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The Origin of Sanskrit Roots of the Type *sīv-* ‘to sew’, *dīv-* ‘to play dice’, with an Appendix on Vedic *i*-Perfects

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1. General remarks

1.1. There are six roots in *-īv-* in Vedic Sanskrit: *sīv-* ‘to sew’, *jīv-* ‘to be alive’, *dīv-* ‘to play dice’, *ṣṭhīv-* ‘to spit’, *mīv-* ‘to push away’, *srīv-* ‘to miscarry’. In Vedic, these roots almost always appear in the zero-grade with automatic alternation *Cīv-* (i.e., *CiHu-*) before a vowel or *y*, but *Cyū-* (i.e., *CjuH-*) before a consonant, and this is also true for their cognates in other languages. For instance, the PIIr. present stem **siHuia-* (Skt. *śīvyati*), and the similarly vocalized Goth. *siujan* ‘to sew’ are opposed to PIIr. **siuHta-* ‘sewn’ (Skt. *syūtá-*, Oss. *xʷyd/xud*), Lith. *siúti*, SCr. *šiti* ‘to sew’ (*AiGr.* I:91f.). This distribution is most probably due to the rule $*C_iHuC_2 > *C_iuHC_2$ ($C_2 \neq i$);¹ in other words, the laryngeal always stands after the vocalic element (cf. for the vocalization *divV*, *divyV*, *dyuC*), as was already surmised by Kretschmer in 1892.

The peculiar root structure of this type, the lack of ablaut, and, at the same time, its archaic character have fascinated many scholars,² but the origin and the internal analysis of the *-īv-* roots remain puzzling.

1.2. As already mentioned, the *-īv-* roots predominantly appear in the zero-grade in Vedic, other ablaut grades being avoided. The rare full-grades mostly show *-ev-*; see the following list, which is intended to be exhaustive:

sevanī- f. ‘seam, suture’ (Br.)

dévana- n. ‘(place for) playing dice’ (RV 10.43.5), *adhidévana-* n. ‘id.’ (AV+)

didéva 3sg. pf. $\sqrt{dīv-}$ ‘to play dice’ (AV)

abhi-tiṣṭheva 3sg. pf. $\sqrt{ṣṭhīv-}$ ‘to spit, spit out’ (ŚB)

sreváyant- (RV 7.18.8), *śrevayāmi* (PS 19.10.12; ŚS 6.73.2 in a parallel passage reads *śrīvayāmi*), caus. of $\sqrt{srīv-}$ ‘to miscarry’

a-sremán- adj. ‘being not a miscarriage’ (RV 3.29.13, 10.8.2; < $*^{\circ}srevmán-$)

srévuka- adj. ‘miscarrying’ (MS)

1 Cf. further Lubotsky 2000:320 and nn14 and 16 for more examples of this rule in Vedic.

2 A convenient overview of the literature on these roots can be found in Rasmussen 1989:109ff.

Nevertheless, there are also four cases of full-grades with *-av-* and lengthened-grades with *-āv-*:

daviṣāṇi 1sg. aor. subj. $\sqrt{d}\tilde{v}$ - (RV 10.34.5)

ā-maviṣṇu- adj. ‘unflinching’ (RV 10.94.11)

asrāvīt 3sg. aor. $\sqrt{s}r\tilde{v}$ - (JB 2.2)

aṣṭhaviṣam 1sg. aor. $\sqrt{ṣ}t\tilde{h}\tilde{v}$ - (GopB 1.2.7)

Our handbooks (e.g., Narten 1964:142; Mayrhofer *EWAia* s.vv. *dīv-*, *mīv-*, *srīv-*; cf. also Rasmussen 1989:117) explain the *āv*-forms as secondary full-grades to **dū-*, *mū-* < **dīū-*, *mīū-*, etc., where **i* would have disappeared as in *sūtra-* n. ‘line, cord’ (AV+) to *sīv-/syū-* ‘to sew’. However, the **i*-less forms **dū-*, *ṣthū-*, *srū-* are unattested in Vedic, and, furthermore, the distribution is remarkable: the forms with *-āv-* are only found before *i* in the next syllable, while full-grades with *-ev-* never occur in this position. Although the evidence is limited, it seems likely that we have to do with dissimilation, i.e., **daiuiṣ-* > *daviṣ-*.

This type of dissimilation is reminiscent of the rule **CaiyaiC* > **CaiyaC* in Vedic, mentioned by Debrunner in his Nachträge to *AiGr.* I (p.158). The regular and expected 2sg. pf. of the root *i-* ‘to go’, *iyétha* (< **Hi-Hai-tha*), is only attested at the beginning of a line in RV 4.9.1c, whereas after a short or long *ā* we find *iyátha*: *kvà* + **iyaiṭha* (RV 8.1.7a) “where did you go?” = /kuvaiyaitha/ > **kúvaiyatha* > *kvèyatha*, *ná* + **iyáitha* (ŚS 8.1.10b) “you did not go” = /náiyáitha/ > **náiyátha* > *néyátha*, etc. For more examples of *i*-dissimilation in Sanskrit see Lubotsky forthcoming.

1.3. In this article I shall advance the hypothesis that all *-īv*-roots share the same derivational history, viz., a root in *-H* → *i*-present → noun in *-u*³ → denominal verb. In order to demonstrate this derivational chain, I would like first to take the root ‘to yawn’ as an example, especially since the discussion of this root at the weekly seminars of the *Leiden Indo-European Etymological Dictionary* project was the starting point for the present investigation.⁴

3 The *i*-presents have an enigmatic predilection for *u*-derivatives. As is well known, Vedic secondary verbal stems in *-y-* productively form nomina agentis in *-y-ū-* (*AiGr.* II/2:843ff.), type *vīrayate* ‘to behave as a hero’: *vīrayū-*, and this type clearly goes back to Proto-Indo-Iranian; cf. YAv. *haomaiiu-* ‘containing haoma’. Further, there are a few old formations, both nomina agentis and nomina actionis, like Skt. *manyú-* m. ‘passion, rage’ (RV+), OAv. *maiñiiu-* m. ‘mind, spirit’ (PIE **mn-i-u-*), Skt. *pāyū-* m., OAv. *pāiiu-* m. ‘guard, protector, shepherd’, Gr. *πῶν* n. ‘herd’ (PIE **poh₂-i-u-*), etc.

4 I would like to use the opportunity to express my gratitude to the participants in these seminars: Lucien van Beek, Alwin Kloekhorst, Guus Kroonen, Michaël Peyrot, Tijmen Pronk, and Michiel de Vaan. I am also grateful to Frederik Kortlandt and Leonid Kulikov, as well as to

2. Example: PIE **ǵʰh₂-i-u-* ‘to yawn’

2.1. Root in -H

We start with the PIE root **ǵʰeh₂-* ‘to be wide open, gape’. This root is only attested with enlargements (which are likely to have been verbal suffixes originally):

**ǵʰh₂-(e)u-*: Gr. χάος n. ‘chaos’; χάωω ‘to devour’; χαῦνος ‘slack, porous, loose, bloated’;

**ǵʰh₂-(e)n-*:⁵ Gr. χάσκω ‘to gape, yawn, open the mouth wide’, aor. χανεῖν, perf. κέχηνα; PGmc. **gana-* (ON *gan* n. ‘yawning’, *gana* ‘to be opened [of eyes, mouth], stare’);

**ǵʰh₂-ens-* m. ‘goose’ (Gr. γήν, OHG *gans*, Lith. *žqsis*, etc.) is most probably derived from this root, too (a ‘gaper’; for the suffix we may compare the word for ‘moon’, PIE **meh₁-n-*).

