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Jost Gippert, Frankfurt 1998-2011
Laryngeals and Vedic metre

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Within the study of Indo-European laryngeals — a field that has owed so much to Robert BEEKES —, phenomena relating to Vedic metre deserve of special attention. It has for long been stated that vestiges of laryngeals that once existed can be traced in the metrical behaviour of word forms such as rátha- "wagon", the first syllable of which has often to be measured as long because of the "position" created by h₂ in the underlying structure *rot.h₂o- (where . marks the original syllable boundary between t and h₂, later "merging" into an aspirate -th-, probably via a consonant cluster *-thh-)\(^1\).

Investigations into this type of material have gained a new basis eversince the text of the Rgveda-Saṁhitā (RV) exists in a reliable digitalized form. At present, three versions are available to the scholarly world that can be used complementing each other: The edition recently published by Barend VAN NOOTEN and Gary HOLLAND (hereafter: vNH) contains, in electronic form, both the plain Saṁhitā text (according to AUFRECHT’s edition) and a metrically restored version of it (mostly following the proposals made by E.V. ARNOLD)\(^2\). Additionally, a sandhi-free (pada-pātha-like) version was prepared by A. LUBOTSKY for his Rigveda concordance\(^3\). Although none of these versions contains any metrical data as such, they can easily be adapted to a special computer program which parses the text in order to reveal the metrical shapes present in each verse\(^4\).

In a forthcoming article\(^5\), I have reported about the results of an investigation using such a metrical "parser" with respect to a crucial laryngealistic question that had been raised by the late Jochem SCHINDLER on the occasion of the 1993 Copenhagen meeting of Indo-Europeanists. During the panel discussion about

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\(^1\) Phenomena of this type were noted passim in H. OLDENBERG’s "Metrische und textgeschichtliche Prolegomena", Berlin 1988, E.V. ARNOLD’s "Vedic metre" (Cambridge 1905), and OLDENBERG’s Textkritische und exegetische Noten”, Berlin 1909-1912. A first thorough discussion in laryngealistic terms was offered by J. KURYLOWICZ ("Les effets du e en indoiranien" ("Effets"), in: Prace filologiczne 11, 1927, 201-243).


\(^3\) My thanks are due to A. LUBOTSKY for contributing this version to the "TITUS" collection of texts relevant for Indo-European studies ("Thesaurus Indogermanischer Text- und Sprachmaterialien"; cf. the WWW page under http://titus.uni-frankfurt.de/texte/texte.htm) and for discussing quite a lot of problematic passages with me.

\(^4\) The parser which was developed as a means for establishing a metrical and a sandhi index to the RV will be made available to the public after completion of the project in question ("AUREA"). — On the basis of an automatical electronic comparison, the different versions were also used to locate typing errors persisting in them. Besides, a list of typing errors as present in AUFRECHT’s RV edition was prepared (cf. my forthcoming article "TITUS — Alte und neue Perspektiven", to appear in SIMA 2, Prague 1996).

\(^5\) "Neue Wege zur sprachwissenschaftlichen Analyse der vedischen Metrik"; to appear in the Gedenkschrift für Jochem SCHINDLER.
the phonetics of the laryngeals, SCHINDLER proposed to see a threefold representation of \( h_2 \) in cases where words like *duhit\( \acute{a}r- \) "daughter" have to be measured with a long first syllable: Here, \( h_2 \), besides causing aspiration (of \( *-g- \) and invoking a shewa (\( > -i- \); "vocalization"), obviously created metrical position (schematically: PIE **\( d^\phi \)ugh\( \acute{\imath} \)t\( \acute{\imath} \)r- > Proto-Indo-Aryan *\( d^\phi \)u\( \gamma \).h\( \acute{\oslash} \)t\( \acute{\imath} \)r-). Investigating the behaviour of word forms containing the structure -\( \tilde{\imath}h(T)hi- \) (i.e. a short vowel followed by either a plain -\( h- \) or by an aspirate stop, plus -\( i- \)), in the most decisive metrical constellation where a long syllable is required, viz. the iactus within the cadence of both dimeter and trimeter verses (syllables 6:8, 10:11 and 10:12), astonishing results were achieved: Of 38 matching examples to be found in the whole RV, 17 belong to the type discussed by SCHINDLER (besides *duhit\( \acute{a}r- \), cp. e.g. *pr\( \acute{\imath} \)i\( \acute{\imath} \)v\( \acute{\imath} \)- "earth": **\( p^\phi \)\( \acute{\imath} \)t\( \acute{\imath} \)h\( \acute{\imath} \)i\( \acute{\imath} \)-h\( \acute{\imath} \)-\( \acute{\imath} \)r-). Of the remaining 21 cases, 15 still show position created by laryngeals: cp. e.g. *m\( \acute{\imath} \)h\( \acute{\imath} \)i\( \acute{\imath} \)ni, voc.sg.fem. of *m\( \acute{\imath} \)h\( \acute{\imath} \)- "great", < *\( m^\phi \)h\( \acute{\imath} \)i\( \acute{\imath} \)-, with original -\( i- \) (not \( i < \) schwa), or *avah\( \acute{i} \)-: *a\( ud^\phi \).\( \acute{\imath} \)t\( \acute{\imath} \)-, \( \sqrt{d^\phi} \)(\( \acute{\imath} \)\( \acute{\imath} \))- < \( \sqrt{d^\phi} \)eh\( \acute{\imath} \)-, where the aspiration is not caused by the laryngeal. In 6 cases only, the lengthening cannot be assigned to laryngeals with certainty (this is less than a sixth part). The following table lists the results:

<table>
<thead>
<tr>
<th>Laryngeal</th>
<th>reflexes</th>
<th>word type:</th>
<th>verse type: syllables:</th>
</tr>
</thead>
<tbody>
<tr>
<td>( h_2 )</td>
<td>threefold: position, aspiration, &quot;vocalization&quot;:</td>
<td>duhit( \acute{a}r- )</td>
<td>4</td>
</tr>
<tr>
<td></td>
<td></td>
<td>*( d^\phi )u( \gamma ).h( \acute{\oslash} )t( \acute{\imath} )r-</td>
<td>9</td>
</tr>
<tr>
<td></td>
<td></td>
<td>pr( \acute{\imath} )i( \acute{\imath} )v( \acute{\imath} )-</td>
<td>4</td>
</tr>
<tr>
<td>( h_2 ) (plus ( i ))</td>
<td>twofold: position, aspiration:</td>
<td>m( \acute{\imath} )h( \acute{\imath} )-av( \acute{\imath} )yi( \acute{\imath} )-</td>
<td>1</td>
</tr>
<tr>
<td></td>
<td></td>
<td>*( m^\phi )h( \acute{\imath} )i( \acute{\imath} )-ni-</td>
<td>1</td>
</tr>
<tr>
<td></td>
<td></td>
<td>*( a=\imath )( \acute{\imath} )t( \acute{\imath} )-h( \acute{\imath} )-</td>
<td>1</td>
</tr>
<tr>
<td>( h_{1,3} )</td>
<td>twofold: position, &quot;vocalization&quot;:</td>
<td>av( \acute{\imath} )yi( \acute{\imath} )-</td>
<td>4</td>
</tr>
<tr>
<td></td>
<td></td>
<td>*( a=\imath )( \acute{\imath} )t( \acute{\imath} )-( \acute{\imath} )( \acute{\imath} )-</td>
<td>8</td>
</tr>
<tr>
<td></td>
<td></td>
<td>( \sqrt{v\acute{a} \acute{s} \acute{u} \acute{d} \acute{t} \acute{h} \acute{i} \acute{t} \acute{h} \acute{i} -} )</td>
<td>1</td>
</tr>
<tr>
<td>none</td>
<td></td>
<td>( \acute{d} p\acute{=\imath} \uacute{r} \acute{a} = , \beta \acute{\imath} \uacute{t} \acute{a} , t\acute{a} , d\acute{h} \acute{i} \acute{t} \acute{h} \acute{i} )h( \acute{\imath} )-</td>
<td>1</td>
</tr>
<tr>
<td></td>
<td></td>
<td>( \acute{d} t\acute{a} \acute{a} = , \beta \acute{\imath} \uacute{u} \acute{a} , b^\beta \uacute{i} \uacute{s} )</td>
<td>3</td>
</tr>
</tbody>
</table>

As can be seen from the table, there seems to be a striking difference between 11-syllable verses and 8- or 12-syllable verses in that the former do not show any laryngeal reflexes of the types discussed. This may easily be explained by assuming that the tri\( \acute{s} \)\( \acute{t} \)\( \acute{u} \)\( \acute{b} \)h cadence with its iactus on the paenultima leaves hardly room enough for the word forms in question: We must consider that in this case, the syllable containing -\( h\)- has to be the last one; a constellation which is hardly to be met with where laryngeals are involved (but cp. mah\( \acute{\imath} \), path\( \acute{\imath} \)-). Nevertheless it seems worth while investigating whether there are principal divergences in the structure of cadences between "even" and "odd" verses in the RV, as far as metrical position created by laryngeals is concerned.

