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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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., *CiHu̯*-) before a vowel or *y*, but *Cyū*- (i.e., *Ci̯uH*-) before a consonant, and this is also true for their cognates in other languages. For instance, the PIIr. present stem **siHuia-* (Skt. *sī́vyati*), and the similarly vocalized Goth. *siujan* 'to sew' are opposed to PIIr. **siuHta-* 'sewn' (Skt. *syūtá*-, Oss. *x^wyd/xud*), Lith. *siúti*, SCr. *šȉti* 'to sew' (*AiGr.* I:91f.). This distribution is most probably due to the rule **C₁iHuC₂ > *C₁iuHC₂ (C₂ ≠ i̯)*;[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. √*dīv*- 'to play dice' (AV)
> *abhi-tiṣṭheva* 3sg. pf. √*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 √*srīv*- 'to miscarry'
> *a-sremán*- adj. 'being not a miscarriage' (RV 3.29.13, 10.8.2; < **°srevmán*-)
> *srévuka*- adj. 'miscarrying' (MS)

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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. √*dīv*- (RV 10.34.5)
> *á-maviṣṇu*- adj. 'unflinching' (RV 10.94.11)
> *asrāvīt* 3sg. aor. √*srīv*- (JB 2.2)
> *aṣṭhaviṣam* 1sg. aor. √*ṣṭhīv*- (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 *ắv*-forms as secondary full-grades to *dū-, *mū*- < *diū-, *miū*-, etc., where *i would have disappeared as in *sū́tra*- n. 'line, cord' (AV+) to *sīv*-/*syū*- 'to sew'. However, the *i-less forms *dū-, *ṣṭhū*-, *srū*- are unattested in Vedic, and, furthermore, the distribution is remarkable: the forms with -*ắv*- 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 *ă* we find *iyátha*: *kvà* + *iyaitha (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]

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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-ú*- (*AiGr.* II/2:843ff.), type *vīrayate* 'to behave as a hero' : *vīrayú*-, 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. *mainiiu*- m. 'mind, spirit' (PIE *mn-i-u-), Skt. *pāyú*- m., OAv. *pāiiu*- m. 'guard, protector, shepherd', Gr. πῶυ 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 *$\acute{g}^h h_2$-i-u-* 'to yawn'

2.1. Root in -H

We start with the PIE root *$\acute{g}^h eh_2$-* 'to be wide open, gape'. This root is only attested with enlargements (which are likely to have been verbal suffixes originally):

> *$\acute{g}^h h_2$-(e)u-*: Gr. χάος n. 'chaos'; χαόω 'to devour'; χαῦνος 'slack, porous, loose, bloated';
>
> *$\acute{g}^h h_2$-(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');
>
> *$\acute{g}^h h_2$-ens-* m. 'goose' (Gr. χήν, OHG *gans*, Lith. *žąsìs*, etc.) is most probably derived from this root, too (a 'gaper'; for the suffix we may compare the word for 'moon', PIE *meh_1-ns-*).

2.2. i-Present

The root *$\acute{g}^h eh_2$-* has a well-established *i*-present, which can be reconstructed as *$\acute{g}^h h_2$-ei-/*$\acute{g}^h h_2$-i-*[6] on the basis of Lat. *hiō, hiāre* 'to be wide open, gape', OCS *zijati*, 1sg. *zějǫ* '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*) < *$\acute{g}^h h_2$-(e)i-*. Especially important are the Slavic forms. Mainly because of OCS 1sg. *zějǫ*, Rasmussen (1989:52, followed by *LIV*) reconstructed the root as *$\acute{g}^h eh_1 i$-*,[7] but this reconstruction cannot be correct, as it leaves Gr. χάσκω and χάος unaccounted for.[8] Furthermore, the circumflex accentuation of SCr. *zȉjev* 'muzzle' (< PSlav. *zěvъ*, for which see below) is incompatible with the reconstruction *$\acute{g}^h eh_1 uo$-*. The only way to account for the Slavic facts is to assume an athematic paradigm *$\acute{g}^h h_2$-ei-/*$\acute{g}^h h_2$-i-* or *$\acute{g}^h h_2$-oi-/*$\acute{g}^h h_2$-i-*. The strong form yielded *zě-*, which has acquired an automatic *-j-* during later thematicization (i.e., *zě-mь* ≫

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5   As a parallel to the secondary root *$\acute{g}^h h_2 en$-*, cf. Gr. φαν- 'to show, make visible' (pres. φαίνω, aor. φανῆναι, perf. med. 3sg. πέφανται, act. πέφηνα) < PIE *$b^h h_2 en$-*.