2.2. i-Present

The root **ǵʰeh₂-* has a well-established *i*-present, which can be reconstructed as **ǵʰh₂-ei-/ǵʰh₂-i-*⁶ on the basis of Lat. *hiō*, *hiāre* ‘to be wide open, gape’, OCS *zijati*, 1sg. *zějō* ‘to open (one’s mouth), gape, be wide open’, Lith. *žióti* ‘to open (one’s mouth)’, TochB *kāy-* ‘to open (one’s mouth)’ (ptc. pret. *kakāyau*) < **ǵʰh₂-(e)i-*. Especially important are the Slavic forms. Mainly because of OCS 1sg. *zějō*, Rasmussen (1989:52, followed by *LIV*) reconstructed the root as **ǵʰeh₁i-*,⁷ but this reconstruction cannot be correct, as it leaves Gr. χάσκω and χάος unaccounted for.⁸ Furthermore, the circumflex accentuation of SCr. *zǐjev* ‘muzzle’ (< PSlav. **zěvъ*, for which see below) is incompatible with the reconstruction **ǵʰeh₁uo-*. The only way to account for the Slavic facts is to assume an athematic paradigm **ǵʰh₂-ei-/ǵʰh₂-i-* or **ǵʰh₂-oi-/ǵʰh₂-i-*. The strong form yielded **zě-*, which has acquired an automatic *-j-* during later thematicization (i.e., **zě-mb* >>

the editors of this volume Stephanie Jamison and Craig Melchert, for valuable comments on an earlier version of this article.

5 As a parallel to the secondary root **ǵʰh₂en-*, cf. Gr. φαν- ‘to show, make visible’ (pres. φαίνο, aor. φανῆναι, perf. med. 3sg. πέφανται, act. πέφηνα) < PIE **bʰh₂en-*.

6 I follow Kortlandt 1987, 1989, and Kloekhorst 2006 in reconstructing *i*-presents with ablaut in the suffix, rather than with ablaut in the root (as advocated, for instance, by Jasanoff 2003:99).

7 The only other reason mentioned, viz., Gr. γήμη ‘mussel’ (Philyll., Arist., Hell. pap.), is a late word of doubtful etymology, which is, moreover, ambiguous as far as its vocalism is concerned.

8 *LIV* therefore postulates a root **(ǵ)han-* for Gr. χάσκω and its congeners.

*zě-*q* > zěj*q*). The weak form was metathesized in the position before a consonant, and the resulting *ǵ^hh₂- is not only the basis of OCS *zijati* and Lith. *žióti*, but also of Lat. *hiō* (with addition of the suffix *-eh₂-).⁹

Presumably *ǵ^hh₂-ei- was considered a root already in PIE, since a nasal causative-factitive was formed by adding -n- to it, i.e., *ǵ^hh₂i-n-/*ǵ^hih₂-n-: Hitt. *kīnu*-^{zi} ‘to open (up), break open’;¹⁰ PSl. *zīn*q*ti (OCS *zin*q*ti*, SCr. *zīnuti*, Sln. *zíniti*) ‘to open (one’s mouth)’, ON *gína* ‘to gape, yawn’.

2.3. u-Noun

A u-noun *ǵ^hh₂oi-u- ‘mouth’ was formed not to the root, but to the original present stem: PT *koyā- > TochB *koyn* n., pl. *koynuwa* ‘mouth’, TochA *koy*- ‘id.’ (loc. sg. *koyam* ‘in the mouth’),¹¹ PSlav. *zěv*ь* ‘muzzle’ (CSlav. *zěv*ь**, SCr. *zǐjev*). Note that the fixed expression TochB *koyn kakāyau* is a figura etymologica, as already indicated by Adams 1999 s.v. *koyn*.

2.4. Denominal verb

The last part of this chain seems to be the verbal root *ǵ^hh₂eiu- or *ǵ^hh₂oiu- ‘to yawn’, which must be a denominal formation. The meaning ‘to yawn’ occasionally occurs in the forms mentioned above, but it is only with -u- in the root that the meaning is invariably ‘to yawn’ (except for some minor secondary developments). This is true for PSl. *zěv*ati* (Ru. *zevát*’, SCr. *zījèvati*, Sln. *zévati* with circumflex accentuation in the root), Lith. *žióvauti*, Latv. *žāvāt*, TochA *šew*-, and also for PGmc. *giwōn- (OHG *giwēn*, *gewōn*, MHG *giwen*, *gewen*, Du. *geeuwen*; only OE *gi(o)wian* has a secondary meaning ‘to long, ask for’).

Although all these formations share a formant -u- and the same meaning, their vocalism does not generally match. This is no doubt due to the influence of the *i*-present. We see it most clearly in Lith. *žióvauti*, which has evidently adopted the vocalism of *žióti* ‘to open (one’s mouth)’. The same is most probably true of Latv. *žāvāt*, although the Latvian cognate of *žióti* is not preserved. Also in the case of TochA *šew*- ‘to yawn’ (only present 12 *šew-iññ*-), we have to assume some influence of the original verb: PIE *ǵ^hh₂oi-u- would have given TochA ***kew*-, so that the palatalization must be secondary there. Since *ǵ^hh₃iu- ‘to live’

9 A similar analysis accounts for OCS *lijati*, 1sg. *lěj*q** ‘to pour’ < *lh₃-ei- (for the root see Craig Melchert’s article elsewhere in this volume).

10 Kloekhorst (2010:215–6) has convincingly argued that the Hittite spellings of this verb point to *ǵ^hh₂i-nu-.

11 For the vocalism cf. both TochA and TochB *or* ‘wood’ < *doru-.

(for which see below) was first metathesized to **g^wih₃u-* and then developed to **g^wih₃u-* > TochAB *śāw-*, we can surmise that a similar development took place in the zero-grade of the *i*-present **ǵ^hh₂-ei-/ǵ^hh₂-i-C* > **ǵ^hih₂-C* > **ǵ^hih₂C* > PT **śā-*. From there the palatalized onset was adopted in TochA *śew-*. Finally, the zero-grade vocalism of PGmc. **giwōn-* is likely to have been copied from the vocalism of PGmc. **gi-ējan-* (OHG *giēn* ‘to yawn’).

3. PIE **sh₂-i-u-* ‘to sew’

We can now try to analyze the Vedic verbs in *-īv-* from the viewpoint of the derivational chain mentioned above, i.e., $\sqrt{-H} \rightarrow i\text{-present} \rightarrow -u\text{-noun} \rightarrow \text{denominal verb}$. We start with *sīv-* ‘to sew’.

3.1. Root in -H

The IE root **seh₂-* is represented in PIIr. $\sqrt{*saH-}$ > Skt. *sā-* ‘to fasten, fetter’: root aor. *sāt* 3sg. inj. act. (RV+), *ava-sat* 3sg. subj. (PS 4.15.6), *vi ... sitam* 2du. impv. (RV), *saṃ satām* 3pl. impv. med. (PS 4.14.5); *sitá-* ‘bound’ (RV+), *vī-ṣita-* ‘untied’ (RV+); *ava-sātár-* m. ‘liberator’ (RV) ~ Av. *vīšta*^o ‘untied’; *vištāspa-* PN (‘with loosened horses’) < **ui-sH-ta-*; MP *wišādan* ‘to let free’, etc. Although the connection between this root for ‘to fasten, fetter’ and Skt. *sīv-/syū-* seems obvious, it has never, to my knowledge, been proposed before.

