

## Indo-European neuters in *-i*

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0. The aim of this article is (1) to present the evidence for neuter *i*-stems with full inflection and (2) to show that there is no evidence for *i/n*-stems nor (3) for neuters with *-i* in the nominative only (and zero, i.e. root noun, in the other cases).

### 1. Neuter *i*-stems (with full inflection)

1.0. Handbooks often speak of neuters in *-i*, but mostly this refers to adjectives. It appears that there are hardly any neuter *i*-stems in the Indo-European languages, but that there were in Proto-Indo-European action nouns which were very important in the history of the verb (section 1.9.). We shall present the evidence of the separate languages. This survey does not claim to be exhaustive in details except where indicated.

#### 1.1. Indo-Iranian

##### 1.1.1. Sanskrit

The four *i/n*-neuters are mentioned everywhere; they will be discussed in the next chapter. The handbooks further mention *hárđi*, which belongs to section 3.2., and *vári*, which replaces older *vār* (Wackernagel 1954: 291ff, spec. § 190c; 1957: 131, 145, 160).

I checked the suffixes in *-i* indicated in the reverse index of Grassmann's dictionary (1719–22) and Wackernagel (1954). I found no neuter.

Burrow (1955: 175–177) mentions *śami* and *śrkvi*, which I cannot find (for the latter cf. Mayrhofer 1976: 554 *śrákva*-). That *śáci* 'with' is an old neuter is uncertain. Burrow thinks that some forms in *-ya* continue older neuters in *-i*: *nābhya*- n. beside *nābhi*- f. (where the long vowel rather points to an original root noun), *mādhyā*- (which is certainly of Proto-Indo-European date). On *kravyā*- see section 3.1.

Further he believes that *arcís*-, *rocís*-, *śócís*- were neuters in *-i*. But *roci*-, which he adduces as evidence, "ist jung (Pur., Hariv.) und nicht ganz sicher (PW VI 441)", Mayrhofer (1976: 76). See on these words Wackernagel (1954: 365f.).

##### 1.1.2. Iranian

In Old Persian only *dipi*- 'writing' is in one place supposed to be neuter, but others take it here too as feminine (Brandenstein-Mayrhofer (1964: 116)). The word is a loan from Elamite.

For Avestan neither Bartholomae (1895–1904: §§ 189, 406) nor Reichelt (1967: §§ 303f, 363) mentions a neuter. In the Gatha's proper and the Yasna Haptanhaiti I counted 129 neuters (and 17 doubtful cases), but no *i*-stem. Of the reverse index, Bartholomae (1961) I checked the gender of the forms in *-i* not ending in *-ti*. I counted some 130 words. Two are listed as neuter. *tūiri* 'käsīg gewordene Milch, Molke' has been connected with Gr. *tūrōs* 'cheese' (because of Myc. *turo*<sub>2</sub> /*turjos*/ from *\*turio*-?). There is no good etymology. I don't see on what basis the word is considered a neuter (only *tūirinam* N 66 and 67). The word may be non Indo-European, or it could be the neuter of an adjective.

The other word is *tāyūiri* 'bread'. Again I don't see how we know that the word (only *tāyūirinam* V 16.7) is neuter. It could be an adjective, as is *xšāudrinam*, *ibid.* (Nor do I understand why Bartholomae refers from the one word to the other and to *taršu-*.) The word has no etymology.

The conclusion is that I find only two words given as neuter, both of which are in fact of unknown gender and which have no good etymology.

1.2. **Armenian** gives no information as the gender distinction has been given up.

### 1.3. Balto-Slavic

#### 1.3.1. Baltic

In Lithuanian and Latvian the neuter has disappeared. Old Prussian, which still has neuters, has no evidence for an *i*-stem (Trautmann 1910: 235ff). (*mary* 'hab' Voc. is an *ē*-stem.)

1.3.2. Slavic transferred the *i*-neuters (if there were any) to masculines or feminines (Meillet 1934: 417).

1.4. **Tocharian** has neuter forms only in the pronouns.

