The Indo-Iranian laryngeal accent shift and its relative chronology

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§ 1. In this paper I would like to discuss one Vedic accentological rule which, as far as I know, has not been noticed before. The material which is presented below has been extracted from the reverse index of Grassmann’s Wörterbuch zum Rig-veda. From this index I have omitted words with uncertain etymology and/or meaning (in general, I follow the etymological analysis of Mayrhofer’s etymological dictionary), words of non-Indo-European origin, proper nouns, compounds (except for the first members of compounds, which are included in the material), onomatopoeic words, denominal formations, words derived from secondary verbal stems, and nonce forms.

Furthermore, suffixes which have lost the accentological opposition and show invariable accentuation were left out of consideration. For instance, all nouns formed with the suffix -nu- are oxytone in the Rgveda, cf. kṣepn-, gṛdhn-, dhṛṣṇ-, dhenu-, bhān-, reṇ-, vagn-, sūn-, sthān-. Moreover, the complex suffixes -snu-, -iṣnu-, -tnu-, -atnu-, -itnu- are also always oxytone. Hence, the suffix -nu- has productive oxytonesis and cannot be used.

On the other hand, some suffixes which have often been considered to have an invariable accentuation are included in the material. For example, adjectives in -u- are generally held to be productively oxytone. The majority of these adjectives is indeed oxytone, but there are still several barytone ones (ghṛṣu-, tāku-, tāpu-, mādhu-, vāsu-, etc.), which suggests that Sanskrit had preserved the traces of the old distribution.

§ 2. Reconsidering the reliable material, we see that the i- and u-stems derived from roots with a final laryngeal (the set-roots) are predominantly oxytone:

The suffix -i-

kavi- adj. `skilful, wise', m. `seer, poet' <*ke/ouH-i-.
giri- m. `mountain, hill' <*gʷrH-i-.
tuvi- adj. `strong' < *tuH₂-i-. The accentuation follows from compounds tuvīdeṣṇa-, tuvībrahman-, tuvīvāja-, tuvīsravas-, tuvīmagha-, and from tivigrīva with the accent shift in accordance with Wackernagel’s Law (Wackernagel 1969-79: 1108ff.; cf. for this Law below, § 10).
dhruví- adj. 'firm' (7,35,8) < *dʰruH-i-. The connection of Skt. dhruví- and dhruvá- adj. 'firm, fixed' with the word for 'wood' (cf., for instance, Mayrhofer s.v. dhruvá-) can hardly be maintained. For Indo-Iranian we must reconstruct *dʰruya- = *dʰruHa- (cf. A.v. drva, OP duruva `gesund, heil'), which deviates considerably from *doru- `wood'. The Ilr. word can be directly connected with Lith. drūtas `firm' and OPr. druvi- `faith' < *dʰruH-. Also OCS sъ-dravъ `healthy' contains this root. The Verschärfung in PGerm. *treu- also points to the presence of a laryngeal in the root, but the initial consonant must continue PIE *d-.

maní- m. `necklace, jewel' (1,33,8) < *monHi- with irregular -ṇ- < -n-. The presence of a laryngeal is probable in view of the short vowel in Sanskrit (Brugmann’s Law).

rayí- m.f. `goods, wealth' < *HreH1-i-. The phonetic development of *HreH1-i- is Skt. re-, reflected in reva-nt- `rich' (the form rayiva-nt- is clearly secondary). The laryngeal has been restored in the paradigm of rayí- on the basis of oblique cases (cf. gen.sg. ryaś < *HreH1-i-os) which resulted in the form *raʔi- appearing as rayi-.

The suffix -ti-

āti- f. `an aquatic bird' < *H2nH2-ti-.
ištī- f. `haste, inducement' < *HisH1-ti-. For the loss of the interconsonantal laryngeal see Kuiper 1947: 206ff.

