk-: Lith. *liñkti* [intr.] 'bend', zero grade of *leñkti* [tr.] 'bend'.

\*Hmt-: Lith. *imti* 'take', past *émé* 'take'.

\*Hnmen-: 'name': OCS *imę* < *ǰmen* < *inmen* < *ṛmen*, Gk. *onoma*.

Examples of initial SSV are:

\*wlei- Gk. *leĩō* 'I wish'.

\*wlis- OI *flesc* (*\*wliska*) 'Rute', Goth, *wlizjan* 'schlagen'.

\*wreik̑ - Gk. *hroikós* 'gebogen', MDutch *wriċh* 'verbogen'.

\*mrég<sup>wh</sup>- Latin *brevis* 'short'.

\*mlitas: Gk. *blitás* 'worthless wife'.

\*mlī- Welsh *blin* 'tired', Latv. *blīnis* 'tired man', SC *mlītati* 'get lazy'.

\*nrV- OCS *нѣрѣ* 'enter', Latv. *nīru* 'I dive'.

\*mrV- OCS *мѣрѣ* 'die', Lith *mīre* 'died'.

Word-initial clusters of sonorants and laryngeals before vowels deserve special mention, but not because the laryngeal in these clusters acts less sonorant. Initial HRV- sequences in most languages simply lost the initial laryngeal, but in Greek and Armenian we sometimes find an initial vowel. Thus:

\*Hnom- Gk. *ónoma*, Arm. *anun*, Latin *nōmen*, Goth *namō*, Skt. *nāma*, 'name'.

\*HweH- 'blow': Lith *vėjas* 'wind', OR *vějati* 'blow', Hit *huwant-* 'wind', Gk. *áwēsi* 'blow', Skt. *vāti* 'blow', Got *winds* 'wind', Latin *uentus* 'wind'.

The initial vowel in Greek and Armenian is probably a vowel inserted to break up an initial cluster. It became word initial when the initial laryngeal was lost.

Initial *\*RHV-* sequences have at least two reflexes. The laryngeal may simply disappear, or it may lengthen the following vowel. This length has been traced to a metathesis of the laryngeal and the following vowel in Indo-Iranian and Balto-Slavic. Examples are:

R *nyt* 'ache', Cz. *nýti* 'suffer' (*\*nHu-* > *nuH-*) *\*nāu-* (*neHqu-*) in Latv. *nāvītiēs* 'suffer', *nāve* 'death'. Pokorny (756) gives a third variety of this root as *\*nēu-* in Goth. *nauths*, Opr. *nautin*, OCS *nūda* (*\*naudjā*), all meaning 'need'. It is impossible to distinguish these reflexes from *\*nVHu-*, but a Sievers-Edgerton syllabification would actually produce *\*nHu-* > *\*nu-*.

R. *nīt* 'thread', Lith. *n'ytis* from *\*niH* < *nHi-*, (Pokorny's *(s)nē(i)-* 973) *\*nē-* in Lat. *nēre* 'spin', *\*(s)nēi* in Gk. *nē̃* 'spins'.



Significantly, we find no evidence for an initial syllabic sonorant (\*R̥HV) which we might expect if syllabification depended on sonority.

The one place that we find initial syllabics (before the loss of laryngeals) is in cases when PIE had an initial sonorant followed by an obstruent, as in Skt. *aktā* 'night', *aktú* 'dark' (< \*nk<sup>W</sup>t-) and Skt. *udáram* 'belly', Latin *uterus* from \*wd-. Latv. *vēders* 'belly' is from \*weder-.

We can treat these facts as the reflection of a universal tendency to prefer CV syllables in initial position, and/or we can treat them as a continuation of non-syllabics in word-initial position in PIE. If we accept the assumption that PIE had no initial vowels, then all word initial sonorants were originally in syllable onsets. We can say that with the development of zero-grade ablaut, sonorants moved from the onset into the syllabic nucleus only as a last resort--when the following segment was an obstruent.

#### Footnotes

1. Frankel relates this set to Slavic *mogo*, *možeši* 'can', German *mag* 'can, may'. Eric Hamp (PC) suggests relating the Slavic and Germanic forms to Welsh *cyfoeth* (\*co-mokt-) 'power, wealth' (cf. OCS *moštī*, Ger. *macht* 'power' < \*mokti < mogh-ti), which are clearly related to the verbs. The Welsh form indicates PIE \*o, which eliminates the possibility that we are dealing with a syllabic laryngeal, and the possibility that these forms are related to Lith. *mėgti*.
2. The relevant forms for Balto-Slavic show the vowel \*i inserted to the left of the second sonorant, cf. Edgerton 1943 for further discussion.

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