### 1.5. Hittite

Neuter *i*-stems are frequent. Brosmann (1978) counted 87 of them. He points out that 15% of them are loanwords (because there are good etyma or because they have Hurrian endings). "In view of the large foreign element in Hittite, the scant attestation of Hattic and Hurrian and the lack of an etymology for a majority of the neuter *i*-stems, one can be fairly confident that the actual proportion of such loanwords was considerably greater. . . At the other extreme, evidence concerning words of known original gender inherited from Proto-Indo-European is largely non-existent." Only the suffix *-asti* is clearly Indo-European. *dalu-gasti* 'length' and *pargasti* 'height' are neuters, *palhasti* is variable. As word with this suffix are always feminine in Slavic, it is supposed (Kronasser 1966: 209) that they became neuter in Hittite. But Kronasser did not give an argument why he rejected Pedersen's view (1938: 35) that the words were originally neuters. This view seems more probable, first, because Slavic does not have any *i*-stem neuters at all, and secondly, because a transition from neuter to feminine seems in general more probable than vice versa. This development may be rather important: first, it would show that Hittite retained neuters where they disappeared elsewhere, and secondly, it might indicate that the *i*-neuters, which were often action nouns (section 1.9.), became feminines in other languages too.

Kronasser (1966: 203) writes about the primary *i*-stems that there are hardly any trustworthy Indo-European connections (“Wortgleichungen, wie bei den *a*-Stämmen, finden sich darunter nicht”). Among the neuters he mentions *lissi* ‘liver’, for which Schindler (*Sprache* 12, 1966: 77–78) proposed an etymology. He interprets Arm. *leard* as *\*lis-r-t*, to which *lissi* would be a variant in *-i*. (The root vocalism is not essential here. Nor are *-i/-r* variants probable, but Arm. *-ard* can be analogical.) But it is possible that the Hittite word was an old neuter in *-i*, though it remains possible that the *-i* is an Hittite addition (cf. *meni* n. ‘cheek, face’). Schindler thinks an adjective, ‘the fat one’, is possible, but his connection with Lat. *lardum* etc. should be given up.

The conclusion is that a considerable increase of *i*-neuters was caused by loanwords (cf. on Greek below). We should also bear in mind the notorious productivity of the *i*-stems in Luwian. In Hittite there are 195 c and 87 neuter *i*-stems against 24 c and 17–19 neuter *u*-stems. It is clear that the Proto-Indo-European situation was reversed in Hittite. Though there are no words with an Indo-European etymology, it is quite possible that there was an Indo-European kernel.

**1.6. Greek** has loanwords like *sinapi*, *péperi* (Schwyzer 1939: 462). Chantraine (1933: 114) adds *iskhi·osphús* Hesychius. The gloss may be “une graphie tardive, ou un simple faute pour *iskhíon* (ainsi Latte)”, Chantraine (1968–1980). Chantraine himself connected the word with *iksús*, which proves non-Indo-European origin for Furnée (1972: 393). Non-Indo-European origin is anyhow probable. *álphi* (see section 2.0.) and *méli* (see section 2.0.) are *t*-stems. *thémis* is “vereinzelt und sekundär neutrum” (Frisk 1972 s.v.). The theory (e.g. Benveniste 1935: 34) that the word was *originally* a neuter *\*themí*, *-itos* cannot be proven. It rests partly on the idea that the Sanskrit neuters in *-is* were originally *i*-stems, which is most probably incorrect. If *\*themí*, *-itos* were correct, it could also have been *\*themít*. In the same way *kónis* f. ‘dust’ would have been a neuter because of Lat. *cinis*, *-eris*, under the assumption of an *s*-stem *\*konis-*, *\*kenis-* and behind that a neuter *\*koni*. If this is correct, it lies far back. Indirect evidence would be *ostéon* and *ósse*, which are discussed below.

The reverse index of Buck-Petersen (1945: 14) states clearly that there are no inherited neuter *i*-stems.

In **Latin** I find only two or three words, *mare*, *rete* ‘net’ and *īle*. *rete* has no etymology and cannot be used as evidence for a Proto-Indo-European neuter. The first word has been considered to be of non-Indo-European origin by Nehring (1959: 122) because of the *a/o* interchange. The neuter plural *ilia* ‘flanks, parties latérales du ventre’ has in the singular *īlium*, *īleum*, *īle*, which suggest that *īle* < *\*īli* was the oldest form. It has been connected with *ἰλία·μόρια* (codd. δῶρα!) *γυναικεῖα*; *ἰλιον·τὸ τῆς γυναικὸς ἐφῆβαιον δηλοῖ. καὶ κόσμιον γυναικεῖον παρὰ Κῶροις*. (Cf. Pokorny 1959: 499). Indo-European origin is far from certain.