ātī- f. help' < *H2uH-ti-.
ıkṣāti- f. `gloss, heat' < *kśe/oH1-ti- (or *kʷse/oH1-ti-).
gūrti- f. `praise' < *gʷrH-ti-.
ijnāti- m. `kinsman' < *gnoH1-ti-, cf. for the reconstruction Goth. knodai dat.sg.f. 'family' and Latv. znuo~ts `son-in-law'.

dhāti- f. `thought, prayer' < *dʰiH-ti-.
dhārti- f. `damage' < *dʰurH1-ti-.
pūrti- f. `gift, reward' < *prH3-ti-.
raṭi- f. `gift, favour' < *Hre/oH1-ti-.
ṛtī- f. `stream' < *H3rH-ti-.
vṛtī- f. `sacrifice-meal' < *uH1-ti-.
sāṭi- f. `obtaining' < *sṇH2-ti-.
sphāṭi- f. `breeding, fattening' < *spe/oH1-ti-.

The suffix -ni-

jūṛnī- f. `glow, glowing fire' < *gulH-ni-. The connection with OIr. gául `coal' < *gé/oulo- and Germ. *kolo- < *gulo- `id.' (OHG chol, OE col, OIc. kol) seems plausible, especially in view of the fact that one of the meanings of Skt. jvāla-, derived from the same root, is `coal',
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cf. MS IV,8,1 tán jvālān ṭāshbāhān sāmalet `the bull licked the coals', where jvālā- can hardly have the usual meaning `flame'. The barytonesis of jārṇī- (1,127,10) adj. `glowing' is most probably secondary, as the author of this hymn is notorious for his verbal experiments (cf. Geldner ad loc., where he calls the author of 1,127 "wortreich, aber gedankenarm").

menī- f. `vengeance, revenge' (10,27,11) <*me/oH-ni-.

The suffix -mi-

ūrmi- m. `wave' <*uH-mi-.
jāmī- adj. `related as brother and sister' <*gH1-mi-.
nemī- f. `felloe of a wheel' <*ne/oH-mi- (Hoffmann apud M ayrhofer III 748).

The suffix -si-

dhāṣi- m.f. `residence, milk, food' <*dH/e/oH1-si-.

The suffix -u-

urū- adj. `wide, broad' <*H1urH-u-.
guru- adj. `heavy' <*gHrH2-u-.
tanū- adj. `thin, small' (8,65,12) <*tnH2-u-. For the reconstruction see Beekes 1985.
purū- adj. `much, many, abundant' <*plH1-u-.
gṛthū- adj. `broad, large' <*pltH2-u-.
vanū- adj. `zealous, eager' <*unH-u-.
sāyū- adj. `lying, resting' <*kH/e/oH-u-.

The suffix -tu-

gātū- m. `way, course' <*gH/e/oH2-tu-.
jantū- m. `creature' <*gH/e/onH1-tu-. For the loss of the interconsonantal laryngeal see Kuiper 1947: 206f.

jātū- in jātūbharman- `seinem Wesen nach ein Schützer' and jārūsthira- `von Geburt kräftig, urkräftig' <*gH1-tu-. The compounds contain most probably the instr.sg. of jātū-. The adverb jātū (10,27,11) `von Geburt', in later texts `at all, perhaps', is barytone, possibly due to the reinterpretation of *jātū < jātū (with shortening in pausa) as acc.sg. neuter.

The suffix -yu-

vāyu- m. `wind, air' <*H2ueH1-iu-.

The suffix -ru-

ūrū- m. `thigh' <*uH2-ru-, if connected with Lat. vārus.
bhārū- adj. `timid, faint-hearted' <*bH1H-ru-.
To these 40 nouns we may add with a question mark:

granthi- m. `knot, tie' < IIr. *grantH-i-. The IE etymology of the root is unknown.

draví- m. `reaper, mower' (6,3,4) < IIr. *drauH-i- (cf. Hoffmann 1975-6: 420). The IE etymology of the root is unknown.

jāti- f. `haste' < IIr. *zuH-ti-. The IE etymology of the root is uncertain.

panú- f. `approval, praise' (1,65,4) < *pe/onH-u-. In RV. only as adv. panvā `with praise'. The IE etymology of the root is uncertain.

yātū- m. `sorcery, sorcerer' < IIr. *yaH-tu-. Kuiper 1973: 185ff connects this word with the root yā-3 `to injure', IIr. *jaH-. The IE etymology of the root is uncertain.

peru- adj. `swelling (?)' < *pe/oiH-ru-. The meaning of the word is uncertain. In 10,36,8 and 9,74,4 this word shows barytonesis, which may be secondary.