3.2. *i*-Present

As is well known, the IE root **seh₂-* forms an *i*-present **sh₂-oi-/sh₂-i-* (for the reconstruction see Oettinger 2002:xxviii, 2004:400; Kloekhorst 2006, 2008:391): Hitt. 3sg. *iš-ḫa-a-i*, 3pl. *iš-ḫi-an-zi* ‘to bind, wrap; to obligate with, impose upon’, CLuw. 3pl. *ḫi-iš-ḫi-ja-an-ti* ‘to bind’.¹² In Skt. we find pres. *°syāti* (RV+), only with prev. *áva* ‘to unharness’ and *vī* ‘to release (a knot), open (the lips)’ and the perfect *ā siṣāya*, which exactly corresponds to OAv. *ā-hišāiiā* ‘holds fettered’. Since perfects are normally derived from the root, PIIr. **si-sHāi-a* was synchronically analyzed as a perfect to the root **sHai-*, which led to the creation of derivatives like Skt. *sētu-* m. ‘bond, bridge’, YAv. *haētu-* m. ‘dam’, etc.¹³ The circumflex of Lith. *siētas*, *saītas* m. ‘tie’ also points to the reconstruction **sh₂oi-*,

12 It is unclear whether CLuw. 3pl. *ḫi-iš-ḫi-ja-an-ti* can be used as an indication that reduplication was old in this present.

13 Deriving Skt. *sētu-* and YAv. *haētu-* directly from the stem **sHai-*, rather than from **saiH-* after laryngeal metathesis, better accounts for the initial accentuation of *sētu-* (cf. Lubotsky 1988:47).

which suggests a PIE date for this development (thus already Kloekhorst 2008: 391).¹⁴

In zero-grade, at least before a consonant, laryngeal metathesis took place: **sh₂-oi-/*sh₂-i-C- > *sh₂oi-/*sih₂C-*.¹⁵ The root-final position of the laryngeal was then generalized in the full-grade, too: **seih₂-/*sih₂-*.¹⁶ It is possible that the causative-factitive Skt. *sināti* ‘to make fettered’ has been formed to the metathe-sized root **sih₂-*. If TochA *sināštār* ‘is depressed’ belongs here, this formation is likely to be of IE age.

It is important that the perfect, in contradistinction to the present, expresses a non-volitional action, over which the grammatical subject exercises no control; cf. RV 10.28.10a *suparṇā itthā nakhām ā siṣāya* ‘In this way, an eagle has (got)

14 The root of PSlav. **sětb* ‘snare, net’ (OCS *sětb*, Cz. *sít*, Pl. *siec*, etc.) is likely to be circumflex, too. As pointed out to me by Prof. Kortlandt (p.c.), Slv. *siet*’ clearly indicates that the original paradigm of this Slavic word was (b) (rather than (a), reconstructed by Derksen 2008:448). Together with Lith. *siētas* ‘cord’ and OHG *seid* n. ‘cord’, these forms go back to **s(H)óitom*. If Gr. οἶμη ‘song, hymn’ is derived from this root (cf. Beekes 2010:1057 with references), it would likewise point to **sh₂-oi°*.

15 The Indo-European laryngeal metathesis still awaits a monographic treatment. Important for its chronology are forms like Skt. *grīsmá-* m. ‘summer, hot season’ (RV+) < **g^wrih₂-sm(H)-o-* < **g^wrh₂-i-sm(H)-o-*, lit. ‘heavy summer’, with the “*νεογνός*” treatment of the second member; Skt. *agrī-* f. ‘virgin, unmarried woman’ (RV+) < **ng^wru-h₂-* < **ng^wrh₂-uh₂-*; and Gr. βῆπιός ‘heavy, oppressive’, βῆπιός ‘to be laden with, be full of’ < **g^wrh₂-i-d^h(h₁)V-* (cf. Rasmussen 1989:95), which show that metathesis was at least anterior to vocalization of the resonants in separate languages.

The situation in Anatolian is not quite clear. The only strong evidence in favor of laryngeal metathesis in this branch is the pair Hitt. *šuhḫa-¹/šuhḫ-* and *išḫuui-¹/išḫui-*, both ‘to throw, scatter’ (see the discussion in Kloekhorst 2008:773 and Melchert elsewhere in this volume, who further adds Hittite *lāḫu-* < **loh₃u-* vs. CLuv. *lu-u-wa-* < **luh₃-*, both ‘to pour’, as yet another example of this metathesis, although the Luvian form seems to allow for other explanations). If the laryngeal metathesis is of pre-Anatolian age, we have to assume that formations like Hitt. *išḫiman-* ‘string, line’ are due to analogical restoration of the consonant order in *išḫāi* ‘to bind’.

It is usually assumed that the metathesis only took place before a consonant, but it seems probable to me that it was operative in a prevocalic position, too. At least, I do not know of any evidence precluding this.

16 This generalization has not taken place everywhere: in Balto-Slavic, metathesis was analogically “undone” whenever there was a model for it. Full-grade **sh₂-oi-* is found in Lith. *siėti*, Latv. *siet* ‘to tie’ with the expected circumflex intonation, whereas zero-grade **sh₂-i-C-* is reflected in PSlav. **sīdlō* (b) ‘noose, snare’ (OCS *silo*, Ru. *silō*, Pl. *sidło*) < **sh₂i-d^hlōm*; PSlav. **sītō* (b) (OCz. *sít* ‘twining’, Sln. *sīt* ‘rush’) < **sh₂i-tóm* (Derksen 2008:450–1). The fact that Hirt’s Law did not operate in these forms proves that the laryngeal preceded *i* at that stage.

his claw fettered,” 8.67.8a *mā naḥ sétuḥ siṣed ayám* “May this fetter not hold us fettered”; OAv. Y 29.1 *ā.mā aēšəmō hazascā rəmō* [*ā*]hišāiiā dərəš[*cā*] təuuišcā “(For) the cruelty of fury and violence, of bondage and might, holds me in captivity” (Insler 1975:29). In Indo-Iranian there are a number of formations that belong to the category of *i*-perfects and behave in a similar way. Those are briefly described in §9, the appendix below.

In Vedic, the nasal present *sināti* (RV+; later *sinoti* JB+) functions as a causative to the perfect and means ‘to make fettered’.

3.3. *u*-Noun

The evidence for an old *u*-noun is rather weak here. We only have Skt. *syū-*, attested in two Yajurvedic mantras *viṣṇoḥ syūr asi* (VS 5.21 + parallel passages) and *Indrasya syūr asi* (VS 5.30 + parallels), and traditionally glossed as ‘seam’ or ‘cord’ (cf. Schindler 1972:49f.).

3.4. Denominal verb

The most important forms are Skt. *sīv-/syū-* ‘to sew’: class IV present *sīvyatu* impv. (RV+), *ta*-ptc. *syūtá-* (RV+) ~ Khot. *hīya* ‘sewn stuff’, Oss. *xʷyjn/xujun* ‘to sew’ ~ Goth. *siujan* ‘to sew’; Lith. *siūti* ‘to sew, tailor’; Latv. *šūt*, SCr. *šiti* ‘to sew’, etc. The meaning ‘to sew’ is universal and shows very little variation.

4. PIE **gʷh₃-i-u-* ‘to live’

In my view, the verb for ‘to live’ can be analysed in exactly the same fashion, although it shows some peculiar features.

4.1. Root in -H

I would like to propose to start with the IE root **gʷeh₃-*, to be found in Gr. βόσκω ‘to feed, tend’, med. ‘to feed oneself’ (II.), βόσις ‘fodder’, βοτάνη ‘id.’, and in Lith. *gúotas* ‘herd’ (**gʷeh₃-to-*). The IE word for ‘cow’ (**gʷeh₃u-/gʷh₃eu-*) is also most probably a derivative of this root (cf. Lubotsky 1990:133f.).