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. χήμη '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-ǫ > zějǫ). The weak form was metathesized in the position before a consonant, and the resulting *$ǵʰih_2$- is not only the basis of OCS *zijati* and Lith. *žióti*, but also of Lat. *hiō* (with addition of the suffix *-eh_2-).[9]

Presumably *$ǵʰh_2$-ei- was considered a root already in PIE, since a nasal causative-factitive was formed by adding -n- to it, i.e., *$ǵʰh_2i$-n-/*$ǵʰih_2$-n-: Hitt. *kīnu-^{zi}* 'to open (up), break open';[10] PSl. *$zinǫti$ (OCS *zinǫti*, SCr. *zìnuti*, Sln. *zíniti*) 'to open (one's mouth)', ON *gína* 'to gape, yawn'.

2.3. u-*Noun*

A u-noun *$ǵʰh_2oi$-u- 'mouth' was formed not to the root, but to the original present stem: PT *koyə- > TochB *koyn* n., pl. *koynuwa* 'mouth', TochA *koy-* 'id.' (loc. sg. *koyaṃ* 'in the mouth'),[11] PSlav. *$zěvъ$ 'muzzle' (CSlav. *zěvъ*, SCr. *zìjev*). 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 *$ǵʰh_2eiu$- or *$ǵʰh_2oiu$- '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. *$zěvati$ (Ru. *zevát'*, SCr. *zijèvati*, Sln. *zévati* with circumflex accentuation in the root), Lith. *žióvauti*, Latv. *žâvât*, TochA *śew-*, 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. *žâvât*, although the Latvian cognate of *žióti* is not preserved. Also in the case of TochA *śew-* 'to yawn' (only present 12 *śew-iññ-*), we have to assume some influence of the original verb: PIE *$ǵʰh_2oi$-u- would have given TochA **kew-*, so that the palatalization must be secondary there. Since *$gʷh_3iu$- 'to live'

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9   A similar analysis accounts for OCS *lijati*, 1sg. *lějǫ* 'to pour' < *lh_3-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 *$ǵʰh_2i$-nu-.

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

(for which see below) was first metathesized to $*g^wih_3u-$ and then developed to $*g^w\underline{i}h_3\underline{u}- >$ TochAB *śäw-*, we can surmise that a similar development took place in the zero-grade of the *i*-present $*\acute{g}^hh_2\text{-}ei\text{-}/*\acute{g}^hh_2\text{-}i\text{-}C > *\acute{g}^hih_2\text{-}C > *\acute{g}^h\underline{i}\underline{h}_2C >$ PT $*\acute{s}\bar{a}\text{-}$. From there the palatalized onset was adopted in TochA *śew-*. Finally, the zero-grade vocalism of PGmc. $*giw\bar{o}n\text{-}$ is likely to have been copied from the vocalism of PGmc. $*gi\text{-}\bar{e}jan\text{-}$ (OHG *giēn* 'to yawn').

3. PIE $*sh_2\text{-}i\text{-}u\text{-}$ 'to sew'

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

3.1. Root in -H

The IE root $*seh_2\text{-}$ is represented in PIIr. $\sqrt{*saH\text{-}} >$ Skt. *sā-* 'to fasten, fetter': root aor. *sā́t* 3sg. inj. act. (RV+), *ava-sat* 3sg. subj. (PS 4.15.6), *vi ... sitam* 2du. impv. (RV), *saṃ satā́m* 3pl. impv. med. (PS 4.14.5); *sitá-* 'bound' (RV+), *ví-ṣita-* 'untied' (RV+); *ava-sātár-* m. 'liberator' (RV) ~ Av. *vīšta°* 'untied'; *vištāspa-* PN ('with loosened horses') $< *ui\text{-}sH\text{-}ta\text{-}$; 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 $*seh_2\text{-}$ forms an *i*-present $*sh_2\text{-}oi\text{-}/*sh_2\text{-}i\text{-}$ (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-ia-an-ti* 'to bind'.[12] In Skt. we find pres. *°syáti* (RV+), only with prev. *áva* 'to unharness' and *ví* 'to release (a knot), open (the lips)' and the perfect *ā́ siṣāya*, which exactly corresponds to OAv. *ā-hišāiiā* 'holds fettered'. Since perfects are normally derived from the root, PIIr. $*si\text{-}sHāi\text{-}a$ was synchronically analyzed as a perfect to the root $*sHai\text{-}$, which led to the creation of derivatives like Skt. *sétu-* m. 'bond, bridge', YAv. *haḗtu-* m. 'dam', etc.[13] The circumflex of Lith. *siẽtas, saĩtas* m. 'tie' also points to the reconstruction $*sh_2oi\text{-}$,

