The Indo-Iranian reflexes of PIE *CRHUV

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1. The reflexes of PIE sequences *CRHUV\(^1\) in Vedic can be divided into two groups of forms: those with long \(\text{\textbar}r\), \(\text{\textbar}r\) and those with short \(ur\), \(ir\).\(^2\) Consider, for example, derivatives with zero grade of the root \(\text{\textbar}r-/t\text{\textbar}ru(v)\)- 'to cross, conquer' (\(<^{*}trh_{2}\)-) before -y- and -v- in the Rgveda (RV)\(^3\):

**Short reflex**: 1pl. opt. aor. turyā́ma, 3sg. opt. pf. tuturyā́́t and 1pl. tuturyā́́ma (5.45.11d), inf. turvā́ne, pf. ptc. titirvā́s-; adjectives turvā́ni- 'victorious' and tuturvā́ni- (1.168.1a) 'trying to win’, NPr. Turvī́ti- and Turvā́́śa-;

**Long reflex**: pres. tū́rváti, impv. pres. tū́rya (8.99.5d), intensive vī́ tartū́ryante (8.1.4a), gerund vi-tū́rva (10.68.3e); 'tū́(i)ya- n. 'overcoming’ (in vṛtratū́rva (i)ya- 'overcoming of Vṛtra’, śatū́rvá (6.22.10b) 'overcoming of foes’, aptū́rva- 'crossing, overcoming of the waters’), tū́rvī́ (9.42.3a) adj. ‘superior’, NPr. tū́rvayā́́pā-.

In the literature, the long reflex is considered regular, whereas the short one is seen as analogical, being based on prevocalic forms. However, an analogical explanation is feasible only for some of the forms. For example, it is conceivable that the short \(u\) in urvī́- f. 'broad’ \(<^{*}h_{1}urH-

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\(^1\)The cover symbols are: \(C\) = any consonant; \(R = r, l, H = \) any laryngeal, \(U = i, u, V = \) any vowel. As the honorand pointed out on several occasions (e.g. Beekes 1988a: 44f., 1988b: 59f.), we should not indicate syllabicity in the PIE reconstructions. There was no phonological distinction between vocalic and consonantal resonants and laryngeals, and we know next to nothing about their phonetic realization. When we only have our intuition to guide us, it is easy to fall a victim to wrong generalizations. Frederik Kortlandt mentioned to me an instructive example from Russian: it is almost self-evident for an Indo-Europeanist that \(r\) in Russian \(r\text{det}	ext{'}\), \(\text{rśa}, \text{teatr}\) must be vocalic, but in fact it is consonantal. -- Since vocalization remained subphonemic in Indo-Iranian until the loss of laryngeals in the separate languages, I shall refrain from indicating it in the reconstructions. The vocalization rules in Sanskrit and Iranian will be discussed in § 4.6ff. -- I am grateful to Frederik Kortlandt and Michiel de Vaan for their comments on an earlier version of this paper.

\(^2\)The distribution of the \(\text{\textbar}r\) vs. \(\text{\textbar}r\) in Sanskrit falls outside the scope of the present article. Here I would only like to mention that \(u\)-color regularly appears after the labial consonants and before \(u/v\). Deviations from this distribution are of analogical origin: for instance, the vocalism of the pf. ptc. titirvā́ms- is due to the perfect stem \(tí-tír\) (cf. 3pl. titirúh), that of tū́rya is due to the present tū́rvati, etc. Synchronously, we have to do with two roots: tar-/tīr- 'to cross' and tū́r(v)- 'to overcome', and the choice between \(ur\text{\textbar}r\) and \(ir\text{\textbar}r\) in the derivatives is generally dependent on the meaning.

\(^3\)If the word is a hapax, the passage is specified.
u-ih₂- and in gurvī- f. 'heavy' < *gʷrh₂-u-ih₂- is taken from the masculine uru- and gurū-, respectively (thus Mayrhofer EWAia I: 227 on urvī-), although the fem. pūrvī- 'many, much' does show a long reflex and the distribution is unaccounted for. Similarly, nom.sg. jujurvān may have got its short root vocalism from the oblique cases like abl.sg. jjujuṛuṣaḥ (Wackernagel 1896: 26). In other instances prevocalic forms are not readily available, which makes analogy highly improbable. In order to account for short u in urvārā- f. 'corn-field, harvest field' < *h₂rh₃-uer-eh₂-, Mayrhofer (EWAia I: 229) hesitatingly invokes the stem *urum- < *h₂rh₃-un-, but the Olr. gen.sg. arbe < *argen-s shows that this word had proterodynamic inflection, so that the suffix had the shape -gen- in the oblique cases. It is even more difficult to find an analogical explanation for turvāne, etc., since there are no prevocalic forms of the type *ṭrh₂-u-.

Rasmussen 1989: 79 writes: "Die Form turva- sieht am ehesten wie eine Kontamination von tūrva- und tura- aus und ist wohl auch so entstanden". It is unclear, however, why turvāne, which is an infinitive to the present tūrvati, should have taken over the short vowel of the stem turaya-.

The only possible conclusion is that analogy does not help in explaining the bulk of the forms with a short reflex and that we must look for another mechanism.

In order to demonstrate this rule, I shall now present more or less complete material of the RV with some additions from the later Vedic texts.

2.1. Let us first look at the verbal formations. Next to the root √tṛ-/tūr-, the same opposition of unaccented īv/ur and accented īvūr is found in the RV with two more verbs in *-rH-:

√gṛ- ‘to sing, welcome’ (PIE *gʰerH): opt. pf. juguryāḥ (1.140.13a), juguryāt (1.173.2b) and adj. jugurvanī- (1.142.8a) ‘praising’ vs. gerund gūḍ(ə)yā (abhigūḍṛyā 2.37.3c, apagūṛyā 5.32.6d).

4"Dunkel ist v. turv- neben tūr- als Seitenbildungen aus tṛ-" (Wackernagel 1896: 26).
The Indo-Iranian reflexes of PIE *CRHUV

\( \sqrt{\text{j}f} \) - 'to become old' (PIE *\text{j}erH₂): ptc. pf. \text{j}juvrān\(^{5}\), gerundive \text{ajuryā}\(^{6}\) 'not aging, everlasting' vs. presents \( \text{j}ūryati \) (AV \( \text{j}ūryati \)), \( \text{j}ūrvati \), and adjective (gerundive) \( \text{j}ū\text{r}ya\)- (6.2.7c) 'old (man)' (cf. further § 3.1).