4.2. *i*-Present

The only vestige of an original verbal *i*-formation in Indo-Iranian is YAv. *jiyaēša* < **jiyaiiaēša* 2sg. pf. opt. med. ‘to live’ (Y 62.10 in a figura etymologica *gaiia jiyaēša*), which seems to point to the stem **gʷi-gʷh₃-oi-*. An *i*-present is further reflected in Arm. *keam* ‘to live’, Gr. βέομαι fut. med. ‘to stay alive’, Lith. *gyti* ‘to

become healthy, heal, live', OCS *žiti* 'to heal, live'.¹⁷ The *e*-vocalism in Gr. βέουαι and Arm. *keam* can easily be restored, whereas the reconstruction **g^wh₃-ei-* may account for the lack of palatalization in Armenian (cf. Kortlandt 1975a; the non-palatalized β in Greek may be an Aeolism). The laryngeal metathesis in the zero-grade, here again, yielded an awkward paradigm: **g^wh₃-ei-/ *g^wh₃-i-C > *g^wh₃ei-/ *g^wh₃-C*,¹⁸ but, unlike the cases we have discussed above, the problem was partly resolved in a different fashion. In Balto-Slavic the laryngeal metathesis was simply undone at some point—the usual procedure in this language branch (cf. n16)—and **g^wh₃iC* was restored, which explains the end-stressed forms such as Ru. *žilá* f. 'lived' and mobility in Lith. *gývas* (3) 'alive' (Kortlandt 1975b:3). In Greek, and in some other languages too, the order of the elements in the zero-grade **g^wih₃-* was introduced into the full-grade **g^wh₃ei-*, which led to a new full-grade **g^wieh₃-*. This full-grade **g^wieh₃-* must be responsible for the Greek adjective ζῶός 'alive', for the present ζῶω 'to live', and for OAv. *jiiātu-* m. 'life'.¹⁹

The original meaning of the *i*-present was probably 'to subsist' or 'to feed', as follows from many nominal derivatives meaning 'food'; cf. OCS *žito* 'corn, fruits', OPr. *geytye* (EV), *geits* (Ench.) 'bread'; W *bwyd* 'food, meat', etc. Cf. further Skt. *gáya-* m. 'house, household, property', Av. *gaēθā-* f. 'household, world', OP *gaiθā-* f. 'livestock, cattle', ORu. *goi* m. 'peace, friendship', OCz. *hoj* 'abundance', Sln. *gòj* m. 'care, cultivation', SCr. *gòjiti* 'to fatten, foster, raise', Sln. *gojiti* 'to foster, feed'; Bulg. *gojá* 'to fatten', and also Gr. βίος m. 'mode of life, livelihood, subsistence', βίωτος m. 'way of life, sustenance'. These derivatives strongly indicate a connection with the root of Gr. βόσχω.

Sanskrit further attests a nasal causative-factitive *jínóṣi* 2sg. (RV 5.84.1), later thematicized to *jínvati* (RV+) 'to impel, feed, strengthen'. The pair pf. YAv. *jīyaēša* : Skt. *jínóṣi* is reminiscent of the pair *siṣāya* : *sināti/sinoti*, which we have discussed in §3.2.

17 As with Skt. *siṣāya* and OAv. *ā-hišāiā*, the meaning 'to stay alive, to heal' presupposes a role of experiencer for the subject: 'there is subsistence, life to him'.

18 The metathesized root **g^wih₃-* is, inter alia, responsible for Greek formations like βίος < **g^wih₃-o-*, βίωτος < **g^wih₃-eto-* 'life' and probably for the aor. ἐβίον < **g^wih₃-eh₁-* (cf. Klein 1988:268).

19 Skt. *jīvātu-* 'life' eventually goes back to PIIr. **jiaHtu-*, too, but has been reshaped after the adjective *jīvā-*.

4.3. *u-Noun*

The “*u-noun*” in this particular case is a thematic adjective with the meaning ‘alive, living’: Skt. *jīvā-* (RV+) ~ Av. *juua-*, OP *jīva-* ~ Lat. *vīvus*, Goth. *qius*,²⁰ OCS *živъ*, Lith. *gývas*, etc. (< **g^{wh}h₃i-u-o-*). It can hardly be a coincidence that this is the only adjective in this category of *u-nouns* and, at the same time, the only thematic derivative. The thematicization must have been very early (type **ud-r-* ‘water’: **ud-r-o-* ‘water-animal [lit. watery]’).

The mobile accentuation in Balto-Slavic (PSl. **žīvb* (c), Lith. *gývas* (3), Latv. *dzīvs*; see Derksen 2008:564) shows that, in this branch, the laryngeal preceded *i* at the time of Hirt’s Law (cf. already Kortlandt 1975b:3). On the other hand, Lith. *siūti* ‘to sew, tailor’, Latv. *šūt*, SCr. *šiti*, etc. ‘to sew’ have fixed stress, which means that the metathesis **sh₂iu-C* > **siuh₂-C* did take place in Balto-Slavic. We may conclude that the BSl. word for ‘alive’ has taken over the root shape of the *i*-present Lith. *gýti*/OCS *žiti* (see the previous section).²¹ The reason why metathesis was not analogically undone in the verb for ‘to sew’ is that its connection with **sh₂-oi-/sh₂-i-* was lost because of the divergent meaning.

Greek too has generalized the vocalism of the present, which accounts for the form ζῶός ‘alive’.

4.4. *Denominal verb*

The verb for ‘to live’ is very well attested in the IE languages. It is everywhere thematic and shows little variation in meaning: Skt. *jīvati* (RV+), OAv. *juuāmahī* 1pl., OP *jīvā* 2sg. impv., Lat. *vīvō*, OCS *živō*, OPr. *gīwasi* 2sg., etc.

Denominal verbs that are simple thematic, without a specific denominal suffix, are admittedly rare, but not unknown: for instance, Skt. *dyótate* ‘to shine’ is clearly derived from the noun *dyút-* f. ‘shine’ (RV+), *vi-dyút-* f. ‘lightning’ (RV+).

5. PIE **dh₂-i-u-* ‘to gamble’

Before embarking upon a search for an etymology of Skt. *dīv-* ‘to play dice, gamble’, which has no cognates outside of Sanskrit, let me briefly explain the rules of Vedic dicing (for a detailed account I refer the reader to Falk 1986). Without counting, every player grabs with two hands a large amount of small

20 The short vowel in Gothic is due to Dybo’s pretonic shortening (cf. Kortlandt 1981 = 2007:35).

21 As shown by forms like Lith. *mini* < **-i* vs. OCS *mbni*(*tv*) < **-ei*, ablaut alternation in the suffix was preserved in Balto-Slavic *i*-presents for a long time.

vibhīdaka nuts out of a huge pile (containing at least 150 nuts). Then he returns to his place and arranges his portion in rows of four. If, at the end, no nuts are left (that is, if the number of nuts is divisible by four), he is the winner. If only a single nut is left over ($4n + 1$), he is the loser, the “dog.”

5.1. Root in -H

Since Vedic dicing basically involves dividing the nuts into rows, it becomes attractive to start with the IE root **deh₂-*, attested in Skt. *dā-* ‘to divide, distribute, cut’ (root aor. *avādāt* [MS+], *dīṣva* 2sg. impv. med. [VS+]; *ta*-ptc. (*nir-*)*áva-tta-* [KS+]) and in Gr. *δατέομαι* ‘to distribute’.