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

13   Deriving Skt. *sétu-* and YAv. *haḗtu-* directly from the stem $*sHai\text{-}$, rather than from $*saiH\text{-}$ after laryngeal metathesis, better accounts for the initial accentuation of *sétu-* (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: $*sh_2\text{-}oi\text{-}/*sh_2\text{-}i\text{-}C\text{-} > *sh_2oi\text{-}/*sih_2C\text{-}$.[15] The root-final position of the laryngeal was then generalized in the full-grade, too: $*seih_2\text{-}/*sih_2\text{-}$.[16] It is possible that the causative-factitive Skt. *sināti* 'to make fettered' has been formed to the metathesized root $*sih_2\text{-}$. If TochA *sināṣtär* '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 *suparṇá itthā́ nakhám ā́ siṣāya* "In this way, an eagle has (got)

14　The root of PSlav. **sětь* 'snare, net' (OCS *sětь*, Cz. *síť*, Pl. *sieć*, etc.) is likely to be circum-flex, 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. *siẽtas* 'cord' and OHG *seid* n. 'cord', these forms go back to **s(H)óitom*. If Gr. οἴμη 'song, hymn' is derived from this root (cf. Beekes 2010:1057 with references), it would likewise point to $*sh_2\text{-}oi°$.

15　The Indo-European laryngeal metathesis still awaits a monographic treatment. Important for its chronology are forms like Skt. *grīṣmá-* m. 'summer, hot season' (RV+) < $*g^wrih_2\text{-}sm(H)\text{-}o\text{-}$ < $*g^wrh_2\text{-}i\text{-}sm(H)\text{-}o\text{-}$, lit. 'heavy summer', with the "νεογνός" treatment of the second member; Skt. *agrū́-* f. 'virgin, unmarried woman' (RV+) < $*ng^wru\text{-}h_2\text{-}$ < $*ng^wrh_2\text{-}uh_2\text{-}$; and Gr. βρῑθύς 'heavy, oppressive', βρῑθω 'to be laden with, be full of' < $*g^wrh_2\text{-}i\text{-}d^h(h_1)V\text{-}$ (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. *šuḫḫa-ⁱ/šuḫḫ-* and *isḫuu̯ai-ⁱ/isḫui-*, both 'to throw, scatter' (see the discussion in Kloekhorst 2008:773 and Melchert elsewhere in this volume, who further adds Hittite *lāḫu-* < $*loh_3u\text{-}$ vs. CLuv. *lu-u-wa-* < $*luh_3\text{-}$, 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. *isḫiman-* 'string, line' are due to analogical restoration of the consonant order in *isḫāi* '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 $*sh_2\text{-}oi\text{-}$ is found in Lith. *siẽti*, Latv. *sìet* 'to tie' with the expected circumflex intonation, whereas zero-grade $*sh_2\text{-}i\text{-}C\text{-}$ is reflected in PSlav. **sīdlò* (b) 'noose, snare' (OCS *silo*, Ru. *siló*, Pl. *sidło*) < $*sh_2i\text{-}d^hlóm$; PSlav. **sítь* (b) (OCz. *sít* 'twining', Sln. *sît* 'rush') < $*sh_2i\text{-}tóm$ (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 *mā́ naḥ sétuḥ siṣed ayám* "May this fetter not hold us fettered"; OAv. Y 29.1 *ā.mā aēṣəmō hazascā rəmō [ā]hiṣāiiā dərəṣ[cā] təuuiṣcā* "(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 *sinā́ti* (RV+; later *sinóti* 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. *syū́*-, attested in two Yajurvedic mantras *víṣṇoḥ syū́r asi* (VS 5.21 + parallel passages) and *índrasya syū́r 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 *sī́vyatu* impv. (RV+), *ta*-ptc. *syūtá*- (RV+) ~ Khot. *hīya* 'sewn stuff', Oss. *xʷyjyn/xujun* 'to sew' ~ Goth. *siujan* 'to sew'; Lith. *siúti* 'to sew, tailor'; Latv. *šũt*, SCr. *šȉti* 'to sew', etc. The meaning 'to sew' is universal and shows very little variation.