Only the long reflex is attested from the roots

\( \sqrt{\text{c}f} \) - 'to move' (PIE *\text{k}\text{w}el(H)-): intensive ptc. middle \( \acute{\text{\text{a}n}u \text{carcūryāmān\ä}} \) (10.124.9c).

\( \sqrt{\text{p}f} \) - 'to fill' (PIE *\text{p}elH₁)-: part.pr. \( \acute{\text{ā} \text{pūryamān\ä}} \) (1.51.10d); the present is sometimes accented on the suffix (\( \text{pūryāt\ä} \)) in the Brāhmaṇas.

\( \sqrt{\text{p}f} \) - 'to grant' (PIE *\text{p}erH₂)-: \( \text{ūt} \text{pūperyāh} \) (5.6.9c) 2sg. opt. pf. (underlying *\( \text{pūperyāh} \), cf. juguryāh).

\( \sqrt{\text{v}f} \) - 'to choose' (PIE *\text{y}elH)-: \( \text{hoṭṛ}vū\text{ño}ya \) n. 'choice of the Hotṛ-' (\( \text{r}ya \)- 1.31.3c, -\( \text{ya}- \) 6.70.4c).

\( \sqrt{\text{s}f} \) - 'to smash' (PIE *\text{k}erH₂)-: 3sg. med. \( \text{sīryate} \) 'breaks (intr.)' (accented MS 3.6.10 \text{sam} - \( \text{sīryeta} \), Br. (BĀU) \( \text{sīryate} \), gerund \( \text{sīrya} \) (Br.+).

Only the short reflex is attested from

\( \sqrt{\text{bh}f} \) - 'to quiver, rush' (PIE *\text{b}\text{h}erH₁)-: \( \text{bhuvāni} \)- 'turbulent, wild'.

### 2.2. Exceptions to the accentual distribution among verbal formations are few. The forms with the short reflex are always unaccented, so that we only have to account for the unaccented long forms. These can be subdivided into three groups:

1. **Two \text{ya}-intensives, RV hapaxes** 3pl. med. \text{vī tartūryante} (underlying *\text{tartūryānte}) and \( \acute{\text{\text{a}n}u \text{carcūryāmān\ä}} \). The latter form is clearly nonce, with its palatal \( \text{-c}- \) and unetymological \( \text{-ār}- \), coined after tartūrya-. It is essential that the regular and old intensive of the root \( \text{f} \)- is athematic active tartarī (VI\(^{1}\)), ptc. tarītrat- (I\(^{1}\), IV\(^{1}\)), but it has the meaning 'to come through', corresponding to the present tirāti. It seems probable therefore that \( \text{vī tartūryante} \) 'to overcome each other, to catch up each other' is a recent intensive formation to tūrvati\(^{8}\) (cf. further note 2).

2. A similar explanation accounts for the hapax \( \text{ūt} \text{pūperyāh} \) (5.6.9c) 'may you give', which is likely to be a nonce formation to the impv. \( \text{pūrđhī} \).

3. The accentuation of the late Vedic \( \text{pūryate} \) 'become full' and \( \text{sam-sīrye\äta} \) 'collapse' is secondary. These are original Class IV presents (with the accent on the root), which in some Vedic schools switched to the "passive" accentuation (see Kulikov, forthc. a).

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\(^{5}\) Grassmann’s reading \text{jujura}vān in 2.4.5d (accepted by Seebold 1972: 296) is unnecessary, since the hymn abounds in decasyllabic verses.

\(^{6}\) Grassmann’s reading \text{ajuryān} in 6.17.13b (also accepted by van Nooten -- Holland 1994 and Seebold 1972: 222) is unnecessary because there are several decasyllabic verses in this hymn (7d, 10c, 12a, 15b).

\(^{7}\) With secondary \( \text{-v}^{-} \), cf. also opt. aor. \text{vurita}.

\(^{8}\) For the recent and productive character of the \( \text{-ya}^{-} \)-intensives cf. Jamison 1983b: 53ff.
3.1. We can now move on to the nominal formations. Of those mentioned above, only the verbal adjectives in -ya- need some comments. The (compounded) gerunds and neuter abstracts contain the suffix -jo- (Seebold 1972: 212f., 233f.), so that the gerunds *tūryā, *guṇ(y)ā, abstracts *tūr(y)ya-, *vūr(y)ya-, with occasional disyllabic forms in accordance with Sievers’ Law, conform to our expectations.

The same monosyllabic suffix *-jo- forms compounded gerundives (cf. Seebold 1972: 222ff.), and ajuryā-< *n-grH2-iō- is thus in accordance with our accent rule. The simplex jūr(y)ā-, however, must have contained the suffix *-iHo- (*grH2-iHo-), so that its shape can hardly be phonetically regular. This form is a hapax, attested in a hymn (6.2) which is clearly composed by a creative poet since jūr(y)ā- is not the only hapax in the hymn. In view of the forms discussed in § 3.5, I believe that jūr(y)ā- is a secondary formation.

3.2. There are three relevant feminine formations to u-adjectives:

- pūrvī- f. of purū- 'many, much' (PIE *pH1-u-iH2-);
- urvī- f. of uru- 'broad' (PIE *H1urH-u-iH2-), cf. also urviyā adv. 'far away';
- gurvī- (AVP 16.47.4) f. of gurū- 'heavy' (PIE *gH2-u-iH2-), cf. also gurvikā- (AVP 1.59.3).

Two feminines show the short reflex, and only pūrvī- has long -ūr-. The vocalism of pūrvī- is considered phonetically regular by the handbooks, whereas the vocalism of the other two forms is explained as restored after the masculine, which does not account for the distribution. It seems to me that the opposite is true, i.e. urvī- and gurvī- are regular and pūrvī- is secondary. As can be seen from the causative pūrāyati (AV+) (Leumann 1940: 225, Jamison 1983a: 149), the root form pūr- becomes productive in the Vedic times, probably due to pūrṇa- 'full, filled’. It is therefore conceivable that the productive root form pūr- has been introduced into *purvī-.

3.3. An interesting case is the adjective átikūlva- 'exceedingly thin-haired'. This word

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9 Seebold, ibidem.
10 The interpretation of the passage is not without problems, cf.
6.2.7 āḍhā hi vikṣḹ̣ v idyo  [ā]si priyō no áṯiḥḥḥ /
raṇyavāh purīva jūṝ yah  sumur na trayāỵ̄ yah //
"Denn nun bist du unser lieber Gast, unter den Clanen anzurufen, behaglich wie ein Greis in seiner Burg, wie ein Sohn schutzbedürftig (?)" (Geldner).