5.2. i-Present

The IE root **deh₂-* has a well-established *i*-present **dh₂-ei-/*dh₂-i-*, found in Skt. *dáyate* med. (RV+) (< PIE **dh₂-eie-*) ‘to divide, distribute, cut’ and *ava-dyāti* (YV+) ‘id.’, as well as in Gr. *δαίεται* ‘to divide’.

5.3. u-Noun

A *u*-noun **dh₂-i-u-* can be identified with Skt. *dīv-/dyú-* f. ‘gambling, play’ (RV dat. *dīvé*, loc. *dīví*, ŚS acc. *dyúvam*, dat. *dyuvé*), which may also be the basis of *pratidīvan-* m. ‘adversary at play’ (dat. *-dīvne* RV, AV).

5.4. Denominal verb

Finally we arrive at our denominal verb Skt. *dīv-* ‘to play dice, gamble’ (RV+): class IV present *dīvyah* 2sg. inj. (RV+), *iṣ*-aor. *daviṣāṇi* 1sg. subj. (RV), pf. *didéva* (AV), *ta*-ptc. *dyūtá-*, also n. ‘game’ (AV+). This verb has no cognates outside Sanskrit.

6. PIE **sph₁-i-u-* ‘to spit’

In the case of the verb for ‘to spit’, an explanation along similar lines seems more speculative but still quite feasible.

6.1. Root in -H

We start with the root **sph₁-*. This root is often glossed in the literature as ‘to succeed, prosper’, but in view of Hittite *išpāi*, *išpijanzi* ‘be satiated’, its original meaning was rather ‘to be full to the rim’. Here are some of its derivatives: Hitt. *išpān* ‘satiation’; Skt. *sphāti-* f. ‘abundance’ (RV+), *gaya-sphāna-* adj. ‘producing domestic abundance’ (RV); Oss. *æfsadyn/æfsadun* ‘to nourish’, Saraq. *spon-*

‘to fill, replenish’, Yzgh. *s(ə)pāñ-* ‘to saturate’ (cf. Cheung 2007:350); OE *spōwan* ‘to prosper, succeed’; OCS *spěti* ‘to succeed’, Ru. *spet’* ‘to ripen; to manage’; Lith. *spėti* ‘to be in time; to guess’, etc. It is conceivable that YAv. *spāma-* ‘spit, saliva’ (V 6.7, 29) is also derived from this root, especially in view of the analysis proposed below.

6.2. i-Present

The *i*-present to the root **speh₁-* has been reconstructed by Kloekhorst (2006:115, 2008 s.v.) on the basis of Hittite *išpāi*, *išpijanzi* ‘to be satiated’ as **sph₁-ōi-/* **sph₁-i-*. This reconstruction immediately accounts for the Sanskrit class IV present *sphāya-* (*sphāyātai* 3sg. subj. med. PS 8.11.11+):²² it explains both the aspiration of *-ph-*—otherwise unexplained—and the long vowel, which must then be due to Brugmann’s Law. The present formant has early become incorporated into the root, which led to forms like Skt. *sphīyate* 3sg. med. (SāmavidhB 3.3.1) and *sām-sphīta-* ‘complete, not lacking anything’ (MS+).

As suggested to me by Michiel de Vaan, the Indo-European word for ‘foam, froth’ is likely to be a derivative of this “new” root with an *i*-enlargement, if we assume that its original meaning was ‘overflow, something that overflows’. There is some vacillation in the position of the laryngeal, which is typical for *i*-presents and their derivatives; cf. the following forms:

Skt. *phéna-* m. ‘foam, froth’ (RV+), NP *fīn* ‘snot’, *fīnak* ‘sea foam’, Oss. *fynk/finkæ* ‘foam’ point to PIIt. **pHaina-*;

OPr. *spoayno* ‘foam (of fermenting beer)’, Lith. *spáinè* ‘foam (on waves)’, OCS *pěna*, Ru. *péna*, SCr. *pjěna*, *spjěna* (Dalm.) ‘foam’ point to BSl. **(s)pó?ina?* (Derksen 2008:397, **(s)pó?ina?* seems also possible);

OE *fām* n., OHG *feim* m. ‘foam’ < PGmc. **faima-* and Lat. *spūma* f. ‘foam’ are ambiguous as far as the position of the laryngeal is concerned.

Because of *-m-* in Germanic and Latin, it is attractive to assume that we are dealing with an original masculine derivative with the suffix **-men-* (cf., for a parallel, Skt. *budhná-* m. ‘bottom, ground, depth’, OFri. *bodem* ‘bottom’, Gr. *πυθμήν* m. ‘ground, basis’ < PIE **b^hud^h-men-*) and to reconstruct **(s)ph₁oi-men-*. This vacillation **sph₁oi-/***spoih₁-* could have arisen through paradigmatic levelling (after laryngeal metathesis in the zero-grade **sph₁i-m^o > *spih₁-m^o) or be due to the influence of the verb.*

22 Cf. also Khot. *spai-* (*spyä-*, *spa-*) ‘to satisfy; be satisfied’.

6.3. *u-Noun*

In parallel to *-īv*-roots, discussed above, we must look for a *u*-stem **(s)ph_iu-*. This noun may be reflected in Armenian *t'uk* 'spit, saliva' (cf. Martirosyan 2010:298), if its irregular onset is due to labial dissimilation **pHiu- > *tHiu-*.²³

6.4. *Denominal verb*

There are a few minor problems with reconstructing the IE verb for 'to spit', but the available evidence is perfectly compatible with the reconstruction **sph_iu-*. Outside of Sanskrit, all the other branches point to **(s)piHu-/*(s)piuH-*, which can eventually go back to **(s)ph_iu-*: Gr. πτύω, Lat. *spuō/spūtum*, Goth. *speiwan*, Lith. *spjāuti*, Latv. *spļaut*, OCS *plъvati*, 1sg. *pljujō*, etc. The deviating onset of the Sanskrit root *ṣṭhīv-/ṣṭhyū-* (*pratyáṣṭhīvan* 3pl. impf. AV+, *-ṣṭhyūta-* ŚB+) presents three problems: (1) why retroflex, (2) why aspirated, and (3) why dental? A good illustration of the treatment of these problems is LIV:584, where Kümmel reconstructs the PIE root as **spt_ieuH-* and writes: "Alt nur mit auf *i* endenden Präverbien, daher immer *ṣṭh* für **sth*. Ist wegen ved. *ṭh* grundsprachliches **spt^h* anzusetzen (wogegen das Gr. spricht) oder mit erst sekundärer onomatopoeischer Aspiration (Spuckgeräusch) zu rechnen?"

Ad (1): Indeed, as is repeatedly pointed out (cf. *AiGr.* I:236), the initial retroflex *ṣṭh-* of the Skt. root is likely to be due to the combination with the preverbs *abhī*, *prāti*, and especially *nīṣ*, which last is particularly fitting semantically ('to spit out').

Ad (2): It does not seem attractive to invoke onomatopoeic distortions in Sanskrit in order to account for aspiration, because the correspondences elsewhere are quite regular. There are two ways—not mutually exclusive—to explain *th*. First, we can assume that the aspiration comes from the verb *sphāya-* (through the mediation of the unattested *u*-stem). For the second, see immediately below.