4. PIE *g^wh_3-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 *g^weh_3-*, to be found in Gr. βόσκω 'to feed, tend', med. 'to feed oneself' (*Il.*), βόσις 'fodder', βοτάνη 'id.', and in Lith. *gúotas* 'herd' (*g^weh_3-to*-). The IE word for 'cow' (*g^weh_3u-/*g^wh_3eu-) 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. *jiɣaēṣa* < *$jiɣaiiaēṣa$ 2sg. pf. opt. med. 'to live' (Y 62.10 in a figura etymologica *gaiia jiɣaēṣa*), which seems to point to the stem *g^wi-g^wh_3-oi-*. An *i*-present is further reflected in Arm. *keam* 'to live', Gr. βέομαι fut. med. 'to stay alive', Lith. *gýti* 'to

become healthy, heal, live', OCS *žiti* 'to heal, live'.[17] The *e*-vocalism in Gr. βέομαι and Arm. *keam* can easily be restored, whereas the reconstruction *g^wh_3-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^wh_3-ei-/* *g^wh_3-i-C* > *g^wh_3ei-/*g^wih_3-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^wh_3iC* 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^wih_3-* was introduced into the full-grade *g^wh_3ei-*, which led to a new full-grade *g^wieh_3-*. This full-grade *g^wieh_3-* must be responsible for the Greek adjective ζωός 'alive', for the present ζώω '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, 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. *gojíti* 'to foster, feed'; Bulg. *gojá* 'to fatten', and also Gr. βίος m. 'mode of life, livelihood, subsistence', βίοτος m. 'way of life, sustenance'. These derivatives strongly indicate a connection with the root of Gr. βόσκω.

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

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17 As with Skt. *siṣāya* and OAv. *ā-hišāiiā*, 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^wih_3-* is, inter alia, responsible for Greek formations like βίος < *g^wih_3-o-*, βίοτος < *g^wih_3-eto-* 'life' and probably for the aor. ἐβίων < *g^wih_3-eh_1-* (cf. Klein 1988:268).

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

4.3. u-*Noun*

The "*u*-noun" in this particular case is a thematic adjective with the meaning 'alive, living': Skt. *jīvá*- (RV+) ~ Av. *juua*-, OP *jīva*- ~ Lat. *vīvus*, Goth. *qius*,[20] OCS *živъ*, Lith. *gývas*, etc. (< *$*g^wh_3$-*i-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. *$*žîvъ$* (c), Lith. *gývas* (3), Latv. *dzîvs*; 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. *siúti* 'to sew, tailor', Latv. *šũt*, SCr. *šȉti*, etc. 'to sew' have fixed stress, which means that the metathesis *$*sh_2iu-C$* > *$*siuh_2-C$* 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 *$*sh_2-oi-$*/*$*sh_2-i-$* was lost because of the divergent meaning.

Greek too has generalized the vocalism of the present, which accounts for the form ζωός '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. *jívati* (RV+), OAv. *juuāmahī* 1pl., OP *jīvā* 2sg. impv., Lat. *vīvō*, OCS *živǫ*, 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 *$*dh_2$-*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

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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 *mьni(tъ)* < *$*-ei$*, ablaut alternation in the suffix was preserved in Balto-Slavic *i*-presents for a long time.

vibhī́daka 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 $*deh_2$-, attested in Skt. *dā-* 'to divide, distribute, cut' (root aor. *avádāt* [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 $*deh_2$- has a well-established *i*-present $*dh_2$-*ei*-/$*dh_2$-*i*-, found in Skt. *dáyate* med. (RV+) (< PIE $*dh_2$-*eie*-) 'to divide, distribute, cut' and *ava-dyáti* (YV+) 'id.', as well as in Gr. δαίεται 'to divide'.