11 It must be stressed that the usual translation of kūlva- as 'bald' cannot be correct. Baldness is an absolute notion and one cannot be átikūlva- 'excessively bald’. In the VS passage, átikūlva- is opposed to átīloṣma- 'excessively hairy’, so that the translation 'excessively thin-haired' seems appropriate. Similarly, Avestan kauruu- cannot mean 'bald', as it is usually rendered. In Yt 8.21, the daēva Apāoṣa comes down in the shape of a black horse, which is kauruu-, kauruuō.gaoṣa-, kauruuō.barōṣa-, and kauruuō.dōma- 'thin-haired, with thin-haired ears, with a thin-haired mane, with a thin-haired tail’. Evidently, 'bald mane’ and 'bald tail’, which commonly appear in the translations, do not make any sense.
is attested only in one passage of the Vājasaneyi Saṁhitā: the Mādhyanandins version (30.22) reads áti-kulva-, whereas the Kāṇa version (34.4.4) reads áti-kūlva-. Its cognates, Av. kauruwa- 'thin-haired' and Lat. calvus 'bald', and the Oscan gentilicia Kalúveis (gen.), Kalaviis (nom.) point to PIE *kH-uo- (for Latin and Oscan words see Schrijver 1991: 294f.). The vacillating length of átikūlva- may be explained if we assume that the simplex originally was *kūlva-. In the compound áti-kulva- we find the expected short reflex in an unaccented position, whereas in áti-kūlva- the long vowel of the simplex was introduced.

3.4. Isolated nominal forms show the same distribution. We find accented ūr/ūr in

pūrva- adj. 'first' (< *prH-uo-)\(^{12}\),
ā-sīr-vant- 'Soma' mixed with milk' (< *-krH-uent-), derived from ā-sīr- '(milk-) mixture'.

Words with unaccented ur/ūr are

urvarā- f. 'corn-field, harvest field' (including compounds urvarājīte-, urvarāsī-, urvarā-pati-) < PIE *h₂rH-uer-, cf. Av. urvurā- f. (mostly pl.) 'plants', Gr. ἄραος 'corn-field' < *h₂rH-ier-, OIr. gen.sg. arbe 'grain, corn' < *h₂rH-uen-s (MIr. nom.sg. arbar).\(^{13}\)

urvarī- f. (AV+) 'wife, lady of choice' < *ulH-uer-ier-<, if connected with the root \(\sqrt{\text{vēr}}\) 'to choose' (cf. Burrow 1984).

3.5. Moreover, even those ūr/ūr and ur/ūr before y and v which do not reflect *fH show the same pattern of accented long vowel vs. unaccented short vowel.\(^{14}\) On the one hand, we find short unaccented vowel in words of probable non-Indo-European origin like urvāraka- (AV), urvāru- (RV) 'pumpkin', urvāsī- NPR. (cf. Kuiper 1991: 91). On the other hand, this pattern is likely to be responsible for the long vocalism of the present dhūrvati (including the inf. dhūrvane 9.61.30b) 'to injure, violate'. The root is probably anīt (\(\sqrt{\text{dhvṛ}}\)-, PIE *dH-uer-), cf. satya-dhvṛ- 'violating the truth', ā-dhvṛta- (MS), etc. (Gotō 1987: 191, n. 355), whereas the vocalism of the aor. ādhūṛṣata and of dhūṛtī- f. 'damage' is likely to be dependent on the present dhūrvati (Narten 1964: 157f.). In a similar vein, the gerundive ā-hūṛya- (1.69.4a) must have secondary vocalism, as \(\sqrt{\text{hvr}}/-\text{hr}u\)- 'to go crookedly, astray', PIE *gH-uer- is an anīt root (\(\sqrt{\text{hvr}}\)-, \(\sqrt{\text{htr}}\)-, \(\sqrt{\text{htrt}}\)-; \(\sqrt{\text{hr}}t\)-, \(\sqrt{\text{hr}}\)-, \(\sqrt{\text{hrt}}\)-, with metathesis CVrC > CrVC; cf. Hoffmann 1980 = 1992: 749f,)

\(^{12}\)It is clear that compounds with pūrva- and pūrva- e.g. yathāpūrvā-, anupūrvān, ahampūrvā-, pūrva-vac-, pūrva-pēya-, pūrva-sū-, pūrva-yāvan-, pūrva-pā-, pūrvā-citti-, pūrvā-hūti- etc. are no real exceptions to the proposed accent rule. Also pūrva/- adj. 'previous, first' (next to pūrva-) and pūrvāthā adv. 'in the old times' may have taken over the long vocalism of pūrva.-

\(^{13}\)Klingenschmitt (1992: 125, n. 63) hesitatingly reconstructed PIE *uḷḷerah2- and connected Hitt. yelitu- 'Wiese'. This root etymology is presumably inspired by the phonetic problems involved in the current etymology of urvārā.-

\(^{14}\)In contradistinction to the r-sequences, -ul- appears both accented and unaccented, cf. ulba- n. 'membrane surrounding the embryo' (if from *ulva-) vs. kulyā- f. 'stream, river'.

Lubotsky 1994: 100). As the compounded gerundives contain the suffix *-jo- (see § 3.1), we may assume the following development: *-húrya- → *-húrya- > -húrya- (Sievers’ Law). Also the vocalism of the present húrchati (Br.) must be secondary.

The adjectives dúrya- adj. 'belonging to the door', m.f.pl. 'house', derived from dúr- 'door' (nom.pl. dvárah, acc. duráh) and púrya- adj. 'belonging to the fort' (from púr- 'fort') (10.138.4c) are only apparent exceptions: dúrya- shows disyllabic ɟ́ya- in 8 of its 10 occurrences, which clearly points to the suffix *-iHo-, and púrya- must have had the same suffix too (<*plH-iHo-), in spite of the fact that this late hapax has a monosyllabic suffix.15

A special case is ūrva-16 (RV+) m. 'reservoir, dungeon'. This word seems to be derived from the anít root vr- 'to cover' (pres. vṛṅoti / ūṛṅoti, ta-ptic. vṛta-, caus. vārayate, vṛt-, vṛtra-), so that its vocalism has probably been taken from the present ūṛṅoti.