If we want to take unexpected "short" syllables bearing the iactus as a criterion, we first have to define what syllables we regard as "short" from a formal

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\( ^6 \) \( \acute{a} \)pr\( \acute{a} \)hi\( \acute{a} \)- belongs to \( \sqrt{\acute{h}i} \)- "to send", not to \( \sqrt{d\acute{\imath}h} \)-. The results will slightly differ depending on the treatment of avyath\( \acute{h} \)\( \acute{b} \)h\( \acute{h} \) in 7,69,7c (in a Tri\( \acute{s} \)\( \acute{t} \)\( \acute{u} \)\( \acute{b} \)h-cadence); for this and avyath\( \acute{\imath} \)\( \acute{\imath} \)\( \acute{\imath} \)\( \acute{\imath} \)h\( \acute{\imath} \)\( \acute{\imath} \)h\( \acute{\imath} \)h\( \acute{\imath} \)- cf. below.
point of view. According to general assumption, short syllables are open syllables containing a short vowel, syllable-final consonant(s) normally producing position (with *mata cum liquida as a special case) and diphthongs regularly measuring as long. A further special case has to be observed where short vowels are followed either by the palatal aspirate, *ch, or by the retroflex laterals, *l and *lh: It can easily be shown that these consonants produce positional length throughout, in accordance with their emergence from former consonant clusters (*ch < *śc, *l < žd, *jd etc.): cp. gachati < *gaśćati or *drjhā-< *drjdhā-. Such cases can therefore be ruled out before starting the investigation. The same holds true for those instances where the second syllable of pāvaka- "pure" bears the ictus in cadences: It has been for long generally adopted that pāvakā- is but a secondary substitution for an original pavāka- yielding "correct" cadences. Lastly we can dismiss those instances where the first syllable of nṛṇām, gen.pl. of nār-/nr- "man", is in the ictus position: Here, the r has to be scanned as long.

Looking for the remaining instances that match the conditions, the metrical parser gives the following immediate results when asked for "irregular" cadences:

<table>
<thead>
<tr>
<th>Verse type</th>
<th>8 syllables</th>
<th>12 syllables</th>
<th>11 syllables</th>
</tr>
</thead>
<tbody>
<tr>
<td>total occurrences</td>
<td>14973</td>
<td>6924</td>
<td>16939</td>
</tr>
<tr>
<td>irregular cadences</td>
<td>1071</td>
<td>153</td>
<td>278</td>
</tr>
<tr>
<td>percentage</td>
<td>7.15</td>
<td>2.21</td>
<td>1.64</td>
</tr>
</tbody>
</table>

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7 vNH mark r as long in such cases; this gives the correct results although the marking seems not just adequate because we have to deal with positional length here, not with vowel lengthening.

8 All in all, this constellation is present in the cadence of 116 11-syllable verses, 50 12-syllable verses, and 95 8-syllable verses (based upon the vNH "metrically restored" text). As to figures from less usual verse types, cf. below.

9 14 occurrences in 11-syllable verses (3,5,7c; 17,1c; 4,6,7a; 4,6,7c; 6,1,8c; 43c; 10,4,7; 7,3,1d; 9d; 7,9,1b; 9,97,7c; 10,46,4c; 7b; 8c); one occurrence in an 8-syllable verse (3,21,2a: ghṛtāvataḥ pāvaka te).

10 In vNH, pāvakā- is written throughout in the printed text; in the electronic (metrical) version, however, three cases of pāvakā- have persisted in RV 10,46 (4c; 7b; 8c).

11 9 occurrences in 11-syllable cadences (3,52,8b; 4,25,4d; 5,30,12d; 7,1,11a; 19,10d; 6,24,4d; 10,29,2b; 99,9d; 111,1b – the last three not marked in vNH); 5 occurrences (reading nṛṇām) in 8-syllable cadences (1,48,4d; 3,16,4d; 5,18,5e; 7,32,11d; 86,5b) and one in a 12-syllable verse (10,93,12b). In 1,43,7b, we seem to have an exceptional disyllabic nṛṇām in an 8-syllable cadence (ni dhehi satasya nṛṇām), in a verse of the so called "trochaic Gāyatrī" type.

12 Against the "metrically restored" electronic text as provided by vNH, only a few rearrangements were made concerning the separation of verses (especially with respect to the two types of Brhati and Usnīh metres as dealt with in Oldenberg's "Prolegomena", 111 sq.; cp., e.g., RV 3,10 or 8,12 and 13), and some 30 obvious typing errors were corrected. The twelve verses of RV 9,67,27a-d, 31a-d and 32a-d missing both in the printed text and the electronic (metrical) version were added. — It goes without saying that the statistical results obtained here agree to a large extent with the ones offered by E.V. Arnold's study; nevertheless it seems worth while entering into the study of Vedic metres again.
Of course, this enormous bulk of material cannot be investigated entirely here, all the more since the less common (and mostly irregular) verse types containing 4 to 7, 9, 10, or more than 12 syllables (all in all 995 verses in vNH) would deserve of a special treatment too. On the basis of the considerations noted above, it seems reasonable to restrict the present study to the cadences of 11-syllable verses.

From the 278 verses in question, a relatively large number (63) can be excluded by assuming that they show a regular J-cadence although the number of syllables in the verse cannot be "stretched" easily to give 12. In most of these cases (52), vNH suggest such a solution themselves in their "Metrical notes" (p. 577 sqq.), denoting the verses as "Jg. 11 syll.", "Tr Jg cadence" or the like (often referring to ARNOLD or OLDENBERG); there is no special marking in the electronic text, however. The solution is acceptable if the verse in question is a single 11-syllable line in a J-environment and if it shows a long syllable in the antepenultimate syllable; cp., e.g., 6,15,1d jyókcid attigárbho yád ácyutam which even by reading jyók contains but 11 syllables. In two hymns, viz. 10,77 and 10,78, this type of verse is even prevalent. According to OLDENBERG’s "Noten", it emerged from a replacement of the usual two short syllables after the caesura by one long syllable; cp. 77,1a abhrapriṣo nā vācā pruṣā vāsū, where vācā stands in the position of a regular J-centerpiece consisting of 菟菟菟. Like this, we achieve the following list of instances in accordance with vNH: 1,89,4b; 2,13,1a; 24,5b; 36,1a; 5,51,13a; 6,15,1d; 6,48,17c; 8,26,24c; 52,2a; 98,7b; 9,71,7c; 79,1c; 10,23,2d; 4c; 32,4c; 46,7c; 49,1d; 2a; 50,5b; 64,10c; 77,1abcd; 2abcd; 3abcd; 4abcd; 5ab; 78,1abd; 2d; 3bd; 78,4abcd; 78,6cd; 93,7b; 14c.

In the remaining eleven cases, a similar solution is suggested by the fact that the given cadences or the word forms they contain usually occur in the final position of J (or A) verses. This holds true for the following pādas:

13 The remarkable difference between dimeter and trimeter verses as revealing itself in the statistics is mostly due to the well known tendency of the Anuṣṭubh metre towards the "epic" śloka-type verse, the normal cadence of which is –× in odd verses; cp. 10,72,1a and c as against b and d:

devāṃm ná vayāṃ jānā    prā vocāma vipanyāyā / uktēṣu sasyāmanesu yāh pāśyād úttare yuge //

The structure –× is indeed met with in 375 (from 1071) verses, 306 (153 + 153) of which are a first or third pāda in Anuṣṭubh strophes of this type. Another great bulk of cases (422) increasing the number of "irregular" cadences of eight-syllable verses is the so-called "trochaic Gāyatrī" type with the structure acija×; cp. 1,27,10a-c:

jārābodha śād vividdhi viśe- više yajñīyāya / stōmaḥ rudrāya dṛśikam//

Both these types have no counterpart in trimeter verses.