5.3. u-*Noun*

A *u*-noun $*dh_2$-*i-u*- can be identified with Skt. *dív-/dyū́-* f. 'gambling, play' (RV dat. *divé*, loc. *diví*, ŚS acc. *dyúvam*, dat. *dyuvé*), which may also be the basis of *pratidī́van-* m. 'adversary at play' (dat. *-dī́vne* RV, AV).

5.4. Denominal verb

Finally we arrive at our denominal verb Skt. *dīv-* 'to play dice, gamble' (RV+): class IV present *dī́vyaḥ* 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 $*sph_1$-*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 $*speh_1$-. This root is often glossed in the literature as 'to succeed, prosper', but in view of Hittite *išpāi, išpiịanzi* 'be satiated', its original meaning was rather 'to be full to the rim'. Here are some of its derivatives: Hitt. *išpān* 'satiation'; Skt. *sphātí-* f. 'abundance' (RV+), *gaya-sphā́na-* adj. 'producing domestic abundance' (RV); Oss. *æfsadyn/æfsadun* 'to nourish', Sariq. *spon-*

'to fill, replenish', Yzgh. *s(ə)păn-* 'to saturate' (cf. Cheung 2007:350); OE *spōwan* 'to prosper, succeed'; OCS *spěti* 'to succeed', Ru. *spet'* 'to ripen; to manage'; Lith. *spěti* '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 $*speh_1$- has been reconstructed by Kloekhorst (2006:115, 2008 s.v.) on the basis of Hittite *išpāi, išpii̯anzi* 'to be satiated' as $*sph_1$-*ói-/* $*sph_1$-*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 *sáṃ-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*-enlargment, 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 PIIr. $*pHaina-$;
>
> OPr. *spoayno* 'foam (of fermenting beer)', Lith. *spáinė* 'foam (on waves)', OCS *pěna*, Ru. *péna*, SCr. *pjèna*, *spjèna* (Dalm.) 'foam' point to BSl. $*(s)pó?ina?$ (Derksen 2008:397, $*(s)pói?na?$ 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 $*(s)ph_1oi$-*men-*. This vacillation $*sph_1oi$-/$*spoih_1$- could have arisen through paradigmatic levelling (after laryngeal metathesis in the zero-grade $*sph_1i$-*m*° > $*spih_1$-*m*°) or be due to the influence of the verb.

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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 *$*(s)ph_1i-u-$*.
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 *$*sph_1iu-$*.
Outside of Sanskrit, all the other branches point to *$*(s)piHu-/*(s)piuH-$*, which
can eventually go back to *$*(s)ph_1iu-$*: Gr. πτύω, Lat. *spuō/spūtum*, Goth. *speiwan*,
Lith. *spjáuti*, Latv. *spļaũt*, OCS *pľьvati*, 1sg. *pljujǫ*, etc. The deviating onset of
the Sanskrit root *ṣṭhīv-/ṣṭhyū-* (*pratyáṣṭhīvan* 3pl. impf. AV+, *-ṣṭhyūta-* ŚB+) pre-
sents 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 *$*sptieuH-$* and writes: "Alt nur mit auf *i* endenden
Präverbien, daher immer *ṣṭh* für *$*sṭh$*. Ist wegen ved. *ṭh* grundsprachliches *$*spt^h$*
anzusetzen (wogegen das Gr. spricht) oder mit erst sekundärer onomatopo-
etischer Aspiration (Spuckgeräusch) zu rechnen?"

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

   Ad (2): It does not seem attractive to invoke onomatopoetic distortions in
Sanskrit in order to account for aspiration, because the correspondences else-
where are quite regular. There are two ways—not mutually exclusive—to explain
ṭh. 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.

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23   There is yet another possible *u*-noun to this root, i.e., Skt. *pívan-*, f. *pívarī-* 'fat', Gr. πίων, f.
     πίειρα 'fat, fertile, rich', πῖαρ n. 'fat, tallow', Skt. *pívas-* n., YAv. *pīuuah-* 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 (*$*ph_1iu- >$*
     $*pih_1u-$) 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 *$*sph_1iu-$* 'to spit'. Presumably, when the connection of *$*pih_1u-$* 'fat' with the verb
     was lost, a new *u*-derivative was formed, this time with the meaning 'overflow, spittle, saliva'
     (≈ 'mouth foam', parallel to *$*(s)ph_1oi-men-$* 'foam').