23 There is yet another possible *u*-noun to this root, i.e., Skt. *pṛīvan-*, f. *pṛīvarī-* 'fat', Gr. πτύων, f. πτύερα 'fat, fertile, rich', πτύον n. 'fat, tallow', Skt. *pṛīvas-* n., YAv. *pṛīuuh-* n. 'fat, tallow'. From the point of view of semantics, the words for 'fat' belong here rather than with the verbal root for 'to yield milk', which is discussed below in §9.1. Laryngeal metathesis (**ph_iu-* > **pih_iu-*) is likely to be of Proto-Indo-European age (see n15), so that the absence of aspiration in Sanskrit is not surprising. Since the word for 'fat' had no initial *s-*, its connection with the verb 'to overflow, be abundant' was not felt any longer, and the aspirated stop of the verb was not restored. However, in view of its meaning, the word for 'fat' cannot be the source of the verbal root **sph_iu-* 'to spit'. Presumably, when the connection of **pih_iu-* 'fat' with the verb was lost, a new *u*-derivative was formed, this time with the meaning 'overflow, spittle, saliva' (≈ 'mouth foam', parallel to **(s)ph_iot-men-* 'foam').

Ad (3): *LIV* solves the problem of the Skt. dental by reconstructing the IE root as **spt̥ieṷH-*, but it is hard to get rid of this *t* in all the other languages. Usually scholars explain Skt. *t* by dissimilation of **p* to **t* (cf. Mayrhofer *KEWA* III:409), but this explanation too is not without problems. Our handbooks report that Skt. **p* is often dissimilated in the neighborhood of other labials, and the product of this dissimilation is either *k* or *t* (cf. Hoffmann 1963:13f. = 1975:153f. with references). Nevertheless, the best examples show *k*: *kłomán-* m. ‘lung’ < **pleu-mon-* (Gr. *πλεόμων* m. ‘id.’), *kṣu-mánt-* ‘rich in cattle’ < **pku-ment-* (YAv. *ḥšūmant-* ‘id.’), *takmán-* m. ‘fever’ < **tep-mōn-* (cf. YAv. *tafnah-* n. ‘fever’). We find a dental only at the end of the stem in *kakúdmant-* ‘having a hump’ (RV; beside *kakúin-mant-* VS) for **kakúb(h)mant-*, where the two velars in the stem may have prevented dissimilation to a velar, and in *adbhiḥ* instr. pl., *adbhyáh* dat. pl. of *áp-* ‘water’, where the *-d-* is likely to be analogical (cf. *AiGr.* I:180 + Nachträge). It is clear that a dental reflex is late and analogical in Sanskrit.²⁴

In Iranian also, dissimilation of labials seems to result in a velar, if we accept Hoffmann’s attractive explanation (Hoffmann 1965:238 = 1975:338) of PIr. **daxma-* ‘grave’ (YAv. *daxma-* m., Sogd. (Buddh.) *ḍym’y*, MP *dhmk’* /daxmak/ ‘place of burial, place of exposure’, MParth. *dhmq* /dahmag/ ‘tomb’, Bactr. *λαχμ(ο)* ‘grave’, *λαχμυγο* ‘place of burial’) as dissimilated from **dafma-* and thus related to Gr. *θάπτω* ‘to bury’ and Arm. *damban* ‘tomb’. Skjærvø’s etymology (2005) of Av. *vahma-* ‘hymn’ as dissimilated from **vafma-* ‘weaving’ points in the same direction.

Consequently, dissimilation of *p* in PIr. **spiHu-/spiuH-* must rather have yielded **skiHu-/skiuH-*. If this happened sufficiently early, the *k* was affected by palatalization, and the new group **-ssč-* may have phonetically given *ṣṭh*.²⁵ As I have argued elsewhere (Lubotsky 2001), PIr. **sč* first became **śč* and eventually yielded Skt. *ch* [t^{sh}]. In a cluster of *ś* + *ch* [t^{sh}], the second sibilant can easily become dissimilated, which would give *ṣṭh* as a result.

7. PIE **mH-i-u-* ‘to move’?

In the case of Skt. *mīv-* and its cognates, the scheme $\sqrt{-H} \rightarrow i\text{-present} \rightarrow -u\text{-noun} \rightarrow \text{denominal verb}$ is not readily available. The root **miHu-/muH-* (< **mīuH-*) itself is quite rare in Indo-Iranian. As is often the case with verbs of movement,

24 Nevertheless, as Prof. Kortlandt points out to me, the following *y* might have favored the development of **py* to **ty*; cf. Italian *saccente* ‘prig’ < **sapientem*, *piccione* ‘pigeon’ < **pipionem*, and Armenian *t’uk* ‘in the preceding section.

25 Cf. **st(s)č > ṣṭh* in *aṣṭhīvā(nt)-* m. ‘shank, shin’ < **Hast-(s)čiHua-* (Lubotsky 2002).

the preverbs are semantically dominant, so that it is not easy to establish the basic meaning of the verb.²⁶ For instance, the only occurrence of the verb *mīv-* in the AV is the passage ŚS 5.7.7 (= PS 7.9.7) *vēda tvāhām nimīvantīm nitudāntīm arāte* “I know you, o Arāti, [to be] the one who forces down, who thrusts down” (tr. Griffiths 2009:341). Here it is used in parallel with *ni tud-* ‘to push, thrust down’, and this is all we can gather from the context. The oldest attestation in Vedic is RV 10.10.11, where Yamī, trying to seduce her brother Yama, calls herself *kāmamūtā* ‘shaken/moved/prompted by love’, where again we cannot grasp the exact shade of meaning.

In Iranian too, this verb is not abundantly attested (cf. Cheung 2007:273). In YAv. we only find a negated pass. participle *a-muiiamna-* ‘unshakable’²⁷ and 1pl. pres. in the passage V 18.55 = 18.59 *pascaēta vaēm yōi daēuua hakaṭ vaēm auua.miuuāmāhi hizuuasca piuuasca* “and then we, the daēuua’s, remove (?) at the same time [his] tongue and [his] fat.” Parthian attests an inchoative (with a prefix **para-* or **pari-*) *pr-mws-* /*parmūs-* ‘to be terrified’ and a causative *prm’w-* /*parmāw-* ‘to terrify’. Khwar. *š-mwȳ-* ‘to loosen’ (with the preverb **fra-*) and Oss. *mi/miwæ* ‘thing, matter; work, affair’ do not contribute much to the original meaning.

Among usually presented IE cognates (cf. LIV s.v. **m₁ieuh₁-*),²⁸ we find verbs which point to an unstable, shaking movement: TochA *mew-*, B *miw-* ‘to tremble’, PSlav. **mȳti* ‘to wash’ (OCS *myti*, Ru. *myt*, SCr. *mīti*, etc.);²⁹ a general verb of movement: Lat. *movēre* ‘to move’ (both tr. and intr.), although it often means ‘to move to and fro, shake, agitate’ too; and verbs which describe a short, abrupt action: Hitt. 1sg. *mu-uh₁-hi*, 3sg. *ma-uš₁-zi* ‘to fall’, Lith. *māuti* ‘to put on, tear, pull, stab, strike, dash’, Latv. *maūt* ‘to pull off, bridle’. However, it is by no means certain that all these verbs belong together. Only Indo-Iranian and Tocharian show (traces of) *-i-* in the root, whereas the other branches point to PIE

26 In her meticulous study of the Vedic attestations of the root *mīv-*, Johanna Narten (1965 = 1995:44–9) translates it with ‘drängen, schieben’, *upa-mīv-*, *pra-mīv-* with ‘veranlassen’, but the exact type of movement remains unclear.

27 E.g., in the passage Yt 13.35 *amuiiamnā razištanqm* “(Fravašis) unflinching from the straightest (paths),” “die von den geradesten (Pfadern) nicht abzubringende” (Bartholomae 1904 s.v.).

28 It seems to be a communis opinio nowadays that the laryngeal must necessarily be **h₁*, but the evidence adduced does not seem probative to me. Lat. *movēre* must be a secondary full-grade formation to **muH-* and the suffix **-eie-* could be restored any time. In Tocharian the verb shows regular ablaut, where *miw-* functions as a zero-grade /*məiw-*/ to *maiw-*.