14 Abbreviations used hereafter: T: 11-syllable (normally Triṣṭubh) verses; J: 12-syllable (normally Jagati) verses; A: 8-syllable (mostly Anuṣṭubh or Gāyatrī) verses; O: opening; M: centerpiece (of trimeter verses); C: cadence; B: caesura (break). No before-hand distinction will be made between equal verse types occurring in different strophic arrangements (as, e.g., J in normal Jagati-strophes, 12-12-12-12, or in Bṛhatī-strophes, 8-8-8-12). Note that regularly, cadences of J and A verses have the same metrical shape (–×)

15 If nothing else is stated, all verses will be reproduced hereafter according to the electronic text of vNH where metrically "restored" vowels are marked by italicization (this principle is reversed
1,61,11a asyéd u tveśásā ranta sínḍhavaḥ (sínḍhavaḥ 8× in JC, 17× in AC; read asyādā id u ā?); 1,121,11a asyéd u tveśásā ranta síndhavaḥ (svásyām, always to be scanned as suśāvyām, 3× in JC, 4× in AC); 2,18,2d só anyēbhīh sacate jēnyo vṛśā // (read jēnyo vṛśā as in 1,140,2c JC); 2,42,2c pītryām ānu pradīśam kānikradat (read pītrīyām; kānikradat 7× in JC, 13× in AC); 8 103,5c tūvē devatrā sādā puruṇavas (puruṇavas 4× in JC, 4× in AC); 10,30,13a (prāti yād āpo ādrśram āyāti (āyāti 1× in JC, 4× in AC, cf. OLDENBERG, "Noten" a.l.)); 10,59,5c rārandhi naḥ sūryasya smadṛśi (cp. 10,37,6c with sūryasya smadṛśi in a regular JC; similarly smadṛśaḥ 2× in JC, smadṛśam 1× in AC); 10,103,8a inḍra śāsaṁ ayai tṝtab āṭrhaspāti (bṛhaspātī 3× in JC in a T-context [10,109,5c, 128,7c, 161,4c], 5× in AC; other case forms similarly); 10,132,1b ājjanāṁ bhūmir abhī prabhū ˙sā ni (all other -sāni-infinitives appear in JC or AC: tarīsaṁ 4,37,7d; 5,10,6d; grīṣāni 6,15,6b; 8,12,19b; upastraṇīsāni 6,44,6b; sakṣāni 10,32,1a; sūṣāni 10,93,1d; nesāni 10,126,3c; parṣāni 10,126,3d; iṣāni 2,2,9d). Lastly, a J-cadence is likely to be seen in 6,25,3a inḍra jāmāya utā yē jāmAYO (better to be read ājīmAYO with OLDENBERG, "Noten").

A special case is provided by three 11 syllable verses that should equally rather be scanned as containing 12 syllables, viz. 6,44,11d jahy āsvuṇ prá vrhaṇrṇatah (read prá vrhā āprṇataḥ as in 5,7,10c in AC), 1 100,6b asmākebhīr nābhīṁ sūryyaṁ sanat (to be read with a rest after the fourth syllable), and 10,50,5a āvān uka ˙mj yāȳan yajñavānas (read jīyāyan as in 3,38,5a; cp. yajñavānasaṁ in JC in 4,1,2b). Here, we have no overt long antepaenultima to match the ictus of JC; but considering the etymology of the underlying verbs, we can assume that an original root final laryngeal left its traces here in metrical position: sanat is a 3rd person singular aor.inj.act. of san-<senh2-"to gain" ("[Indra] gains the sun together with our men"); and connecting āprṇataḥ the "not generous ones" (acc.pl.: "weed out the misers") with par- (pres. prṇāti, <*perH18) "to give, donate" and yajñavanas- "pleased by / longing for sacrifice" ("assist those who are pleased by sacrificing, being superior") with van- (pres. vanate, <*uenH19) "to be(come) pleased, to desire", we arrive at the underlying structures -pəرن.əতa.স ( <*prnhntnsm), -van.Ha-sas (<*uenHesnsm20), and san.Hat <*snhr.et21.

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17 In 1,180,9c and 10,113,10a, svāsyā and svāsyām seem to appear in T-cadences; vNH read suśāvyā / suśāvyām. Here, the ictus is on a long syllable (-ā-) in any case.
19 Cf. MAYRHOFER, EW/Aia II, 501 s.v. VAN2- and below.
20 Or *uenHesn, cf. below.
21 That the thematic root aorist had a zero grade root was made probable by clear cases such as (ā-)vidat; cf. R. BEEKES, in: Die Laryngaltheorie, ed. A. BAMMESBERGER, Heidelberg 1988, 65 for *snH-ə-m and T. GÖTÓ, Die "I. Präsensklasse" im Vedischen ("Präs.Kl."). Wien 1987, 284 for the corresponding thematic root aorist stem *snH-ē from *yenH- "to desire", O.Ind. vanā- (cf. below). According to J. NARTEN, Sprache 16, 1968, 119, the formation of the thematic aorist of san- can be assigned to the Indo-Iranian stage. — For the phonetic development involved (*-\(n\)HV- > -an.\(V\)-) cf.
This type of laryngeal traces is not restricted to 12-syllables verses though. Within irregular cadences of 11-syllable padas, it can be found in a surprisingly high number of cases. Starting with the structure of the last mentioned examples, i.e. \(-VN- < *-HN.HV-\) (with \(V\) standing in the cadence ictus, \(N\) representing any resonant, \(H\), any laryngeal) this can be made responsible for at least 20 cases. In 13 of these verses, the cadence contains either \(jānā\) or \(jānān\), nom./acc.pl. of \(jāna-\) "man", as in 4,38,9a utā sma asya panpayanti jānā "and the men praise his (Dadhikra’s) (zeal ...)" (the other cases: 1,89,10c; 173,8d; 2,20,2b; 3,46,2d; 5,33,2d; 6,10,5d; 11,4d; 20,1b; 49,15c; 51,11b; 67,3c; 68,5d); this is nearly one fourth of all occurrences of the word (54)\(^{22}\). As \(jāna-\) has to be connected with \(\ddot{j}an\dot{i}- < *\ddot{g}en\dot{i}h\) "to beget" (most probably \(\ddot{g}on\dot{h},o\)\(^{-23}\)), its treatment is equivalent to the one of \(-vanasaḥ\) as noted above.

A similar case is provided by \(śavah\) "strength" (\(= \acute{sav.\dot{a}}s < *\acute{k}ēuh,os\)) as in 1,186,2d kāran susāhā vitthurām nā śavah "they will make (things) easily defeatable like a wavering power" (two further attestations in TC: 6,19,6a; 10,148,4b\(^{25}\); cp. 1,127,2a; 127,11g; 3,37,1a; 5,7,3c; 20,2b; 52,2a; 87,1e; 6,14,4c; 44,3a; 8,1,21b; 2,30c; 9,20a; 68,4b; 70,6b; 92,14a; 10,105,6b, where three syllable case forms like instr. \(\ddot{s}avāsā\) appear in irregular ACs). One further instance would have to be added if in 1,122,10b the substitution of \(gūrtaśravāh\) "whose glory is praised" by \(*gūrtaśravāh\) "whose power is praised", proposed by Chl.H. \(\ddot{W}ERBA\)\(^{26}\), is right: \(śardhastaro narām gūrtaśravāh\). We have to note, however, that the same constellation — a masculine \(-s-\) stem as the second member of a compound in an irregular TC — is attested three more times, viz. in 1,89,6a (\(vṛddhāśravāh\) "whose glory grows"), 1,167,5b (\(nrmānāh\) "having men’s mind"), and 10,61,1a (\(gūrtāvacāh\) "whose speech is praised"); for none of these, a laryngealistic explanation is possible\(^{27}\). Instead, we should consider that this behaviour might be due to an ablaut difference between \(-s-\) stem simplicia and compounds, \(-śravāh\) and the like having been "regularized" for an older \(*-śrāvāh\) from \(-o-\) coloured \(*\ddot{k}lōuēs\) as the compound variant of \(*klēuos\)\(^{28}\). The "regularization" leading back to \(-śravāh\) would then be equivalent to what happened in Greek \(\ddot{e}u\ddot{m}εν\ddot{η}ς\) if this replaced a former \(*\dddot{h},su-monēs\). A similar view is possible for \(suśrāvasam\) in 1,91,21c, and \(suprayāsam\) in 2,4,1b. Here, it is the suffix vowel which seems to bear the below.