Ad (3): *LIV* solves the problem of the Skt. dental by reconstructing the IE root as **sptieuH-*, 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*: *klomán-* m. 'lung' < **pleu-mon-* (Gr. πλεύμων m. 'id.'), *kṣu-mánt-* 'rich in cattle' < **pḱu-ment-* (YAv. *fšūmant-* 'id.'), *takmán-* m. 'fever' < **tep-mon-* (cf. YAv. *tafnah-* n. 'fever'). We find a dental only at the end of the stem in *kakúdmant-* 'having a hump' (RV; beside *kakún-mant-* VS) for **kakúb(h)mant-*, where the two velars in the stem may have prevented dissimilation to a velar, and in *adbhíḥ* instr. pl., *adbhyáḥ* 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.) δγm'y, MP *dhmk'* /daxmak/ 'place of burial, place of exposure', MParth. *dhmq* /dahmag/ 'tomb', Bactr. λαχμ(ο) 'grave', λαχμιγο '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 PIIr. **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), PIIr. **sč* first became **sć* and eventually yielded Skt. *ch* [tˢʰ]. In a cluster of *ṣ* + *ch* [ṣtˢʰ], 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 √-*H* → *i*-present → -*u*-noun → denominal verb is not readily available. The root **miHu-/muH-* (< **miuH-*) itself is quite rare in Indo-Iranian. As is often the case with verbs of movement,

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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 *aṣṭhīvá(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) *véda tvāhám nimī́vantīṃ nitudántīm 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 *kā́mamūtā* '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 hakaṯ vaēm auua.miuuāmahi 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 *prmᵓw-* /parmāw-/ 'to terrify'. Khwar. *š-mwȳ-* 'to loosen' (with the preverb **fra-*) and Oss. *mi/miwœ* 'thing, matter; work, affair' do not contribute much to the original meaning.

Among usually presented IE cognates (cf. *LIV* s.v. **mieu̯h₁-*),[28] we find verbs which point to an unstable, shaking movement: TochA *mew-*, B *miw-* 'to tremble', PSlav. **mỳti* 'to wash' (OCS *myti*, Ru. *myt'*, SCr. *mȉti*, 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-uḫ-ḫi*, 3sg. *ma-uš-zi* 'to fall', Lith. *máuti* 'to put on, tear, pull, stab, strike, dash', Latv. *maût* '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

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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 *amuiiamnå̄ razištanąm* "(Fravaṣis) unflinching from the straight-est (paths)," "die von den geradesten (Pfaden) 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. *máudyti* 'to bathe'; Latv. *maût* 'to submerge, swim'; *maudât* 'to bathe'.

meuH- with a reasonably regular ablaut. Since the development *$mi̯$- > *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 *tr̥dilá átr̥dilāso ádrayo 'śramaṇā áśr̥thitā ámr̥tyavaḥ | anāturá ajárā sthámaviṣṇavaḥ supīváso átr̥ṣitā átr̥ṣṇajaḥ* "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. *ví mayante* 'they alternate', OCS *minǫti* 'to pass', Cz. *míjeti* 'id.', Latv. *mît* 'to exchange', TochB /məsk-/ '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 *īv*-verbs is *srīv-* '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 *srevávyant-* 'making [Aditi] miscarry' (RV 7.18.8), *srevayāmi*[30] 'I make [your intention] fail' (PS 19.10.12 ~ ŚS 6.73.2 *srīvayāmi*). 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* (*srīvyeyur* MS 4.6.9:92.12[31] and *srīvyanti* AitB 4.22.4) and a hapax *srévuka-* adj. 'miscarrying', which occurs in the same line of

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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) re-
ports 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. *slidùs*, Latv.
slids 'slippery',[33] and goes back to PIE **sleidʰ*-. As follows from nouns like ON
slím 'slime', Lat. *līmus* 'mud, slime' < **slei-mo*-, OCS *slьzъkъ* 'slippery' < **sli-
ǵʰo*-, etc., the -*dʰ*- 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 slip-
ping, 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 'fail-
ure', along the lines established for the other roots in -*īv*-. There is one formal
problem, though: forms like Skt. *sridh*- and Lith. *slidùs* 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 *sívyati*, *dívyati*, 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