29 Here must also belong Lith. *māudyti* ‘to bathe’; Latv. *maūt* ‘to submerge, swim’; *maudāt* ‘to bathe’.

**meuH-* with a reasonably regular ablaut. Since the development **m_i-* > **m-* probably took place already in PIE, all these roots can theoretically go back to a single protoform, but it seems very difficult to me to connect the roots for ‘to tremble’ and ‘to fall’ semantically.

To be on the safe side, we can examine whether we can decide on an original meaning for the Indo-Iranian and Tocharian verbs. As already mentioned, the meaning of the Indo-Iranian verb is hard to pin down, but ‘trembling, shaking’—the basic meaning of the Tocharian verb—is definitely present in various Indo-Iranian formations, too, most clearly in Parthian *pr-mws-* ‘to be terrified’, YAv. *a-muiiamna-* ‘unshakable’, and further in Skt. *á-maviṣṇu-* ‘unflinching, unwavering’, a Rigvedic hapax that occurs in a description of the pressing stones: 10.94.11 *tṛḍilā áṭṛḍilāso ádrayo ’śramaṇā áśṛthitā ámrtyavaḥ | anāturā ajārā sthāmaviṣṇavaḥ supīvāso áṭṛṣitā áṭṛṣṇajah* “Zersprengend, selbst nicht zersprungen sind die Steine, unermüdlich, nie gelockert, nie sterbend, nie krank, nie alternd seid ihr, unentwegt, feist, nicht durstig, nie verdurstend” (Geldner 1951 III: 297).

We can then assume that the root **miHu-/muH-* originally meant something like ‘to shake, tremble’ and is related to PIE **m(H)ei-* ‘to change (places), exchange’ (Skt. *vī mayante* ‘they alternate’, OCS *minŋti* ‘to pass’, Cz. *míjeti* ‘id.’, Latv. *mīt* ‘to exchange’, TochB /*māsk-*/ ‘to exchange’, Lat. *meāre* ‘to proceed, traverse’, etc.), but at the present stage this connection must unfortunately remain hypothetical.

8. PIE **sl-i-u-* ‘to abort’?

The last verb in the series of Sanskrit *ṛv-*verbs is *srṛv-* ‘to be aborted, miscarried (of embryos)’. The verb is very rare, with a handful of occurrences in the whole of the Vedic corpus. The oldest form is the causative *sreváyant-* ‘making [Aditi] miscarry’ (RV 7.18.8), *śrevayāmi*³⁰ ‘I make [your intention] fail’ (PS 19.10.12 ~ ŚS 6.73.2 *śrīvayāmi*). Also in the RV we encounter *a-sremán-* adj. ‘being not a miscarriage’ (RV 3.29.13, 10.8.2), which presumably stands for **°srevmán-* (Debrunner, Nachträge to *AiGr.* I:91,37). The Brāhmaṇas attest two occurrences of class IV present *srīvyati* (*śrīvyeyur* MS 4.6.9:92.12³¹ and *srīvyanti* AitB 4.22.4) and a hapax *śrévuka-* adj. ‘miscarrying’, which occurs in the same line of

30 The *ś/s* vacillation is fairly common in the Atharvaveda and later texts.

31 For a peculiar change of the intransitive construction into a transitive one in the late Sūtra repetitions, see Kulikov 2001:485f.

the MS. Finally, aor. *asrāvīt* is found once in the JB (2.2). Zero-grades with *-ū-* are not found in the texts, but Pāṇini (6.4.20) prescribes a *ta*-ptc. *srūta-*.

As far as the etymology of *srīv-* is concerned, Mayrhofer (*EWAia* II:787) reports no generally acknowledged cognates and considers the etymology “unklar.” In my view, *srīv-* cannot be separated from the Sanskrit verb *sridh-* ‘to fail, err’,³² which further corresponds to OE *slīdan*, MHG *slīten* ‘to slide’, Lith. *slidūs*, Latv. *slids* ‘slippery’,³³ and goes back to PIE **sleidh-*. As follows from nouns like ON *slīm* ‘slime’, Lat. *līmus* ‘mud, slime’ < **slei-mo-*, OCS *slъzъkъ* ‘slippery’ < **sli-ǵho-*, etc., the *-d^h-* in **sleidh-* is likely to have been an old suffix. The remaining **slei-/sli-* can be an original *i*-formation of the root **sel-* ‘to jump, spring forth’ (Gr. ἄλλομαι, Lat. *saliō*). As we have seen above (§3.2, cf. also §9, the appendix below), *i*-formations can express a non-volitional, non-controlled action, which would be very fitting in this case, since an involuntary jump usually leads to slipping, falling, and failure.³⁴

It therefore seems reasonable to explain Skt. *srīv-* as a denominal verb based on an (unattested) *u*-derivative of **slei-/sli-* with an approximate meaning ‘failure’, along the lines established for the other roots in *-īv-*. There is one formal problem, though: forms like Skt. *sridh-* and Lith. *slidūs* clearly show that there was no laryngeal in the root, which means that vowel length in *srīv-* and *srū-* cannot be old. On the other hand, Skt. *srīv-* deviates from the other *-īv-*-roots in that its oldest attested forms contain a full-grade *srev-*, the only ablaut form found in the RV.³⁵ The two hapaxes with the present *srīvyati* can easily be influenced in their vocalism by *sīvyati*, *dīvyati*, and the same influence probably accounts for Pāṇini’s rule prescribing a *ta*-ptc. *srūta-*. Evidently, there was no regular way to vocalize the zero-grade **sriuC-* in Sanskrit.

9. Appendix: *i*-perfects

This is not the place to discuss the whole issue of PIE *i*-perfects, but I would like to adduce here a few further examples of these perfects in Indo-Iranian (the list

32 Only found in the RV: class I present *sredhati*, a-aor. *sridhat* 3sg. inj., ā-*sridhāna-* ptc. med.

33 The acute intonation in Lith. *slýsti*, pret. *slýdo* ‘to slip, glide’ is no doubt due to the *st*-present. The appurtenance of Gr. ὀλισθάνω ‘to slide, slip’ remains uncertain.

34 A similar pattern is found with the PIE root **h₃er-* ‘to rise, come up’: *i*-present **h₃r-ei-* ‘to bubble up, whirl’ (Skt. *rīyate*, *lelāya* ‘to bubble up, tremble’; Hitt. *arai-/ari-* ‘to rise’) → **h₃reidh-* ‘to waver’ (Lith. *riedėti* ‘to roll’, OE *rīdan* ‘to ride, falter’, OIr. *imm-réid* ‘to ride, drive around’).

35 If *a-srēmán-* goes back to **^osrevmán-*, the irregular vocalization of **^osrevmán-* must of course have been dependent on *srevayati*.

can be extended), next to Skt. *śiṣāya* ~ OAv. *ā-hišāiiā* and possibly YAv. *jiyaēša* mentioned above. All of these *i*-perfects have in common that they lost the connection with the original root at an early stage and that they describe the result of a non-volitional, non-controlled action. It seems probable to me that the original construction had a dative subject, as argued by Kortlandt (1983, 2010: 373f.). These constructions are found in most Indo-European languages, but have been totally abolished in Indo-Iranian, as in ‘methinks’ → ‘I think’.