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22 This is why its behaviour was noted as early as in OLDENBERG’S “Prolegomena” (1988, 478); it was treated in KURYLOWICZ, o.c., too.
23 Cf. R. BEEKES, o.c., 64, who notes this word as an "apparent exception to Brugmann’s law" produced by "a postconsonantal laryngeal"; further cf. MAYRHOFER, "EWAiA" I, 566.
24 \(ŚAV\) < \(*\acute{k}ēuh\), according to MAYRHOFER, "EWAiA" II, 623 sq.
25 This verse seems to lack one or two syllables, cf. the restoration \(dā nṛbhyyo nṛṇāṁ śūra śavah\) in vNH; but it has as clear a T-cadence as the surrounding verses.
26 In: WZKS 36, 1992, 15.
27 But cf. below for \(-mahas-\).
28 Cp. J. WACKERNAGEL, Althindische Grammatik ("AiGr") II/1, Göttingen 1905, 101, § 43 who mentions \(vī-hāyas-\) "having extended power" and \(sārtō-hāyas-\) "having all power(s)" (after OLDENBERG). The process envisaged here would well be motivated if J. SCHINDLER’S (unpublished) assumption of a regular ablaut shift leading from proterodynamic to hysterodynamic stems in derivation and composition is right.
ictus; cp. \textit{bhareṣujām suṣiṣṭīṃ suśrāvasam} "(Soma), born in battles, (gaining) good abodes, having good reputation"; \textit{viṣāṃ agnīṃ ātiṣṭham suprayāsam} "Agni, the guest of the houses, the one granting good favour(s)". If we suppose, however, that these pādas are "shortended" Jagatī verses, suśrāvasam can be accounted for in the way indicated above (*su-śrāvasam < *h₁su-klōues-m). For \textit{-prayās-}, there is an easier solution even because this word contained a root final laryngeal\(^{29}\) (*su.prai.hā.sam < *h₁su-proiHés-m); indeed, its simplex also occurs once in a comparable TC environment, viz. 2,19,1b \textit{māṇīṣināḥ suvāṇāṣya práyasaḥ} "(there is a drink), exstatic ones, (made) from the pressed delightment" (cp. *prā.Ha.sas < *pré/óij.Hes.os). We must not neglect, however, that this analysis too presupposes the "stretching" of the given 11-syllable verses to Jagatī pādas (by adding a "rest" before the caesura).

The same surface structure as in \textit{śāvās-} is present in \textit{urū} "wide" (6,50,3a \textit{utā dyāvāprthivī kṣatrām urū} "and (you), heaven and earth, (bestow upon us) wide suzerainty") and in two derivatives of \textit{tar₁-} < *terh₂- "to pass, transgress, overcome", viz. \textit{tāturi-} "overcoming" (4,39,2d \textit{dadāthür mitrāvarunāḥ tātārum} "(Dadhikra, whom ye,) M., gave (to the Pūrus) as the winning one"; 6,68,7d \textit{tātāriḥ}) and \textit{vrtratūram} "overcoming the foe" (6,20,1d \textit{daddhī sūno sahaso vrtratūram} "son of might, give (us wealth) to overcome the foe"). Here, the vowel bearing the ictus most probably developed in a sequence of a syllabic sonant plus a laryngeal, i.e., *-RHV- > -uR'V- (*-t₁rh₂- /*u₁rH-u-; cp. \textit{sanat} < *śnḥ₂et as discussed above).

Some further cases are less clear. First, we may seek \textit{van₁-} in two compounds appearing in 5,41, viz. \textit{rjuvānī-} (5,41,15d \textit{smāt sūrīḥbir rjuhāsta rjuvānī}) and \textit{upamātivani-} (5,41,16e \textit{asmākam bhūḍu · upamātivānī}). Usually, these compounds are connected with the root \textit{van-} meaning "to win, to defeat" (cp. \textit{GELDNER}’s translations, "die redlichen Gewinn bringt" and "der Gewinner von Schenkungen"). But in the following verses (17bc), we read \textit{dēvāso · vānate mārīyo va} | ā devāso vanate mārīyo vah\(^{30}\), which, according to T. GOTO’s study\(^{31}\), could easily be understood as containing \textit{van₁-} "to desire": "Gods, the mortal one desires you; the mortal one, Gods, desires you (to come) to (him)". If this is correct, we may interpret \textit{rjuvānī-} as "whose desire is straight" (speaking about "mother Rasā’), and \textit{upamātivānī} as "the one longing for allotments" (Ahi Budhnya)\(^{32}\), even though \textit{vasuvānī-} (7,1,23c) and \textit{vrśtivānī-} (10,98,7c), both occurring in TM, are rather derived from \textit{van₁-} "to win" ("gaining good(s)", "winning rain"); cp. 7,15,4c \textit{vāsvah kuvīt vanātī nāḥ} "he (Agni) will for sure win us some good" and 10,98,3c \textit{yāvā vrśtīṃ śāmantanave vānāva} "(the speech) by which we shall win rain for Śaṃtanu"\(^{33}\). If we accept

\(^{29}\) Cf. MAYRHOFER, "EWAia" II, 181 s.v. \textit{PRA}ṃ\textit{Y}-.

\(^{30}\) The "rest" after \textit{dēvāso} in 17c, indicated in the printed edition of \textit{vNH}, is not present in the electronic text and should be dismissed.

\(^{31}\) "Präs.Kl.", 284; GOTO mentions verse 17b only.

\(^{32}\) No other forms of \textit{van₁-} appear in any context together with Rasā or Ahi Budhnya in the \textit{RV}.

J. Wackernagel's proposal that in the present type of compounds, the -i- belongs to the root whenever it is not accented 34, we should expect that -váni- represents a set root in both cases. But the differentiation of van- "to win" and van'- "to love, to desire" into one anīt and one set root 35 does not work in all cases 36: Note, e.g., that the accusatives vasuvánim and vṛstivánim are also located in a position where their third syllable should be long, viz. in the position after the caesura in T verses: sá devátā vasuvánim dadhāti (7,1,23c) and devaśrútam vṛstivánim rárāṇo (10,98,7c). So this cannot disprove the hypothesis that -váni- in rjuváni- and upamātiváni- represents an underlying *-uěH- 37, i.e., a root noun from a set root as a second member in a compound. Regarding the measuring of -va- as long in 5,41, we can offer two different explanations then: either, this is a case of a "twofold" reflex of a laryngeal, manifesting itself by position + "vocalization" (*-uán.Hiš < *-uěnHøs < *-uěnHs), or it is the trace of a former lengthened grade to be expected in the nominative of this type of compound (cp. the type of vṛtrahā). The first solution seems to be preferable if we consider that the formations in -i- were usually remodelled as -i-stems showing no ablaut in the root syllable at all 38 (cp. the plural genitives mahisvānīnām and tuvisvānīnām appearing in 8,46,18cd, both belonging to svan' "to roar").