§ 3. We find but two exceptions to the pervasive oxytonesis of i- and u-stems derived from set-roots:

- dhūtī- `shaker, agitator' < *dH-uH-ti- probably shows the accentuation of the vocative. This word is used in the Rgveda only as a voc.pl. (7x) and a nom.pl. (4x), while the nominative plurals occur in late hymns only: 1,64,5 (the edition of Aufrecht reads here dhūtāyah!); 1,87,3; 1,168,2; and 5,61,4 (Anhang). The frequent use of the word in the vocative also explains the personification of the expected meaning `agitation, shaking', resulting in the masculine gender and active meaning.

- The accentuation of sānitu- m.(?) `acquisition' (1,8,6) < *se/onH2-tu- can be explained if we assume that the vocalization of the laryngeals was of some consequence to the accentuation. We shall return to this question below, § 9.

The other barytona are uncertain:

- The IE etymology of bhūrni- `excited, wild' is difficult.

- The etymology of cāru- adj. `agreeable, dear' is unclear. The often proposed connection with Lat. carus `dear', Goth. hōrs `adulterer', etc. < *keH2-ru- seems improbable, because it cannot account for the palatal consonant in Sanskrit.

- The IE etymology of tārni- adj. `quick, hastening' < IIr. *turH-ni- is uncertain too.

- The evidence of hārni `golden' < *gH-i- is contradictory: on the one hand, we find hārismaśru- adj. `with golden beard' and hārmant- adj. `golden', but, on the other hand, the oxytonesis of the bahuvrīhi-compound hārisiprā- `with golden moustache' can only be explained if we reconstruct *hiri with the accent shift in accordance with Wackernagel's Law. The original accentuation is therefore unclear.

- The presence of a laryngeal in hāri- adj. `pale, yellowish', m. `yellowish horse' < *gH-e/ol(H)-i- is uncertain, as the root for `yellow, green, golden' appears in the IE languages both with and without a final laryngeal (Gr. χαλαρός, Skt. hīrṇya-, etc. with a laryngeal vs. Lat. yellowish.
helvus, Lith. želvas, etc. without a laryngeal). The compound form híri- `golden' belongs to híraňya- `gold' and cannot testify to a laryngeal in híri-.

§ 4. Similarly, the i- and u-stems derived from roots with a medial laryngeal in full grade, i.e. roots of the type (C)CeHC-, are mostly oxytone:

āpi- m. `friend' < *H₁eH₁p-i-, cf. Gr. ἤπειος `friendly'.
āsu- adj. `fast, quick' < *HoHK-u- (or *H₂eH₃ku-/*HeH₃ku-), cf. Gr. ὀκυς `id.'.
kau- m. `poet' < *keH₂r-u-.
cayu- adj. `showing respect' (3,24,4) < *kweH₁i-u-.
tâu- m. `thief' < *teH₂i-u-.
pau- m. `protector' < *peH₂i-u-.
bahu- m. `arm' < *beH₂g-u-.
svadu- adj. `sweet, agreeable' < *sueH₂d-u-.

To this material we may add with a question mark sadhū- adj. `straight, effective' < Ir. *sād'-u-, further connections of which are uncertain. The substantivized neuter sādhu `das Rechte' (8,32,10) is barytone, as expected.