9.1. Skt. *pīpāya* ~ Av. (a)*pipiiūš-* ~ Lith. *papijusi*

The Skt. root *payⁱ-*, usually glossed ‘to swell, overflow, be full, flow lavishly’, essentially attests only two formations: the perfect *pīpāya* and the causative-factitive pres. (V>I) *pīnvati*. The same is true of Avestan: YAv. pf. (a)*pipiiūš-* ptc. f. ‘(not) suckling’ (V 15.8) and the causative-factitive *fra-pinaoiti* ‘make thrive’ (V 3.31).

The perfect *pīpāya*³⁶ is abundantly attested in the RV and typically refers to a female (or a female breast, or an udder) overflowing with milk.³⁷ The same meaning underlies YAv. (a)*pipiiūš-* ptc. pf. act. f. ‘(not) suckling’ (V 15.8) and Lith. *papijusi kárvė* ‘milch cow’ and must be reconstructed for PIE. This meaning is further confirmed by the derivatives Skt. *pāyas-* n. ‘milk’, YAv. *paiia-* n. ‘id.’, *paēman-* n. ‘mother’s milk’, and by Lith. *píenas* ‘milk’ and *pýti* ‘to give milk’.

Since the root actually means ‘to yield milk’, it can hardly be separated from **peh₃-* ‘to drink’.³⁸ We know that *i*-formations often led to secondary roots, so that the Skt. root *payⁱ-* and its congeners can all be dependent on an *i*-perfect **pi-ph₃-oi-e* (parallel to *siṣāya* < **si-sh₂-oi-e*).³⁹ As far as the semantics is concerned, the *i*-perfect describes the result of a non-volitional action, which we have already seen with *siṣāya*. For instance, Skt. *pīpāya dhenúr* (RV 1.153.3a)

36 The vowel of the first syllable is metrically short (cf. Kümmel 2000:298 for the references).

37 “Typischerweise geht es um Milchfülle des Kuheuters” (Kümmel 2000:299). Even in the metaphorical usage, the connection with breasts remains obvious; cf. RV 1.64.5d *bhūmim pinvanti pāyasā párijrayah* “The omnipresent ones (Maruts) fill the Earth with milk.” The secondary root Skt. *pyā-* ‘to swell, fill’ (RV+), mostly attested in the present *ā-pyāyamāna-* ptc. med. (RV+), *ā-pyāyasva* 2sg. impv. med. (RV+), has the same connotations. Note that the full-grade **piaH-* is reminiscent of **g^wieh₃-* discussed above.

38 Cf. also Lith. *pýti* ‘to give milk’ vs. OCS *piti* ‘to drink’, which must obviously represent the same formation.

39 Because of the alternation **pi-ph₃-oi-* : **pi-pih₃-*, the influence of **h₃* on *p*, if any, could be easily undone.

“the cow (Aditi) yields milk” can be rendered “the cow (Aditi) has given to drink” = “yields milk.”

The difference in meaning between pf. *pīpāya* ‘to yield milk’ and Gr. aor. ἔπιον ‘to drink’ exactly matches that of Skt. *siṣāya* and *°syāti* discussed above in §3.2.

9.2. Skt. *dīdhaya* ~ YAv. *ā-diḍaiia*

It is clear that the perfect is primary in this Indo-Iranian root for ‘to consider, perceive’, which has no certain Indo-European etymology.⁴⁰ In Sanskrit we find both act. *dīdhaya* (1sg.) and middle *dīdhayē* (RV+),⁴¹ but Avestan only attests the active perfect YAv. *ā-diḍaiia* 3sg., *vī-diḍuuā* ptc. (Yt 14.13) and a few forms of the reduplicated present OAv. *daidīat* (< **didiat*) 3pl. inj. (Y 44.10), YAv. *†paīti.daiḍīiāt* 3sg. subj. (them.), *†daiḍīiatqm* gen. pl. ptc., evidently based on the perfect (see Kümmel 2000:640ff. for discussion).

This is a very important root for Indo-Iranian culture, and its derivatives, Skt. *dhī-* f. ‘vision, poetry, praise’ (RV+) and Av. *daēnā-* (< **daiH-anā-*) f. ‘view, religion’ (Mod. Pers. *dīn*), are key notions in Indo-Iranian religion and poetry. For a root of that standing, it would be very attractive to have a decent IE etymology, although this is by no means a compelling argument.

In my view, Skt. *dīdhaya* ~ YAv. *ā-diḍaiia* can be considered an *i*-perfect to the PIE root **d^heh₁-*, a formation akin to Old Hitt. *dāi*, *tianzi* < **d^hh₁-ói-ei/*d^hh₁-i-énti* (Kloekhorst 2006, 2008 s.v.), the zero-grade of which was metathesized. Also from the point of view of semantics, this analysis is unproblematic. The central element of the meaning of the PIIt. root seems to be ‘inspiration, revelation’, something that occurs to you, literally “put” into you (often by the gods).

9.3. Skt. *dīdāya*

This primary perfect is usually interpreted as a verb of shining and glossed ‘to shine, be bright, radiate’, ‘strahlen, leuchten, glänzen’ (for a discussion of the forms see Narten 1987 = 1995:367–79). However, it is almost exclusively said of fire (Agni) and describes the state of fire after kindling. For the intimate connection of *dīdāya* with the root *idh-* ‘to kindle’, cf., for instance, RV 7.12.1b *yó dīdāya sámiddhaḥ své duroné* “who, after being kindled, d. in his abode” or 2.35.4d

40 The only cognate mentioned in the recent literature is Alb. *dī* ‘to know, be aware; be able’, which may or may not be related.

41 The present *dhyāyet* 3sg. opt. act. (PS 9.21.1), *dhyāyati* 3sg. act. (YV^p+) is clearly secondary. Note again the full-grade **d^hiaH-*, however.

dīdāyānidhmó ghytānirṇig apśú “he, who is invested in ghee, d. without fuel in the waters.” It seems therefore likely that *dīdāya*—at least, originally—referred to burning rather than to shining and that this form is an *i*-perfect to the PIE root **deh₂(u)-* ‘to burn’,⁴² reflected in Gr. δαίω ‘to kindle’, δέδῃα 1sg. pf. act. ‘to burn’, Skt. *dunóti* ‘to kindle, burn’ (AV+), etc.

Traditionally it is assumed that Skt. *dīdāya* is related to Gr. δέατο 3sg. impf. ‘seemed’, δῆλος ‘clear’ (< *δέαλος). The IE root is then reconstructed as **deih₂-* and considered to be an enlargement of **dei-* ‘to be bright’ (found in Skt. *dyáus*, *madhyāmdina-*, etc.). In my view the connection with Gr. δέατο can be upheld. As we have seen above on several occasions, the laryngeal metathesis **dh₂-i-C* > **dih₂-C* could lead to the rise of a new root **deih₂-*. Semantically, too, this etymology is unproblematic. The further relation with the root for ‘to be bright’ must, however, be abandoned under our analysis, but it was not very probable from the beginning: the root **dei-* is clearly nominal in origin.

9.4. Skt. *mimāya*

Since Skt. pf. *mimāya* ‘bellows’ (ppf. *ámīmet* and subj. *mīmayat* show long reduplication) is synchronically formed to the root *mā-* (present III *mímāti*, inf. *mātavai*), it would have been the clearest example of an *i*-perfect in Vedic, but, unfortunately, this root has no certain cognates. Nevertheless, we may tentatively reconstruct **mé-mH-oi-e* in parallel to the other formations and hope that IE cognates will pop up sometime in the future.

42 I owe this observation to Martin Kümmel (p.c.). Of course, the notions of burning and shining are often difficult to tell apart; cf. also Greek derivatives of the root **deh₂(u)-* ‘to burn’ like δάος n. (< *δάφος) ‘torch’.

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