The same structure can then be seen in susámi in 5 87,9a gántā no yajñāṁ yajñīvāḥ susāmi "come to our sacrifice with good execution, venerable ones", if this belongs to šam' - < *kemh- "to finish; get finished, get tired, calm down / be finished with" 39: Although the form is not completely clear morphologically, the -i- can be an immediate reflex of the root final laryngeal, which additionally left its traces in metrical position. If we adopt to this view, we can further assume that in avyathí- "not wavering, steadfast" too, the -i- is a reflex of the root-final laryngeal (*uiěthi₂-), although it was (secondarily) accented 40. This would add avyathíṣu (8,2,24a in AC) to the group of cases showing threefold laryngeal effects (*a.u настоящ. hi.šu < *a.u настоящ. ho.šu < *n-.uiěth-su); and the same assumption could be made for avyathibhī, occurring in 7,69,7c in TC (patatrībhīr aśramair avyathibhīr "(you, Aśvins, saved Bhujyu) with (your) winged (horses) which never get tired, which never stumble") provided that we can "stretch" the verse to have 12 syllables, either

34 Wackernagel argued in reverse direction ("AiGr" II/1, 224, § 92d): "wo dagegen i wurzelhaft, also das Hinterglied eigentlich suffixlos ist, gilt .. Paroxytonese".
35 For the separation of VAN- and VAN'-, cf. Mayrhofer, "EWAia" II, 499 and 501.
36 It seems that van- "to win" developed more and more into van'- under the influence of both its quasi-homonym, van'-, and its synonym, san'-; cp. Narten, "Sigm.Aor." 235, n. 712.
37 Cf. Kurtyłowicz, "Effets", 233: "L'accentuation des tatpurāsa's en -sāni, -vāni etc., prouve que l'i < a n'est pas traité comme un i originaire".
38 This derivation seems to be preferred by St.W. Jamison, in: Die Laryngaltheorie, ed. A. Bammesberger, Heidelberg 1988, 222 with n. 16.
39 Cf. Mayrhofer, "EWAia" II, 610 sq.
40 Cf. Jamison, o.c., 222, who mentions the six occurrences of "nom./acc. (*)-vyáthis" in the RV.
by inserting a rest at the caesura, or by replacing asramaír by the concurrent instrumental, aśramébhír41.

The same type of laryngeal residue could further be assumed in 5.33.7a the cadence of which contains the imperative ava "help" according to the arrangement proposed in vNH: evá na indara utíbhír ava "(come) hither to us like this, Indra, with your help(s); help (, protect the poets) ...". There can be no doubt that the root present in ava contained a laryngeal that could be responsible for the first syllable to be measured as long (*au.Ha < *h_euHe); cp. the -s-stem dative ávase (*h2égHos-) which appears 22× in AC and 6× in JC. As to the analysis of the verse in question, however, there is room for serious objections. Given that the following pāda has 9 syllable as it stands (pāhi grñatadh śūra kārān), ava seems rather to belong to this than to 7a, all the more since utíbhíḥ would produce a perfect 8 syllable cadence (as it does in 43 other A verses). Of course we would have to expect ava to be accented in this case (āva) so that a correction of the traditional text would be necessary in any way42.

Another word that is not easy to account for is sáru- "arrow, weapon" which appears two times in TC; cp. 1,186,9c ádha yād eśām sudīne ná sārum "when (the Maruts’ armies attack) like a thunderbolt on a clear day", and 10,99,7b ā sāviṣad arśasānāya sārum "he (Indra) will create the weapon for Arśasāna" (for the formula, cp. 7,45,3b ā sāviṣad vásupatír váśūni where Savitr is meant). Reconsidering an etymological connection of sáru- with the set root šar- meaning "to dash, to smash"43, these cases could easily be explained by assuming position invoked by the root final syllable again: sáru - < *śár.Hu44. Note that although both instances belong to allegedly late hymns, the first one at least has a clear formulaic character45.

One further type that might belong here is attested all in all 20 times. This type consists mostly of superlatives showing the suffix -tama- as in 5,41,4d ājīn ná jagmūr asūasvatamāḥ "(they have come to the sacrifice) just as the

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41 But we have to concede that within 7,69, this would be the only 12-syllable verse in a pure Tristubh environment. Should we rather suppose that avyathībhīḥ was restored from an original avyāthī showing the deletion of the ending -bhīḥ in an environment where group inflection can be assumed (cf. L. RENOU, Grammaire de la langue védique, Paris 1952, 83, § 105, or C. WATKINS, Indogermanische Grammatik ("IGr") III/1, Heidelberg 1969, 143, § 130 for examples)? In this case we would still have to "fill" the verse in order to arrive at 11 syllables.

42 Cf. OLDENBERG, "Noten" a.l.; according to GELDNER (translation a.l.), "das Metrum ist nicht in Ordnung" in 7ab. Instead of āva, we could even think of substituting déva. The corruption could be due to a mutual influence between evá, āva (inserted as a gloss), and déva.

43 This etymology was upheld by WACKERNAGEL-DEBRUNNER ("AiGr" II/2, 475) but styled as "semantisch wenig befriedigend" by MAYRHOFER, "EWAiia" II, 618.

44 Like this, the old comparison with Greek keravnoc "thunderbolt, flash" has to be reconsidered too (cp. GELDNER’s translation of 1,186,9c: "wenn dann wie ein Blitz bei heiterem Himmel ..." with Φ 199-200: ἀλκα καθ ʻδε διδτοις διός μεγάλοι κεραυνοι τε βροντην, ῆτ ʻεπι ʻουρανον αμαραγηνο). Should sáru - pace FRISK — reflect the same original -ykn-stem as the Greek word does? A nom. sáravḥ / sáru < *kēravṛ, could indeed have been metanalysed as a fem. -u-stem, sāruḥ. The development of *-VṛHūr > *-Vṛ.HuH > may have been supported by some oblique case forms showing *-Vṛ.HuN > *-Vṛ.Hu.HuN.

45 The instr.sg. sárvā is trisyllabic (sárvā) throughout in the RV (5x: 1,100,182b; 2,12,10b; 4,28,3d; 7,85,2d; 10,87,6d: always in TM).
(riders) having the fastest horses have come to the race (the other examples: 1,61,1d rātātāmā; 1,158,5a mārtītāmā; 1,169,5a tośātāmā; 2,20,6b dasmātāmah; 4,4,3a tūrnītamo; 6,4,7d nṛtāmāḥ; 6,29,4d devavātātāmāḥ; 6,33,3d nṛtāmāḥ; 6,33,5d gośātāmāḥ; 6,37,4b tuvīkūrtātāmāḥ; 6,38,1a citrātamo; 6,50,7c mārtītāmāḥ; 6,62,5a puruṣākātāmāḥ; 6,63,3b suprāyanātātāmāḥ; 6,67,1a jyēṣṭhatāmāḥ; 10,3,6c devatāmāḥ; 10,6,6c īndravātātāmāḥ). The same structure may be seen in adjectival -amā-stems designating extreme local positions like paramā- "the most distant one"; cp. 6,25,1a yā ta ātīr avamā yā paramā "whatever help from you, the nearest one and the most distant one" (another example with paramā- in 1,167,2c). The derivation from a former *-tmmo- / *-mmo- as proposed by WACKERNAGEL / DEBRUNNER ("AiGr" II/2, 609 / 752) could easily be motivated if we assume an underlying *-tmHo- / *-mHo-, implying again that the laryngeal was able to invoke metrical position after a sequence of short vowel + consonant resulting from an original syllabic sonant (schematically: *-amHo-). We cannot exclude though that the metrical behaviour in these cases is due to an expressive lengthening of either the vowel or the consonant involved.

A special case is provided by three instances where a gen. or loc. dual stands in TC; cp. 6,29,2c ā raśmāyō gābhastīyo sthūrayor "(the charioteer,) the reins in (his) firm hands ...", similarly, with pronominal ayōr, 6,25,6a sā patyata ubhāyor nṛmnām ayōr "he (Indra) disposes of the manly courage of both these (sc. armies)". Discussing forms such as pitrōs which has always three syllables in the RV, K. HOFFMANN proposed to reconstruct the ending of the gen.-loc.du. as *-h₁ous (in his notation, *-a₂'ous)⁴⁶, which would well account for these two instances (-ayoḥ < *-ai.'auš). The same holds true for bhurijoḥ in 4,2,14c rātham nā krānto āpāsā bhurijoṛ: No matter whether bhurij- means "arm" here (cf. GELDNER: "mit der Arme Arbeit"; MAYRHOFER, "EWAia" II, 266: "Arme, Hände") or, rather, a two-part tool like scissors (cf. GRASSMANN: "Scheere; Schnitzbank"; "like the ones making a chariot with the endeavour of their tongs"), this form will contain the same dual ending, *-h₁ous. But note that here, the laryngeal must have produced metrical position in combination with a stop: bhur.ij.or < *b₁y.r.'īj./j.'auš⁴⁷.