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32   Only found in the RV: class I present *sredhati*, *a*-aor. *sridhat* 3sg. inj., *á-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. *ríyate*, *leláya* '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-srémán*- goes back to **°srevmán*-, the irregular vocalization of **°srevmán*- must of course
     have been dependent on *srevayati*.

can be extended), next to Skt. *á siṣāya* ~ OAv. *ā-hišaiiā* 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. pīpáya ~ Av. (a)pipiiūšī- ~ Lith. papìjusi

The Skt. root *pay^i*-, usually glossed 'to swell, overflow, be full, flow lavishly', essentially attests only two formations: the perfect *pīpáya* and the causative-factitive pres. (V>I) *pínvati*. The same is true of Avestan: YAv. pf. *(a)pipiiūšī-* ptc. f. '(not) suckling' (V 15.8) and the causative-factitive *fra-pinaoiti* 'make thrive' (V 3.31).

The perfect *pīpáya*[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)pipiiūšī-* ptc. pf. act. f. '(not) suckling' (V 15.8) and Lith. *papìjusi kárvė* 'milch cow' and must be reconstructed for PIE. This meaning is further confirmed by the derivatives Skt. *páyas-* n. 'milk', YAv. *paiiah-* 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 *pay^i*- 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. *pīpáya dhenúr* (RV 1.153.3a)

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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 *bhúmim pinvanti páyasā párijrayaḥ* "The omnipresent ones (Maruts) fill the Earth with milk." The secondary root Skt. *pyā-* 'to swell, fill' (RV+), mostly attested in the present *ā-pyáyamāna-* ptc. med. (RV+), *á-pyāyasva* 2sg. impv. med. (RV+), has the same connotations. Note that the full-grade **piaH-* is reminiscent of **gʷieh₃-* 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. *pīpáya* 'to yield milk' and Gr. aor. ἔπιον 'to drink' exactly matches that of Skt. *siṣāya* and °*syáti* discussed above in §3.2.

9.2. Skt. dīdhaya ~ YAv. ā-diδaiia

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 *dīdh(i)ye* (RV+),[41] but Avestan only attests the active perfect YAv. *ā-diδaiia* 3sg., *vī-diδuuå* ptc. (Yt 14.13) and a few forms of the reduplicated present OAv. *daidiiaṯ* (< *didiiaṯ*) 3pl. inj. (Y 44.10), YAv. †*paiti.daiδiiāṯ* 3sg. subj. (them.), †*daiδiiatąm* 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. *dhī́-* 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-diδaiia* can be considered an *i*-perfect to the PIE root *d^heh_1-*, a formation akin to Old Hitt. *dāi, tianzi* < *d^hh_1-ói-ei/*d^hh_1-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 PIIr. root seems to be 'inspiration, revelation', something that occurs to you, literally "put" into you (often by the gods).

9.3. Skt. dīdáya

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 *dīdáya* with the root *idh-* 'to kindle', cf., for instance, RV 7.12.1b *yó dīdá̄ya sámiddhaḥ své duroṇé* "who, after being kindled, d. in his abode" or 2.35.4d

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

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

dīdáyānidhmó ghṛtánirṇig apsú "he, who is invested in ghee, d. without fuel in the waters." It seems therefore likely that *dīdáya*—at least, originally—referred to burning rather than to shining and that this form is an *i*-perfect to the PIE root *$deh_2(u)$-* 'to burn',[42] reflected in Gr. δαίω 'to kindle', δέδηα 1sg. pf. act. 'to burn', Skt. *dunóti* 'to kindle, burn' (AV+), etc.

Traditionally it is assumed that Skt. *dīdáya* is related to Gr. δέατο 3sg. impf. 'seemed', δῆλος 'clear' (< *δέαλος). The IE root is then reconstructed as *$deih_2$-* and considered to be an enlargement of *dei-* 'to be bright' (found in Skt. *dyáus*, *madhyáṃdina-*, etc.). In my view the connection with Gr. δέατο can be upheld. As we have seen above on several occasions, the laryngeal metathesis *dh_2-i-C* > *dih_2-C* could lead to the rise of a new root *$deih_2$-*. 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 synchonically formed to the root *mā-* (present III *mímāti*, inf. *mátavaí*), 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.

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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 *$deh_2(u)$-* 'to burn' like δάος n. (< *δάϝος) 'torch'.

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