4. Avestan, too, has two different reflexes of PIE *CRHUV sequences: the "long" reflex CauruuvV / CairiiV and the "short" reflex CruuV (I was unable to find unambiguous examples of the sequence *CRHiV).17 In the next sections, we shall pay especial attention to the short reflex, which has not been recognized so far, in order to show that this reflex appears in an unaccented position.

4.1. The reflex of accented PIE *-CŘHuV is Plr. *CaruV- > Av. CauruuV, OP CaruvV, which is the normal outcome of the PIE sequence *CRHC, cf.

Av. tauruuaiciiti, tauruuaianct-*tr̥2ue-, Skt. túrvati;
Av. Tauruuish, name of a Daēva, Skt. tūrvī- adj. 'superior';
Av. pauruuu- (paouruuu-, pouruuu-), OP paruva- adj. 'first' <*pr̥H-uo-, Skt. pūra-;
Av. kauruua- 'thin-haired' <*kH̥-uo- (Lat. calvus), Skt. ātī-kālva- (for the position of the accent see § 3.3 above);
Av. zauruuan- 'old age' <*gř̥2-gen-, although full grade in the root is also theoretically possible. We shall return to this word below (§ 4.3).

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15 The etymology of īrya- 'tatkrāftīg'? (īrya- 6.54.8, 10.106.4; ī̄ra- 5.58.4, 7.13.3) is unknown (see Mayrhofer, EWĀia s.v.).
16 Note, incidentally, that the scansion ūdrvé, given by Grassmann, Arnold 1905: 94, and van Nooten -- Holland 1994 for 9.87.8b kúcīt satīr ūrvē īgā viveda, is improbable: read rather disyllabic gā(h), cf. 9.87.7d gā gavvām abhī sūro na sătvā (for disyllabic īgā see Lubotsky 1995: 226-7, n. 15). As to 5.30.4d, where Arnold ibid. and van Nooten -- Holland assume ūdvam, read: vídō gavām ūrvam usriyānām. Seebold 1972: 293 must be corrected.
17 The vocalism of the quasi-hapax opt.aor. fra-stairiiā (V 14.4) 'to spread' can be secondary. The passage reads: bačuuar o frrastaratanām [read so with Jp1 against 'storo' of Geldner’s edition, cf. Narten 1968: 132f.] barosmaine frrastairiiāt 'he should spread ten thousand of the spread [plants] as the sacrificial grass’. Cf. further the abl.sg. of the gerundive frrastairiia- in the frequent Vid. expression cuaat drājō haca barośmon frrastairiia 'how far from the sacrificial grass, which is to be spread'. Unexpected full grade is also attested in the opt.aor. mairiiaät 'to remember' (V 3.33). The passive ā-yairia- is also unreliable, cf. x'airia- and Bairia-.

4.2. Among the words with a short reflex, we must first of all mention Av. uruuarā- f. (mostly pl.) 'plants'. For the place of the accent cf. Skt. urvarā-.

4.3. Another word with a similar reflex is Av. zruuan- 'life-time, time(-span)'. I intend to discuss this word in a separate article [[see now Lubotsky 1998]], so that I shall only mention the main facts here.

The inflection of zruuan- is unique. We find the following forms: nom. zruua (FrO), acc. zruuānom, dat. zru, gen. zrū (secondary zruuānahe), loc. zru, zrūne (?). The gen.sg. zrū was explained by Hoffmann (1967: 33f. = 1976: 490; 1970: 190 = 1975: 277) as coming from *zruuᾱ < *zruuāh < *zruuah, parallel to LAv. hū (gen.sg. of huar- 'sun') < *huuᾱ < *huuᾱ < *huuah, GAv. x'ōṅg. The uniqueness of this paradigm consists in the combination of an archaic genitive, which can only belong to the neuter paradigm, and the masculine accusative. The accusative zruuānom is of a productive type and is likely to be secondary. The gen.sg. zrū < *zruuhanh points to an original neuter with the suffix -u-er/-uen-. This fact and the meaning 'life-time' attested in several passages vindicate the connection of zruuan- with Av. zuauruuan- m. 'old age, senility' (cf. also MPers. zarwañ, Man.Sogd. zrw, B.Sogd. zrwh, Oss.Ir. zaer, Dig. zae(r)w 'old age') and zuauru- adj. 'decrepit, senile' (both derived from the PIE root *g'erh2- 'to become old'), which has been suggested by several scholars (e.g. Pokorny: 391).

The Plfr. paradigm of the word for 'old age' probably was *ẑ'īH-ur, ẑ'īH-uans. One of the types of IE r/n-neuters had mobile accentuation, nom.-acc. being accented on the root and the oblique cases accented on the suffix (cf. Skt. nom.-acc. yakṛt, gen. yāknas). In Avestan, this type is attested by nom.sg. huuaro(-cā) 'sun' < *huvar < Plfr. *suH- and the gen.sg. x'ōṅg < *huuān < Plfr. *suH-ans (Hoffmann 1967: 34 = 1976: 490; for more details see below, § 6.1). If our word belonged to this type, the accentuation on the suffix in Av. zrū < *zuurān < *ẑǐHuans is what we expect.

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18. This genitive of the neuter (r/n)-stems occurs only with a few words in Avestan, viz., with r/n-stems: GAv. x'ōṅg, LAv. hū 'sun' (nom.sg. huaro-cā), GAv. rāzōṅg 'pronunciation' (nom.sg. rāzarā) and with n-stems: GAv. caśmōṅg 'eye', GAv. haṃxōṅg 'community' (nom.sg. YH haṃmā).

19. Its origin is probably due to the influence of uruuan- 'soul', which inflects in LAv. as follows: nom.sg. urua, acc. uruuaṇom, dat. urane, gen. urunō. The dative zrūne may have had a pivoting function, since it looked as a dat.sg. of the hysterodynamic type (like urane).

20. It seems probable that Av. zuauruuan- 'old age' originally formed one paradigm with gen.sg. zrū < *zuurān. In other words, the nominative of the IIR. paradigm *ẑ'īH-ur, ẑ'ī(H)-uans was replaced by *ẑ'ī(H)-ua (analogical to words like GAv. nom. caśma, gen. caśmōṅg 'eye'). The motivation for the replacement can be sought in the loss of the laryngeal in the oblique cases.
4.4. Av. *uruuāpa/-uruiiāpa-* is yet another possible example of the "short" reflex in Avestan. This word is attested only in the Yašt as an epithet of various lakes: Yt 5.49 varōīš caēcīstāhe jafrahe uruuāpāhe 21 'of the deep, uruuāpa-, lake Caēcīsta', Yt 10.14 jafra varaiiō uruuāpā̄hō 'the deep uruuāpa- lakes'. Next to uruuāpa-, we find uruiiāpa- in the same position in Yt 8.8 zraia vourukašāia amaṇuṭō huraodāhe jafrahe uruiiāpāhe 'of the powerful, beautiful, deep, uruiiāpa- lake Vourukašā' and Yt 9.18 varōīš caēcīstāhe jafrahe uruiiāpāhe 22. Considering the distribution of the manuscript readings, it seems likely that uruiiāpa- is the original form of the compound (thus already Kellens 1974: 373, n. 2).