This same development can be assumed for the two irregular T-verses the cadence of which contains forms of dhā-, viz. 1,103,4d yād dhā sūmūḥ śrāväse nāma dadhē "the name ‘son of power’ which he (Indra) has acquired (for himself)" and 6,62,9a yā īṃ rājānāv riśthā vidādhad "the one (of the) two kings (Mitra and Varuṇa) who (recognizes the demon), ruling according to the seasons". Here, we have to deal with a sequence of an inherited media aspirata plus h₁ which produced metrical position: dadhē < *dad₁.'āį < *de-d₁h₁-eį, -dādhai < *-dād₁.'at < *-de-d₁h₁.nts.

Much better attested are those word forms where the second laryngal left its traces in both the aspiration of a preceding stop and in metrical position. This type comprises first 15 instances of rátha- and its derivatives (*rātha- <

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⁴⁷ The etymology of bhurij- remains unclear; cf. MAYRHOFER, "EWAia" II, 266.
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*ráth.ha- < *róth₂.o-), and 6 instances of sákhi- and compounds (nom. *sákhā < *sák₂hₐ- < *sékₜ₂h₂.o(ᵠ)); cp., e.g., 4,16,20b brāhma akarma bhṛgavo nā rātham "we have made (now) a prayer (for Indra) just like the Bhṛgus (made) a chariot" (the same cadence is repeated in 10,39,14b átaksāma · bhṛgavo ná rātham), or 4,4,10c tāsya trātā bhavasi tāsya sákha "you will be his protector, his friend" (the other attestations: rátha-: 1,77,3b; 100,16c; 141,12b; 186,8c; 2,20,1b; 5,31,5c; 33,5b; 6,65,2b; 66,7b; 99,4c; sákhi-: 1,63,4a; 4,17,18a; 7,34,24b; 7,96,2c; 9,96,2c). The same type can further be seen in vadhāḥ in 1,121,9d chūṣnam anantaḥ pariśāsī vadhāḥ "(when) you (Indra) overcome Šusna with endless strokes". As vadhā- obviously belongs to the verbal root vadh- "to kill, to strike" and as this root is most likely to have been an anit root vadhi- on account of its -i₂-s- aorist, vadhₐ- will represent an underlying *uadh₂.hā- < *uodh₂o-. Here, we have to note a difference as against rátha- and sákhi- in that we cannot decide whether the aspiration was triggered by the laryngeal alone or whether there was an original aspirate media (cp. *rote₂h₂, sek₂eto₂ with plain stops).

A special case is created again where the aspirate emerging from a sequence of a stop plus h₂ developed into Old Indic h. This case seems to be present in four verses the cadence of which contains either mahīm "big" (acc.sg.fem.) or compounds with mahas- "largeness" as their second member; cp. 10,74,4c sakṛtsūvan yē puruputram mahīm "who (want to milk the cow) that has born once, that has many calves, the big one"; 6,37,5b índro gīrhr vardhatām vṛddhamahāh "may Indra grow by the songs, (he) whose largeness has increased" (another instance of vṛddhamahāh in TC is 6,20,3b); and 6,3,6b śociśā rārapṛti mitrāmahāh "he (Agni) mutters with (his) flame, (he) who has the largeness of Mitra". These cases can easily be accounted for if we suppose an underlying *mā́h₂.h- < *még₂-². A word strongly reminding of māh- "large" with respect to its metrical behaviour is ahar/n- "day". In TC, we meet its locative áhan three times; cf. 4,12,1b trīs te ánam kṛṇāvat sāsmīn áhan "three times preparing food for you (Agni) on the same day" (the same cadence in 10,95,11c) and 10,68,11c rāṭryām tāmo ádadhur jyōtir áhan "they (the fathers) installed darkness in night and light in day". A fourth instance of áhan- in TC may be seen in 1,140,13c gāvyam yāvyam yánto dīrghāhā "(aurorae), going (up) for (abundance in) cows (and) corn, for long days ...", if this has to be scanned as proposed in vNH: gāvyam yāviyam yánto dīrghā áhā. If we consider that in 8-syllable verses too, the word figures three times in irregular cadences as in 1,132,1d nēdīṣtha


50 According to J. Schindler (in: Festschrift for Henry Hoenigswald, 345 with n. 50) the -s-stem māhas- (as contained in vṛddhamahās- and mitrāmahās-) was only secondarily remodelled after the adjective māh- < *meg₂.h₂ its original form being *meg₂-es- with no laryngeal. If this is right, we have to assume that either the remodelling took place early enough to be able to produce metrical position (*meg₂-es > *meg₂-h₂-es) or we have the reflex of a compound -o-grade here (*-mo₂g₂-es, cp. the examples discussed above).

51 Cf. Oldenberg, "Noten" a.l. for a discussion of this and other possibilities; according to him, we should expect a shortening of the final syllable (dīrghā > dīrghā) in this case.
asmín áhani "on this next day" (the other instances, always with áhani: 5,82,8a; 10,18,4a), this can hardly be accidental. As the etymology of áhar/n- is far from being clear, we remain free to analyze áhan and áhani as *áj*h.an and *áj*ha.mi, resp., the aspirate deriving from a former sequence of a palatal stop plus $h_2$ (*égh₂en?).

A similar problem is posed by brhán "high" in 6,24,3a ákṣo ná · cakríyoh šīra brhán "like the high axle (protruding) over the two wheels, hero, (you, Indra, by your largeness, protrude over the two worlds)". But as this metrical behaviour remains unique within the attestations of brhánt-, we should not search for a laryngealistic solution, all the more since the syntactical construction is not totally clear and the verse looks defective (note the "rest" inserted after the third syllable in vNH).

A different type of laryngeal treatment responsible for irregular cadences can be seen in a set of five instances where the second syllable of isirá- "lively, frisky, vigorous" has to be measured as long; cp. 5,37,3b yá īm vāhāte māhīśim isirām "(a husband) who will marry her as (his) lively spouse" (the other instances: 2,29,1a; 9,96,15c; 10,68,3a; 98,3b). If the supposed derivation from a preform *(H)ish₁rō- connecting isirá- with Greek ἱερός is right, we may attribute the metrical behaviour to a variant *iśir-d- (later removed by the redactors) where the laryngeal was reflected by -ī- as, most probably, in ga(m)bhirā- "deep". This solution remains questionable, of course, as long as the conditions under which -ī- emerged have not been established. But the view that the second -i- derives from a former laryngeal seems to be supported by two instances where isē, dat.sg. of the verbal root noun is- "to urge, push forward, send out, further", bears the cadence ictus; cp. 10,50,3a ké té nāra indara yē ta iśē "who are the men, Indra, who (care) for your refection" (the second example: 6,13,2a). If this is the same root as the one present in iśirā, we might well suppose that it was the root final laryngeal here which produced metrical position (*iś.Hái).

The same development as with iśirā- can perhaps be assumed to explain the irregular cadence of 10,108,8a ēhā gamann śayah sōmaśita "the seers will come hither, (their senses being) 'whetted' by Soma". According to this interpretation, the compound sōmaśita- contains the verbal adjective śitá-pertaining to the root śa-/śi- which can be derived from *kēh₂/kh₂-. Although

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52 Cf. Mayrhofer, "EWAia" s.v. who remains sceptical as against a connection with the Germanic word for "day" (OHG tag etc.).
53 Cf. Oldenberg, "Noten" and Geldner’s translation a.l.
54 Should brhán be influenced by *mahān? Cf. the proposal by H. Berger according to whom Pāli brahant has to be explained in a similar way (Zwei Probleme der mittelindischen Lautgeschichte, München 1955, 21).
55 Cf. Beekes, o.c., 62; Mayrhofer, "EWAia" I, 199 is more cautious.
56 Cf. Jamison, o.c., according to whose results *iśir-a- is hardly motivated. — Another solution for *iśir-d- could consist in assuming an influence of its synonym, jīrā- where -ī- most probably resulted from i + laryngeal (*gih₂,ro-).
57 Cf. Mayrhofer, "EWAia" I, 198 and 271 sq. s.v. es₂-; for the verbal root, Mayrhofer thinks of $h_2$.
58 Cp. Geldner: "durch Soma scharf gemacht"; Grassmann: "durch Soma geschärft".
a variant *śīta- seems not to be a regular outcome from *kh₂tό- (> *kōtό-?), it might well have emerged by influence of other zero grade forms in the paradigm such as śīśite\textsuperscript{59}. If it had, it could have been removed by the redactors because of the conflict with its homonym, sītā- "cold"\textsuperscript{60}.