The only counter-example, setu- m. `band, bridge', does not allow unambiguous conclusions. If the original form of this word was *sH₂ei-tu-, the conditions were different, as the laryngeal preceded the vowel. If the original form was *seH₂i-tu-, we have two possible explanations. Either the intervocalic laryngeal was lost at an early stage, or the accent shifted to the following -i- and thus remained on the same syllable when the laryngeal was lost.

Other categories of roots with a medial laryngeal we shall discuss below.

§ 5. This pervasive oxytonesis of the derivatives in -i- and -u-from roots with a final and medial laryngeal is not of Indo-European date. In spite of the fact that the evidence from other Indo-European languages is rather limited, we do find several i- and u-stems which are derived from roots with a final or medial laryngeal but point to barytonesis.

In Greek we find only traces of the original accential distribution of the i- and u-stems: the i-stems became barytone, whereas the u-stems created a new opposition, viz. oxytone adjectives vs. barytone substantives. This distribution is relatively recent, as can be seen from the accentuation of the adjectives in -fo- which represent a Greek thematization of u-stems. We find no uniform accentuation there (cf. θυρός `impetuous', λεῖος `smooth', μοῖνος `alone' vs. μακνός `loose, rare', κεινός `empty', ταννός `thin', etc.) and I suggest that they have preserved the original accentuation. Relevant for our purpose are θυρός `impetuous', λεῖος `smooth', and οὐλος `destructive', which must derive from the barytone u-adjectives *dʰorH₃-u-,*leH₁i-u- and *H₁eH₁t-u-,
From Germanic we can mention OE meþh `measure, degree; honour, respect' < *meH₁-ti-, Goth. seiþus `evening' <*seH₁i-tu- (cf. Lühr 1978), Goth. nauþs `need' <*noHū-ti-.

In Balto-Slavic it is hard to find unambiguous examples of barytone i- and u-stems because of Hirt's Law, according to which the accent was retracted to a pretonic vowel if this vowel was immediately followed by alaryngeal (cf. Illich-Svitych § 31). Nevertheless, two words seem to be significant: Lith. pilis (dial. AP 2) `castle' < * (t)pH₁-i- (Illich-Svitych § 22) and antis (AP 1) `duck' < *H₂eH₂-ti- (Illich-Svitych § 27). The barytonesis of these words is especially important in view of generalized mobility in the Balto-Slavic i- and u-stems.

§ 6. There seems to be no way to explain the Sanskrit oxytonesis analogically, so that we must assume an accent shift from the root to the suffix. The chronology and conditions of this shift, which I shall subsequently call "the laryngeal accent shift", can be further specified, if we consider some groups of roots with a medial laryngeal where this shift apparently did not operate.

§ 7. Elsewhere (Lubotsky 1981) I have tried to demonstrate that laryngeals were lost before unaspirated voiced consonants (the mediae) in Indo-Iranian, if mediae were followed by a consonant (*-HDC- > -DC-), cf. the following examples:

Skt. pājas- n. `frame' vs. paja- adj. `firm', both derived from the PIE root √peH₂g- (Gr. πῆγνωμι `to make fast');
Skt. rādāti ‘to gnaw, bite' (probably, originally athematic, cf. 2sg.impv. rāṣi), PIE √HreH₂d- (Lat. rādō, rōdō `to scratch, bite');
Skt. svādū- adj. `sweet' vs. svādāti `is sweet' (probably, originally athematic, *svad-ti), PIE √sueH₂d- (Gr. ἱδως `sweet').

This rule provides a straightforward explanation for a number of short a's in Indo-Iranian without a recourse to a PIE phoneme *a and can be explained in the light of the glottalic theory, if we assume that the Indo-European unaspirated voiced consonants were originally glottalic (cf. Gamkrelidze–Ivanov 1973) and that the three laryngeals merged into a glottal stop in Indo-Iranian (cf. Polomé 1972: 244): *CeHDC = *CeH₁DC- > Ilr. *CaγDC- > Ca¹DC-. In our case, this rule concerns three words:

**OXYTONA:**

bhakti- `distribution' <*bʰeH₂g-ti- (Gr. φαγεῖν);

**BARYTONA:**

išti- f. `sacrifice' <*iH₂g-ti- (Gr. ἵγνωσι),
yājyu- adj. `worshipping, pious' <*ieH₂g-īu-.
As īṣṭi- and yājyu- are barytone, they probably were not subject to the laryngeal shift, which was therefore posterior to the Indo-Iranian loss of laryngeals before mediae so that, at the time of the shift, these words did not contain medial laryngeals any more. This implies that not only īṣṭi- and yājyu-, but also bhakti- show the original, pre-shift, accentuation.