Of old, the compound was analysed as a form of *vouru-* 'broad' + 'water' (Bartholomae: 'des Wasser sich weit ausdehnt, mit weiter Wasserflache', Geldner 1881: 'breitflutig', Lommel 1927: 'mit weitem Flut, mit weiten Wassern'), which is the most appealing rendering from the semantic point of view. 23 This analysis further accounts for the form uruiiāpa- with the feminine form of the adjective, which has crept into the compound, cf. Skt. urvyāti- 'of far-reaching help'.

Since, however, the first element of the compound uruuāpa/-uruiiāpa- was considered irreconcilable with the word for 'broad' 24, various alternatives have been proposed: 'aux eaux sällees' (Darmesteter 1883: 179, Duchesne-Guillemin 1936: 158f.), 'with streaming or roaring waters' (Kellens 1974: 373, n. 2), 'with surging waves' (Bailey 1948: 331; Gershevitch 1959: 81, 174), '(der) brüllende Wasser hat' (Oettinger 1983: 69). All these renderings operate with epithets which do not seem suitable for a lake.

Assuming that uruiiāpa- contains the feminine form of the adjective 'broad', we can take uruiiāpa- as standing for /ruuijīāpa- < *uruuiH*i 25 (< *h1urHu-īh2-). Av. *uruii* thus exactly corresponds to Skt. urvē, showing short reflex in pretonic position.

4.5. GA\v. uruuānē (hapax Y 31.2) is generally interpreted as an infinitive of the root var- 'to choose' (e.g., Darmesteter, Bartholomae, Schmidt 1958: 132, Lommel 1971, Kellens – Pirart

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21 Ms. K12 and M12 read uruiiāpāhe.
22 The other mss. readings are: uruuāp' J10; auruuuiāp' L18, O3; uruuāspāhe P13; auruiiāspāhe Pt1.
23 Cf. further RV 1.8.7 yāh kuksīh somapātāmah samudrā iva pāvate, urvīr āpo nā kākūdāh 'Dessen Bauch, der am meisten Soma trinkt, wie das Meer anschwimmt und sein Schlund wie ein breites Gewasser' (Geldner), 3.33.6d [the waters are speaking] tasya vayām prasavaṃ yāma urvīh 'Auf seinen Antrieb gehen wir breit dahin' (Geldner), etc. It is possible that the compound urvāp(a)- 'of broad waters' is attested in the Paippalāda version of the Atharva Veda. Although the passage AVP 19.33.14c-e (urvāpascha madhūlakātan tasya pāśaty emam anāśravam arogaṇaṃ) is corrupt, the following stanza seems to indicate that urvāpaschana may indeed contain this compound (15 yās samudrād uścaranti [read: uccaranti] devīr himavatas pari / āpo yā visvaśambhuvas tā hā yantv oṣadhīḥ 'May the herbs come here, who come forth from the ocean, the goddesses [coming] from the Himavant, who are the beneficial waters!').
24 Cf. explicitly Darmesteter II, 379, n.60: "uruuāpa ... ne peut signifier «aux larges eaux», car large se dit en zend *vouru."
25 For the development of the initial *yr- cf. Av. uruuata- < *urata-, etc.
In 1991: 60). Insler’s suggestion (1975: 37) to analyze uruuānē as dat.sg. of the word for ‘soul’ is morphologically difficult because we expect the form urunuē attested in LAv. (cf. also GAv. acc.pl. urunuō). Humbach (1957: 77, 1959: 25) takes uruuānē as an infinitive of the root ar- ‘to move’, which leads to a rather strained interpretation of the text.26 In my opinion, the passage must be translated along the lines of Schmidt 1958: 132:

\[
\begin{align*}
yezī ṛāš nōt uruuānē & \quad aduū āibī.dorēštā vaxīā \\at vā viśpāṅg āūīi & \quad ...
\end{align*}
\]

"Wenn durch diese (Worte) der bessere Weg zum Wählen nicht vor Augen liegt, dann komme ich zu euch allen..."

The interpretation of uruuānē as an infinitive of the root var- 'to choose' presupposes the development *urHuV > /ruvanai/ (for the initial see the preceding section). The accentuation follows from Skt. dāvāne, turvāpe (dhārvane is a secondary formation, see § 3.5). Note further that Skt. urvāri- ‘lady of choice’ (§ 3.4) may represent a related formation.

4.6. Accordingly, the Avestan evidence supports the distribution proposed for Sanskrit: accented *ČRHUV yields /CaruV/ as expected, but *CRHV results in CruuV (uruvuV in initial position). Exceptions to this distribution are few: paoir̥- /par̥i/-, f. of pouru- ‘much’, cf. Skt. pūrv̥-, and various derivatives of the "root" tauru- /taru-, which, in contradistinction to Sanskrit, shows no alternations in Avestan: tauruaan- (ḥbaēō.tauruaan-, ṛer̥ra.tauruaan-, viśpa.tauruaair̥-) vs. Skt. turvāpe, NPr. Tauruaēti- vs. Skt. Turvīti-.