A similar case seems to be provided by 6,50,2a suyóṭisah sūriya dáksapitṛn "sun (god), (ask)" the beautifully shining ones, whose father is Dakṣa ...". But although pitā "father" derives from *ph₂tṛ(ṛ), it would very hard to restore -pitā as *pītā (< *pītā) in this unique case. The second attestation of pitā in an irregular cadence, in 7,55,5a sástu mātā sástu pitā "may mother sleep, may father sleep", is not comparable and does not help.

In 9,88,1c, the cadence is represented by a finite verbal form, vavṛśe: tuvāṁ ha yāṁ cakṛśe tvāṁ vavṛśa "(the Soma drink) which you (Indra) have made and chosen for yourself". If the attribution of this form (a 2nd person sg.perf.med.) to the root var\textsuperscript{(1)}: "to choose" is correct, we should expect a reflex of the root final laryngeal (*yelḥ₁-) in a form like *vavurśe (*vaṇurśe?) < *ye-ulḥ₁-sōi. This could have been remodelled as various other forms of the paradigm were; in the present verse, the cooccurrence of the "rhyming" cakṛśe could have supported the substitution.

The same effect — the substitution of a se zero grade by an aniṭ one — is visible in sasavān, nom.sg. of the perf.act. participle of sanṭ- "to gain" which appears three times in irregular T cadences; cp. 9,74,8b kārśmann ā vāṇi akramūt sasavān "the racer, having won, has reached the (finishing) mark" (the other two instances: 7,87,2b; 10,29,2d). The process by which *sasāvān, the regular outcome of *se-snḥ₂-yō(n)s, was secondarily replaced by sasavān, was clearly demonstrated by K. Hoffmann\textsuperscript{62}; in the attestations in TC, we have a clear vestige of its former existence.

In 3,20,5d the cadence is represented by ihā huve: vāsūn rudrān ādityān ihā huve "I call the Vasus, the Rudras, (and) the Adityas (to come) hither". The proposal to see a Jagatī cadence here (reading āditiyām as in 1,45,1b) was rejected by Oldenberg ("Noten" a.l.) who stated that we should expect a lengthened *ihā in this case. The present TC could be motivated if we were to assume that huve, 1st person sg. of an old root present\textsuperscript{63}, contained a sequence of two laryngeals originally (*ṣṭuH.h₁āj < *gṭuH.h₂āj); but such a laryngeal treatment would remain unparalleled.

A comparatively large set of cadences is characterized by short word final vowels bearing the ictus. Here we have to differentiate two types, depending on whether the following word has an initial consonant or not. The latter case, represented by verses like 7,42,4c sūprīto agníh śūdhito dáma ā "Agni, the well satisfied one, well installed in the (sacrificer's) house", occurs five times in TC (the other instances: 1,60,4c; 149,1b; 2,4,3d; 10,105,4a). It can easily be

\textsuperscript{59} Cf. Jamison, o.c., 223 sqq. for a discussion of this type of presents.

\textsuperscript{60} This belongs to Šīṭā "to freeze", cf. Mayrhofer, "EWAia" II, 660 sq.

\textsuperscript{61} Cf. Hoffmann, "Aufs." I, 247 sq., according to whom the remodelling was probably due to the unusual shapes the root gained when v was lost in sequences of v + u/ū.

\textsuperscript{62} In: "Aufs." II, 544 sq.

accounted for by assuming that here, the final vowel, reduced to short a by later application of sandhi rules, has to be restituted in its original form (e.g., dame ā). This solution, envisaged but not carried out by vNH⁶⁴, has no bearing on laryngeal reconstruction, of course. The same holds true for most of the examples representing the second case, i.e. word final short vowel before initial consonant. This comprises two verses ending in hí šāh (cp. 5,2,4c ná tā agrbharrn ājanīṣṭa hí šāh "they did not seize him, for he was just born"); the second example is from the same hymn, 5,2,7b); four verses have úpa nah (cp. 4,16,1b drávantu asya háraya úpa nah "his dun (horses) are to run towards us" (the other examples: 4,21,1a; 7,92,1a; 93,6a); one case each is provided by śū nah and u nah (2,20,1a vayām te váya indra viddhí śu nah "we (bring) you, Indra — recognize us well! — a refreshment"); 6,51,10a té hí śrāyīṣṭhavarcasas tā u nas "for they are the most beautifully brilliant ones, and they (lead) us .."); and in 5,41,5b, the verbal ending -ta bears the ictus: ráyā ēṣe ávase dadhiṭa dhīḥ "searching for wealth, may the song be used for help". In all these cases the problem would be solved if we could substitute a lengthened variant for the word forms in question; we have to admit though that while ū and sū are as well attested as the lengthened variant of the medial ending, -tā⁶⁵, *ūpā and *hī do not occur in the Śaṃhitā text. A further example of hī bearing the TC ictus can be excluded with certainty: In 1,36,12ab ráyās pūrdhi svadhāvó ásti hí té | ágne devēṣu āpiyam, the verse boundary should rather be inserted before (á)sti, given that the sequence of āsti plus hī plus enclitic appears only verse-initially elsewhere.

A laryngeal can be involved in just one such case, viz. in 1,62,5a gnānō áṅgirobhīr dasma vī var "praised by the Āṅgirases, you, the master, opened (the darkness)". var is an aorist injunctive of var- "to enclose", the indicative of which has a long augment throughout (āvar, e.g. in 1,92,4d; 1,113,4b; 13b; 4,52,6b; 5,45,1d; 6,44,8d; 7,95,6b; 8,9,16c; 9,97,38b). The only counter-example would be 5,31,3c where támo 'vah is written; but this should rather be read as támo vah again (with an injunctive as in 1,62,5a)⁶⁶. If the long augment is a reflex of a root-initial laryngeal (*e-Huel-t)⁶⁷, this same laryngeal could be responsible for the lengthening of vī in the cadence of 1,62,5a (*vī var < *uī Huelt), assuming a word internal development for the sequence of preverb + finite verbal form.

Yet another type of laryngeal development can be seen in 1,173,12b ásti hí śmā te śuṣmīṇn avayāh "for there is, ardent one (Indra), an apology (going on) to you (by the sacrificer)"). If we are right in assigning four syllables to the word in question, avayā- "apology", as was proposed by OLDENBERG⁶⁸, this

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⁶⁴ Cf. the introduction, p. vi.
⁶⁵ Cp., e.g., śiśītā in 8,40,10a and 11a; avṛṇītā in 2,33,13c and 7,33,2d.
⁶⁶ Note that both cases refer to the same (Vala-) myth; for the injunctive, cf. HOFFMANN, "Inj.", 172 and 150.
⁶⁷ Cf. M. PETERS, Untersuchungen zur Vertretung der indogermanischen Laryngale im Griechischen, Wien 1980, 46 sq. for a discussion of the possible Greek evidence for assuming *h₁uelt-.
⁶⁸ "Noten", a.l.; vNH have avayāh in the electronic text but avayāh in the printed one.
could be due to a root final laryngeal (a.va.yá.'as < *auaiäHas, yä- < *jaH- "to pray") although it seems unusual that in this type of "Zerdehnungen" of long vowels, the first element should be long. The assumption is supported, however, by a formula which is repeated four times in RV 1, viz. ēsā yäsīṣṭa tanūve vayām "may it (the song) pray for apology for (the poet’s) body, (going) forth with refreshment" (1,165,15c; 166,15c; 167,11c; 168,10c). If we accept OLDENBERG’s view again who proposed to read avayām here (the initial a- being elided by true abhinihita sandhi), we arrive at the following scansion: ēsā yäsīṣṭa tanūve 'vayāam. This would match exactly with avayāh in 1,173,12b. A last verse that would fit into this picture is 7,40,5a asyā devāsya mīhūsiṣa vayā(h) "an apology for this gracious god": Reading 'vayāh with OLDENBERG again, we should achieve the same type of triṣṭubh cadence as in the examples dealt with before.