§ 8. The laryngeal shift did not seem to operate also in words with a medial laryngeal in the root, if the root was in zero-grade. We find both oxytona and barytona, cf.

OXYTONA:

kāṭi- f. `fame, glory' (10,54,1) < *kH₂r-ti-

pāṭi- f. `drinking, draught' < *pH₃j-ti-

bhūṭi- f. `prosperity, power' (1,161,1) < *bH₂u-ti-. In 8,59,7 (Vālakhilya) this word is unaccented.

Possibly, here belongs jāṅī- m./f. `flowing water' < *gH₃i-ri-, if the word is etymologically connected with the family of Skt. jāṅa- adj. `alive'. For the position of the laryngeal cf. Kortlandt 1975: 3, 1981:15.

BARYTONA:

bhūmi- f. `earth, soil' < *bH₂u-mi-

bhūṛi- adj. `much, many, abundant' < *bH₂u-ri-

This group of words concerns a rather controversial issue, which is known as laryngeal metathesis. In several languages, a sequence of laryngeal plus resonant became metathesized in the position between two consonants. A detailed discussion of this phenomenon goes beyond the scope of this paper, and here I shall limit myself to indicating the main reasons for reconstructing a laryngeal preceding the resonant.

The reconstruction of pāṭi- f. `drinking, draught' < *pH₃j-ti-, derived from the PIE root √peH₃j- is hardly contestable. The position of the laryngeal in kāṭi- f. `fame, glory' follows from Skt. kāṟ-ú- `poet', Gr. κῆρυξ `herald' < *keH₂r-u-, Skt. kāṛa- `chant of victory', etc.

As far as the root √bhū- is concerned, Kortlandt has pointed out in a series of publications (1986, 1987) that there too the laryngeal preceeded the resonant. There is sufficient evidence for this view from Celtic (cf. OIr. 1,2 sg. pret. of the substantive verb -bá < *bh₃aw-V-), Balto-Slavic accentuation (the final accentuation in Russ. byla), and from Sanskrit, where the unique zero-grade in singular active forms of the root aorist (ābhuvam, ābhūs, ābhūt) indicates that the phonetically regular forms were abnormal and were not **abhavi-, which certainly would join the -is-aorist. To the evidence adduced by Kortlandt, one could add the Sanskrit 2sg. impv. aor. bodhī of the same root, which remained hitherto enigmatic and which receives a straightforward explanation if we reconstruct *b₃eH₂u-dhi. It follows that bodhī has preserved the original vocalism of the aorist which has been replaced by ābhūt, etc. because of the "irregular" ablaut o : ū.
Returning to the laryngeal shift, we can probably state that this shift was anterior to the laryngeal metathesis in Indo-Iranian, as can be inferred from the barytonesis of bhūmi- `earth, soil' and bhūri- adj. `much, many, abundant'. The final accentuation of bhūti- is less significant because this word is accented only once, in the first Manḍala of the RV, and can easily be secondary, whereas an analogical accentuation of bhūmi- and bhūri- is out of the question.

§ 9. Finally, we can now return to the barytonesis of sānitu- `acquisition' (cf. § 3 above). It is a hapax, and its accentuation may be secondary. If the barytonesis is old, we may assume that the vocalization of the interconsonantal laryngeal in this word was anterior to the accent shift. It has been suggested (cf. Beekes 1981: 283f.) that interconsonantal laryngeals were vocalized in Indo-Iranian before two consonants. This means that in the oblique cases of IIr. *sanH-tu- the laryngeal was vocalized, so that this word was not subject to the shift.