4.7. It seems likely that *CruuV was the Proto-Iranian reflex, although it can hardly be proved. Old Persian provides no information, while the interpretation of the Middle Iranian facts is difficult. The Middle Iranian cognates of Av. uruvuara- seem to reflect *ṛvarā (Bailey 1960: 81), cf. Pahl. urvar ‘plant(s), vegetables’ [wvlw], Man. MPers. [wrwr] (MacKenzie 1971: 84).27 Buddh. Sogd. ‘rwrh, Man. Sogd. rwr ‘medicinal plant, medicine’ (Gershevitch 1954: 14, 35). Similarly, Pahl. zurwān [zwlw’n] ‘time, the god Time, Zurvan’ points to the vocalization *zruan-, which is also compatible with Man. Sogd. (‘)źrw’ ‘Zurvan’, zwmyy ‘period’ (Gershevitch 1954: 139). On the other hand, we find Pahl. srūwēn [slwbyn] ’horny’ (MacKenzie 1971: 77) corresponding to Av. srūwēna- and Pahl. ruwān [lwbn’], Man. MPers. [rw’n] (MacKenzie 1971: 73) ’soul’ corresponding to Av. uruuan-. At first sight, it is tempting to assume that Proto-

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26 In the second edition of his Gāthā’s book, Humbach (1991 II: 59) explicitly states: "uruuānē can be traced back to *ṝvanai (1’ar ‘to move’, 2’ar ‘accord’), *ḥṛvanai (cf. Ved. sr ‘to run, flow, glide, go’), hṛvanai (cf. Ved. sru ‘to flow, stream’), or ḍṛvanai (‘var ‘to cover’), but it can hardly be derived from ‘var ‘to choose’, which would most probably result in *vauruuanōi/vauruānē.”

27 With regular representation of r by ur in the neighborhood of the labials, cf. MPers. gurg ‘wolf’ <*yṛka-; purs-išn ‘question’ <*prs-, murw ‘bird’ <*mrga-, etc.
Iranian had \( ^*_{\text{fr}ar}-, ^*_{\text{fr}an}- \) vs. \( ^*_{\text{ru}va\text{ina}-}, ^*_{\text{ru}gan}- \), but Pahl. \( \text{xur}d\text{ru\text{s}} \) [hwidl\text{w}s] 'with a bloody club' (MacKenzie 1971: 94), corresponding to Av. \( \text{xru}uid\text{ru\text{s}} \), clearly shows that this hypothesis is false, since we know that Av. \( \text{xru}uid\text{ru\text{s}} \) reflects Plr. \( ^*_{\text{ru}g\text{dru\text{s}}} \). Moreover, the sound change Plr. \( ^*_{\text{Cr}u} \) > Av. \( \text{Cr}u \) is hardly conceivable. Therefore I believe that Plr. \( ^*_{\text{Cr}u} \) regularly developed to \( ^*_{\text{Cr}u} = ^*_{\text{Cr}u} \) in Middle Iranian, whereas \( \text{sr}u\text{w\text{e}n} \) and \( \text{ruw\text{e}n} \) are analogical (cf. Pahl. \( \text{sr}u \) [slwb'] 'horn', Av. obl. \( \text{ur}un-/-\text{r}u\text{n-/-} \).

5. The Indo-Iranian reflexes of PIE \( ^*_{\text{CR}H} \) before \( \text{y} \) can be represented in the following table:

<table>
<thead>
<tr>
<th></th>
<th>Skt.</th>
<th>Plr.</th>
<th>Av.</th>
<th>OP</th>
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<tbody>
<tr>
<td>( ^*_{\text{CR}HuV} )</td>
<td>( \text{Cur}V ) &gt; ( \text{Cr}uV )</td>
<td>( \text{Cr}uV )</td>
<td>?</td>
<td></td>
</tr>
<tr>
<td>( ^*_{\text{CR}HuV} )</td>
<td>( \text{Cur}vV ) &gt; ( \text{Car}u\text{r}V )</td>
<td>( \text{Car}u\text{r}V )</td>
<td>( \text{Car}uvV )</td>
<td></td>
</tr>
</tbody>
</table>

It is clear that the "short" reflexes are due to laryngeal loss in an unaccented position, but the chronology of this loss is not easy to determine. If the laryngeal loss had already occurred in PIIr., we have to assume that \( ^*_{\text{Cr}uV} \) subsequently yielded \( \text{Cur}vV \) in Sanskrit. The major problem we face is that the evidence for the phonetically regular outcome of \( ^*_{\text{Cr}iV} \) and \( ^*_{\text{Cr}uV} \) in Indo-Iranian is meagre and partly conflicting. I cannot discuss the matter in detail, but the essential facts are the following.

5.1. In Vedic, there are no examples of accented \( \text{r}V, \text{r}V \). In an unaccented position we find \( \text{Cr}u\text{y-} \), cf. passives like \( \text{kr}i\text{y}\text{a}t \) (\( < ^*_{\text{kr}-i\text{a}-} \)), optatives like \( \text{kr}i\text{y}\text{at} \), etc.\(^{28}\) The peculiar fact that non-passive \( \text{nr}i\text{y}\text{a}t \) 'dies', \( \text{dri}\text{ya}t \) 'heeds', etc. (the expected accentuation is \( ^*_{\text{mr}\text{-}ja-, }^*_{\text{dr}\text{-}ja-} \)) have switched to the type with accentuation on the suffix is a strong indication that the phonetically regular development of \( ^*_{\text{mr}\text{-}ja-} \) was unacceptable for the speakers of Vedic \( ^*_{\text{m}u\text{r}ya-} ? \), see Kulikov forthc. b.\(^{29}\)

Unaccented \( \text{r}V \) seems to be preserved unchanged, but it is only attested at the transparent morpheme boundaries, so that there is a distinctive possibility that \( \text{r}V \) is restored. Consider the forms with \( \text{r}V \) found in the RV: compounds \( ^*_{\text{n}\text{r}-v\text{h}a\text{sa-}, n\text{r}-v\text{h}a\text{ha}-, pi\text{t}\text{-v}i\text{t}\text{t}\text{a-}, ho\text{t}\text{-v}u\text{r}ya-} \), derivatives with the suffix \( -\text{vant} \) (\( ^*_{\text{m}a\text{n}\text{d}\text{ha}t\text{-}v\text{a}nt-, n\text{-}v\text{a}nt-, pi\text{t}\text{-}v\text{a}nt-} \)), perfect participles \( ^*_{\text{ca}k\text{-}v\text{m}\text{s-}, j\text{a}g\text{-}v\text{m}\text{s-}, d\text{a}d\text{-}v\text{m}\text{s-}, m\text{a}m\text{-}v\text{m}\text{s-}, s\text{a}s\text{-}v\text{m}\text{s-}} \) and formations based on them.

\(^{28}\) \( \text{r}y \)- in RV 10.10.9d \( \text{bib}h\text{r}y\text{a}\text{t} \) and compounds \( ^*_{\text{pi}t\text{-}y\text{a}n\text{a-}, }^*_{\text{pi}t\text{-}y\text{a}j\text{n}\text{-}n} \)- is secondary.