There are two more verses containing vayā(h) in irregular TC in the RV, viz. 6,13,1b ágne ví yanti vanino ná vayāh and 6,24,3c vrksāsyā nā te puruhūta vayā. This is a different word, however: vayā f. means "twig"; cp. the translations "Agni, (from you all goods) emerge like the twigs (branch off) from a tree"; and "like the twigs of a tree, your (graces grow), often called one (Indra)!". Are we to suppose that vayā reflects a former *uāHāh, with a laryngeal motivating its use in TC?

In 1,122,10d, a "Zerdehnung" of the syllable bearing the cadence ictus is proposed for a long ū: víśvāsū prtsū sādam ēc chārah. Although there is no doubt that the ū must be due to a laryngeal (*kūh,rō, cp. sāvas- as dealt with above), there is hardly any reason why this might have to be dissolved into two syllables, all the more since in the given cadence, the second syllable ought to be the long one (*su.ū.rah). Therefore we should rather suspect that sūrah was substituted for sāvīrah here, i.e. a full grade variant (*sāuvīra- < *kēuh,rō-)75. We have to consider, however, that this latter word is rarely attested, appearing as a feminine only (1,32,2b and 1,30,17b sāvīrayā instr.sg.).

A last set of irregular cadences that might be explained in laryngealistic terms contains apām, gen.pl. of áp- "water" as in 3,1,5c śocīr vāsānah pāri āyur apām "(Agni,) dressing himself in glowing fire and in the vitality of waters" (the other examples: 1,181,1b; 2,19,3a; 2,35,11b; 6,13,1d; 6,17,12b; 7,101,2a). But although áp- certainly derives from a preform with h₂-, *h₂ep-,
these cases are not easy to account for. Considering that in compounds, the zero grade of the (root) stem was used yielding word forms such as dvīpā- "island" < *dūi-h₁p-ō- or anūpā- "marshland" < *(h₁)enu-h₁p-o-76, we might be tempted to assume that (non-ablauting) apām came to replace a former ṯām < * śpām < *h₁pām. But of course, such a development would be unique for a laryngeal in word initial position, and so we should look for another explanation. On the basis of 1,181,1b adhvaryántā yād unninithó apām "(what are the goods) that you bailed out from the waters by sacrificing", we could propose to read apām as *pāam with a "Zerdehnung" typical for the genitive plural ending, here used metrically in a similar way as the one of avayā- discussed above. In 1,181,1b (and 2,19,3a; 7,101,2a) where a word final -o precedes, *pāam could well have been substituted by apām because it was erroneously taken for an abhinihita sandhi variant. The substitution would then have been extended to all instances of apām. Note, however, that trisyllabic apām is assumed two times in AC and once in JC by vNH (1,46,4a and 8,25,14a / 9,108,10c), thus producing another type of irregular cadence (cp. utá nah sindhur apām). As the trisyllabic scansion seems necessary several times in the centerpiece of both T and J verses too (1,122,3b; 4c; 168,2c; 186,5c; 2,4,2a; 4,21,8b; 5,41,10b; 6,13,3d; 52,15b; 10,49,2b; 93,5a77) the case of apām requires some further study.

All in all, we arrive at a number of 100 cases (from 215) at least where irregular cadences of 11-syllable verses can be explained by assuming laryngeal residues. This is nearly one half, an astonishing amount even if a few examples remain doubtful.

The remaining irregular cadences cannot be dealt with in extenso here; a short notice will suffice to demonstrate the problems involved.

1,62,3d; 2,19,1d; 5,33,5a; 6,47,31c; 7,3,5b: náraḥ "men"; influenced by synonym jánāḥ?
2,19,5b; 20,5c; 6,24,8b: stavān and 3,18,4a: stutō, "passive" participles of stū- "to praise"; cf. WATKINS, IGr III/1, 143 sq. (who does not account for the metrical problem, however);
6,67,11d yunājan, 10,12,4c āyan: subjunctive forms; *iunājī.ī.ān, *āi.ī.ān?
10,50,1b viśvābhūve compound "present to all": read viśva.ābhūve, without contraction of vowels in the compound seam, thus yielding a Jāgatī cadence?
1,121,1a: devayatām; 1,122,11d rāthavate; 1,174,9a and 6,20,12a dhūnimaitī; 50,11a vājavato; 9,96,4b brhatē, 10,3,1c brhatā: irregular full grade (-ante etc.) instead of zero grade?
1,100,8c and 2,42,1d vidat inj.aor.; both verses with Jāgatī cadence (jyotīr vidat / viśviyā vidat)? But cp.
3,29,7c viśvavidam acc.sg. "all-knowing";
1,33,9a rōdaśi ubhē; 10,1,7a agna ubhē: both verses with Jāgatī cadence?
9,93,4a: imperative rāda "scratch out"; restitute *rāda as in YAv. rādaitī?

76 Cf. MAYRHOFER, "EWAia" I, 81 for further examples.
77 To this list, 1,149,4c may be added at least from verses containing 10 syllables. For 1,61,12d, 7,34,15a, 10,46,1b and 10,46,2a, this would be possible too, but these hymns contain several other 10 syllable verses.
10,105,7c; 149,2c: réjah nom.acc.sg.ntr. "darkness / atmosphere";
3,31,20c; 6,24,10bc; 63,2c: risáh gen.abl. of the root noun "damage"; in
3,31,20c and 6,63,2c there is possibly a Jagatī cadence (páhi no riśó, yátho
riśó) but not in 6,24 (páhi riśó);
3,58,6b: jahnâyām loc.sg.fem. "in the Jahn clan"; Jagatī cadence jahnáviyām?
8,46,17a jágmaye dat.sg. "the going one": different verse splitting should be
envisaged, cf. Oldenberg, "Noten" a.1.;
7,93,5c devayūbhīḥ: substitute devayādhbhīḥ as in 10,69,8d?

Further unique cases: 1,59,4a: sūnāve ródasī; 1,104,3b: phénam udān;
1,117,22b: práti airayatam; 1,121,15a: ví dasad; 1,126,1c: ámimīta savān;
1,173,11b: mánasā pariyaṇ; 2,19,6a: sadīvāh sārathayey; 2,19,6c: ca náva;
2,30,6a: yāṁ vanuthō; 4,13,3a: támaśe vipīce; 4,26,6b: mandrām mádam;
5,2,1d: níhitam aratau; 5,33,10c: samvāranasya ēśer; 5,33,3b: yād ásan;
5,41,10d: riṇāti vānā; 6,1,12c: brhatīr āré-aghā; 6,4,7c: sāvasā devātā; 6,10,6a:
aṅga uśān; 6,11,1c: mitrāvārunā nāsatiyā; 6,12,6c: yāśi duchūnā; 6,24,4b:
srutāyāh sacārāṇīḥ; 6,24,7c: asya tanū; 6,40,5a: yād rādhag; 6,49,12d:
vacanāsyā vīpah; 6,64,5b: jōṣam ānu; 6,66,5a: cid ayā; 6,68,2a: devātātā tuja;
7,76,1d: víśvam uśāḥ; 7,103,10a: ajamāyor ādaḥ; 8,46,28a: yāḥ suvarāḥ; 9,89,3b:
asyā pātiṃ; 9,94,1a: vājīnīva sūbha; 9,94,1b: nā vīśaḥ; 9,94,3a: kāvīya bhārate;
9,97,1b: aprīta rāsam; 9,97,32c: brhatih sudīvāh; 10,3,6a: dadrśānāpaver;
10,16,6b: śvāpadaḥ; 10,22,4a: vātasya dhūnī; 10,22,11a: indara dānāpnaśa;
10,74,2d: krnāvanā suvaḥ; 10,79,5b: juhōti pūṣyati; 10,95,4b: vāṣyāntigrhāt;
10,110,5d: bhavata suprāyanāḥ; 10,164,3a: niḥśāsā abhiśāsā.

Note that some hymns occur several times in this list as, e.g., 9,94 with three
irregular cadences. Many further investigations (into cadences of all verse types)
are required before we can draw our conclusions from this fact.