Incidentally, it can be demonstrated that the Indo-Iranian vocalization of interconsonantal laryngeals was anterior to the accent shift, indeed. From Skt. duhita- < *dʰuH₂-tēr-, whatever the problems with this word, we can see that the vocalization of the laryngeal to i was anterior to the palatalization of -g- to -j-. The palatalization, in its turn, was anterior to the merger of *e and *o into IIr. a. The latter development is probably connected with the merger of the three laryngeals into a glottal stop, which is posterior to Brugmann's Law (cf. Lubotsky 1990). The development *H₁, H₂, H₃ > ? must be anterior to the loss of laryngeals before mediae (* ?D > 'D) and, consequently, to the accent shift (see above). To sum matters up, we get the following chain of events:

1. Brugmann's Law (ANTE 4,5).
2. IIr. vocalization of interconsonantal laryngeals (ANTE 3);
3. Palatalization (ANTE 4);
4. Merger of *e, o, a into IIr. *a;
5. Merger of *H₁, H₂, H₃ into *? (ANTE 6);
6. Loss of laryngeals before mediae (ANTE 7);
7. Laryngeal accent shift (ANTE 8);
8. Laryngeal metathesis.

§ 10. From the foregoing discussion it becomes clear that the laryngeal shift operated when both of the following conditions were fulfilled:

1. The root vowel is followed by a laryngeal (the laryngeal is not necessarily contiguous to the syllabic nucleus);
2. The word is an i- or u-stem, as the laryngeal accent shift does not affect a-stems, cf. kā-ma- m. `wish, desire', pār-va- adj. `the first, prior', bhā-ma- m. `light, splendour', sū-na- n. `lack, absence', etc.
The second condition may appear phonetically incomprehensible, but there are at least two indications that in Indo-Iranian i and u were different from a, as far as their prosodic properties are concerned.

First, the difference can be illustrated by Wackernagel’s Law, according to which words in -i-, -u-, -r- and -n- lost their accent to the following syllable in composition and secondary derivation, while words in -a- retained their accent.

Secondly, according to the RV-Prātiśākhya, the result of the so-called prasīṣṭa-sandhi is different for i and a. The combination of udāṭta + svarita on ī resulted in a svarita, but the same combination on ā resulted in an udāṭta, e.g. 1,22,20 divīva, 1,80,3 abhīni, a compound abhīti- vs. ihūṣṭi, etc. This difference can be explained if we assume that the udāṭta of ī was lower than that of a. A similar explanation is necessary in the case of Wackernagel’s Law where the accented ī, u, etc. do not keep the accent.

There is a major phonological difficulty with the laryngeal accent shift, however. Vowels followed by laryngeals attract the accent in most cases (cf. de Saussure’s Law for Lithuanian, Hirt’s Law for Balto-Slavic) or block a progressive shift (Dybo’s Law for Slavic). Therefore, a progressive accent shift from a ‘laryngealized’ vowel is incomprehensible, especially when the accent shifts to i or u, which should repel the accent rather than attract it. I cannot resolve this difficulty, but the evidence has priority, and we may find an explanation later.

§ 11. To sum up, all i- and u-stems derived from roots with a final or medial laryngeal are oxotone in Sanskrit, due to the Indo-Iranian laryngeal accent shift. This means that all words which were subject to the shift are ambiguous as far as their accentuation is concerned and cannot bear testimony to the Indo-European situation. On the other hand, note that in case of doubt about the correct reconstruction, we are now better in the position to choose between the alternatives. For instance, the barytonesis of hārī- adj. ‘pale, yellowish’ indicates that the root probably has no final laryngeal, while the oxotonesis of maṇī- m. ‘necklace, jewel’ is an argument in favour of a final laryngeal.

References


Kuiper, F.B.J. (1973): Four word studies. IIJ 15, 179-204.