\(^{29}\) Since accented \( \text{r}V \) is unattested in Vedic, we may assume that this sequence, too, underwent some phonetic change. In this way we can account for the vocalism of Vedic \( \text{d}u\text{r}\text{v}a\text{-}f \). 'a type of millet'. The traditional etymology connects this word with Lith. \( \text{d}i\text{r}v\text{a} (2,4) \)'grain field'. The accentual paradigm of \( \text{d}i\text{r}v\text{a} \) corresponds to the barytones of \( \text{d}u\text{r}\text{v}a\text{-}f \) (cf. Illič-Svityč § 27). On the other hand, the circumflex in the root of \( \text{d}i\text{r}v\text{a} \) (acc.sg. \( \text{d}i\text{rv}a\text{o} \)) shows that there was no laryngeal in this word. As there is no way to explain the Lithuanian circumflex analogically, we may suggest that PIE \( ^*_{\text{dfueh}y-} \) regularly yielded Skt. \( \text{d}u\text{r}\text{v}a\text{-}f \).
The Indo-Iranian reflexes of PIE *\textit{CRHUV} (\textit{jāgṛvī-, dādhṛvī-}). The forms \textit{bhrātṛ-vyā-} (AV+; RV \textit{abhṛāṭṛ-vyā-}) 'brother's son, rival', \textit{piṭṛ-vyā-} (Br.+)'father's brother' do not provide sufficiently clear information either because -\textit{vyā-}
 may have been restored (cf. Av. \textit{brātruiiā-} or, with metathesis, \textit{brātūriiā, tūriiā-}, Hoffmann -- Forssman 1996: 52). Therefore, I believe, we should give serious consideration to an old suggestion by E. Leumann (1893: 306) that *\textit{CruV} may regularly have yielded *\textit{CruyV}. This idea is based on the etymology of Skt. \textit{dhruva-} 'firm, fixed', \textit{dhruvī-} 'id.', Av. \textit{druu-} 'healthy', OP \textit{duruva-} 'firm, certain', which may be derived from the root *\textit{dhr-} 'to keep, fix'. The reconstruction PIIr. *\textit{dhr-ua-} implies the development of pretonic *\textit{CruV} to *\textit{CruyV}, which is then exactly parallel to *\textit{CriV}.*

In Iranian, we find two different reflexes of *\textit{CriV}, viz. *\textit{Criā-} in passives and \textit{ja-} presents derived from roots in -\textit{f}, and *\textit{Crija-} in the perfect optative. For the former category cf. Av. -\textit{rja-}/ (spelled \textit{-riiā-} in \textit{kiriiā-} 'make', \textit{miriiā-} 'die', \textit{piriiā-} 'confiscate', as -\textit{ōriīā-} in 'vōiriīā- 'envelop', and as -\textit{rii-} in *\textit{striia-} 'slay'\textsuperscript{30}, cf. Kellens 1984: 125f), OP \textit{marīya-, kariya-}, etc. For the latter reflex cf. Av. \textit{auui-baśriiān} and OP \textit{caxriyā}. The vocalization found in the perfect optative is likely to be original\textsuperscript{31}, especially in view of the OP form and the parallel development in Sanskrit. The reflex *\textit{Criā-} in passives may be due to restoration.

\textbf{5.2}. We may conclude that there is no evidence for the sound change \textit{*CruV > Skt. CurV}, which means that the laryngeal loss in *\textit{ChHuV} cannot have occurred in Proto-Indo-Iranian times already. The facts, discussed in the previous section, rather indicate that the phonetically regular vocalization of *\textit{CRUV} was *\textit{Cri(i)V}, \textit{Cru(y)V}. It seems therefore reasonable to assume that the sequences with a laryngeal after the \textit{f} showed the same vocalization, i.e. PIIr. *\textit{ChHuV} was realized as *\textit{ChHu(y)V}. The further developments in Sanskrit are then quite regular: the \textit{f} of *\textit{ChHu(y)V} was vocalized, *\textit{CṛHu(y)V} yielding *\textit{CurHu(y)V}, and the subsequent loss of the laryngeal and simplification of pretonic *\textit{Cu(y)V} to *\textit{Cu\acute{y}}(\acute{V}) for which see below) have led to the attested *\textit{CurV}. In Iranian, the only development we have to assume is the loss of the laryngeal in *\textit{ChHu(y)V}. In this fashion, all facts are accounted for with a minimum of sound change involved.

\textbf{6.1}. A final point concerns the chronology of the development *\textit{Cu(y)V} / *\textit{C(i)V} > *\textit{Cu\acute{y}}/ *\textit{C\acute{i}V} in Avestan and Sanskrit.

From the different spelling of GAv. nom.sg. \textit{huuaroc(-cāh)/hu\?ar/} < PIIr. *\textit{su\acute{H}ar} (Skt. \textit{svar}) 'sun' and gen.sg. \textit{x\acute{e}ŋ/} /hu\?an\h/ < PIIr. *\textit{su\acute{H}āns}, Hoffmann (1967: 33f. = 1976: 490) concluded that accentuation was of influence on the development of the initial cluster. In Gāthic,


\textsuperscript{31}\textit{auui-baśriiān} (Yt 8.24) must have provided the model for the secondary \textit{jaymiām} (Yt 8.11).
both forms are disyllabic, but *huʔánh later became *hynáh (written x’óŋg), whereas *huʔár remained disyllabic, cf.

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<td><strong>Iir.</strong></td>
<td><strong>GAv.</strong></td>
<td><strong>post-GAv.</strong></td>
<td><strong>mss.</strong></td>
</tr>
<tr>
<td><em>suHar</em></td>
<td>/huʔar/</td>
<td><em>huγar</em></td>
<td>huuaro(-cā)</td>
</tr>
<tr>
<td><em>suHáns</em></td>
<td>/huʔánh/</td>
<td><em>hynáh</em></td>
<td>x’óŋg</td>
</tr>
</tbody>
</table>

It has not been observed, as far as I know, that exactly the same mechanism accounts for the difference between Av. -zuu- in the gen.sg. *hizuuō ’tongue’ (similarly in other oblique cases) and *zb- in *zbaia- ’to call’. Whereas -u- was accented in the word for ’tongue’ (cf. Skt. gen.sg. *juvhas = jhúvhas), the accent in *zbaia- was on the suffix (Skt. *hvaŋya- < PIir. *žuHaia-). For a further discussion I refer to Kuiper 1978: 9ff. and 12ff. The developments can be represented as follows:

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<tr>
<td><strong>Iir.</strong></td>
<td><strong>GAv.</strong></td>
<td><strong>post-GAv.</strong></td>
<td><strong>mss.</strong></td>
</tr>
<tr>
<td><em>žižuHas</em></td>
<td>/hizuʔah/</td>
<td><em>hizuŋah</em></td>
<td>hizunó</td>
</tr>
<tr>
<td>*žuHáia-</td>
<td>/zuʔaja-/</td>
<td>*zuʔaja-</td>
<td>*zbaia-</td>
</tr>
</tbody>
</table>

6.2. In Sanskrit, *CuʔV and *CiʔV have been simplified to *CvV and *CyV, respectively, but the metrics shows that at the period of our oldest Vedic texts these sequences were still often disyllabic. Kuiper (1987) has demonstrated that the simplification went at different speed, depending on the accentuation: whereas *CúʔV and *CiʔV (*svār, kva, tanvah, yrkyaḥ, etc.) are always disyllabic in the family books of the RV and are mostly disyllabic in the younger books and in the AV, *CuʔV and *CiʔV are simplified very early. As an example of the latter group, Kuiper adduced the present *hvāyatī ’to call’ < PIir. *žuH-aja-ṭi, the stem of which is scanned /hvaŋya/- only twice in book VI (out of the total number of 47 occurrences).

Another important example of the type is the 2nd person singular pronoun: nom. *tvām < *tuH-am (cf. GAv. *tuuóm, Old Pāli *tuvam) vs. acc. *tvām < *tvaH-am (cf. Av. *bham, Old Pāli *tvaṁ). As Grassmann does not give all occurrences of this very common pronoun in his dictionary (only the data for the first book are provided), Kuiper was unable to analyze the metrical behaviour of these two forms. With the help of the ’Rgvedic word concordance’ (Lubotsky 1997), we can now easily make the statistics. The total number of occurrences of *tvām is 673. Subtracting 24 occurrences, which are found in identical pādas, we arrive at 649. For *tvām the figures are 179 - 8 = 171. The occurrences are grouped per book. In anticipation of the following discussion, I have distinguished between occurrences in the initial and non-initial positions (D = disyllabic; M = monosyllabic):

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32There is some uncertainty about the correct metrical analysis of a few passages, but the overall picture will not be considerably affected by it.
### tvām

<table>
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<tr>
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<th>I</th>
<th>II</th>
<th>III</th>
<th>IV</th>
<th>V</th>
<th>VI</th>
<th>VII</th>
<th>VIII</th>
<th>IX</th>
<th>X</th>
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<td>41</td>
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<td>4</td>
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<td>6</td>
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<td>1</td>
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<td>11 (6.5%)</td>
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<td>–</td>
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<td>–</td>
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<td>3</td>
<td>–</td>
<td>9</td>
<td>5 (5%)</td>
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<td>Non-initial M</td>
<td>8</td>
<td>3</td>
<td>4</td>
<td>3</td>
<td>2</td>
<td>–</td>
<td>3</td>
<td>9</td>
<td>1</td>
<td>6</td>
<td>39 (23%)</td>
</tr>
<tr>
<td>Total</td>
<td>26</td>
<td>12</td>
<td>11</td>
<td>7</td>
<td>17</td>
<td>19</td>
<td>12</td>
<td>32</td>
<td>10</td>
<td>25</td>
<td>171</td>
</tr>
</tbody>
</table>

This is not the place to give an elaborate metrical analysis of tvām, etc. In order to get this statistics into perspective, it is necessary to compare the metrical behaviour of other forms of the 2sg. pronoun and monosyllaba of a similar structure such as svā-, syā-/tyā-, dyauḥ, etc. Some conclusions can be drawn even on the basis of this table, however. First of all, while comparing the percentages of monosyllabic forms (tvām 23% vs. tvām 29.5%), we see that the difference is much less pronounced than we would expect on the basis of etymology. The metrical contrast between tvām and tvām comes to light only when we take into consideration the position in the verse. It is obvious that in the initial position both forms are generally disyllabic, which is in accordance with Lindeman’s Law. Disyllabic scansion in the verse initial position is found with other monosyllaba too (tvāt, dyauś, forms of the pronouns svā-, tya-, etc., see already Sihler 1971: 68f.)35, which means that in this respect tvām does not behave differently from other monosyllabic words.

In non-initial position, tvām is almost always monosyllabic, whereas disyllabic (96x) and monosyllabic (105x) forms of tvām are equally well represented. Furthermore, monosyllabic

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33 Note especially the formula #sa tvām (nah), which occurs 28 times. The consistent monosyllabic scansion of tvām in this formula corroborates Klein’s thesis that sa tvām is a substitution for sa tū (Klein 1996: 24f.).

34 Monosyllabic forms in the initial position remain rare in the RV. The large figure in the second book (11 times #tvām) is due to 10 occurrences in one hymn (2.1).

35 There was some degree of analogical reshuffling within paradigms, which has led to the creation of forms like śvāṣya, śvāya after śvāḥ, śvē, whereas no resolution is found in svāyam and in compounds with sva’ (cf. Lindeman 1965: 71; most of the apparent exceptions can be accounted for).

36 There are only three exceptions in the family books: 2.17.8a (bhajāṁ tvām indra vayam huyema) and 4.19.1a (evā tvām indra vajrim antra) may represent decasyllabic triṣṭubha verses, but 7.22.6b (bhūri maniṣiḥ havate tvāṁ īṇ) cannot be explained away in an easy fashion.


tvām is never found after the caesura and only four times in the pada-final position, all of them late (three times in book X and once in 6.75.1c, which is an Anhang-hymn). On the other hand, disyllabic tvām occurs 18 times after the caesura and 31 times at the end of a pada. This distribution is important because in these positions we often find the original scansion.

These considerations confirm Kuiper’s thesis (1987: 3) that "[tu’am] is the traditional form of the hieratic poetry, whereas [’twam] represents the norm of the living speech". In other words, the development *-u(y)a- > -vā- had already taken place at an early stage, which is exactly the point we needed to prove. Accordingly, both Sanskrit and Avestan have undergone a similar sound change, viz. *Cuʔa > *Cya and *Ciʔa > *Cjá, but at different stages of their development.

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37 As Professor F.B.J. Kuiper points out to me, Old Pāli nom. tvam (vs. acc. tvam), mentioned above, seems to indicate that the development * Cuʔa > *Cya has not reached all Sanskrit dialects. Note further that u remained vocalic in the position after y, cf. yuvam, yuvatī-, etc. (the cluster *yR is inadmissible in Sanskrit).
The Indo-Iranian reflexes of PIE *CRHUV


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