**Germanic** *i*-neuters are found in Gothic and Old Icelandic (*marisaiws* in Gothic contains the word for ‘sea’). Only one word is found in more languages, *\*mari* ‘sea’: OHG *meri* (also masculine); in the other languages it has become masculine (*i*-stem) or feminine (stem in *-īn*). Further we find:

OHG *bini* ‘bee’; as the *-n-* is a Germanic addition, the *i*-neuter is a Germanic innovation. *quiti*, *quēti* ‘Ausspruch’.

OS *bini*.

*urlagi* 'war'; the word is a Germanic creation; see De Vries (1971: s.v. *oorlog*).  
*hals-meni* 'necklace'; OHG *menni*, OE *mene*, OIc. *men* show that it was a *io*-stem.  
*land-skepi*, *friund-skepi* etc.; in any case a Germanic creation; see De Vries (1971: s.v. *schap* 2).

OE *spere* 'spear' belongs to Germ. *\*speru-/sparu-*.

There is no evidence for an Indo-European form. On 'sea' see under Latin.

### 1.7. Celtic British gave up the neuter.

Old Irish.

Thurneysen gives seven *i*-neuters in his Grammar (1946: 191). Only two or three have an etymology.

*guin* 'wounding' must be *\*g<sup>u</sup>honi*. (Cf. section 1.9.)

*muir* 'sea' < *\*mori*.

*búaid* 'victory' has been compared with *Boudicca* and Germ. *Baudi-hillia* 'Siegeskämpferin', which would point to *\*bhoudhi-* (Pokorny 1959: 163).

*cuirm* 'ale' belongs with Gaul. *korma*, *kourmi*. Further connections are (extremely) uncertain.

*druimm* 'back' is supposed to be a loan from Welsh (Pokorny 1959: 1075).

*graiġ* 'horses', gen. *grega*. Not a loan from Lat. *grex* according to Pokorny (1959: 382).

*richiss* 'live coals' (see Thurneysen (1946: 191) for the gender) has been connected with Lith. f. pl. *piřkšnys*, but Vendryes (1959: R 29) notes that even the Celtic form cannot be reconstructed.

Note that *cuirm* and *druimm* have the *o*-vocalism expected in Proto-Indo-European (as least in one type, see section 1.9.).

### 1.8. Conclusion

There are two kinds of danger with articles like this. One is that the author cannot resist the temptation to deny every form of evidence. The second is that the nuances disappear when the results are cited ("B. has shown that Proto-Indo-European had no *i*-stem neuters"). Therefore I shall try to be very clear in the conclusion.

Evidence for neuters can be expected from Indo-Iranian, Old Prussian, (Slavic), Hittite, Greek, Latin, Germanic and Celtic. There is no positive direct evidence in Old Prussian (and Slavic). There are hardly any *i*-neuters in Indo-Iranian, Greek, Latin and Germanic, and probably none that is of Proto-Indo-European date. Positive, direct evidence is found in Hittite and Old Irish. In Hittite there was a large non-Indo-European influx. Of Proto-Indo-European date could be the words in *-asti* and *lissi* 'liver'. Whether there are more inherited words should be investigated. In Old Irish *guin* 'wounding' will be old, for other words this is not certain. Doubtful is *\*mori* 'sea'.

As we find *i*-neuters in two 'extreme' languages (Hittite in time, Old Irish in position), it is possible that they retained *i*-neuters from Proto-Indo-European and that the category was enlarged by loans and new formations but lost the old forms. On the other hand, in Indo-Iranian and Greek they seem to have been lost very early. A certainly old type is discussed in the next section.

1.9. Recently it has been supposed that there were Proto-Indo-European neuters of the type *CoCi* that were very important for the development of the verbal system.

Burrow (1955: 177) thinks that the (3rd sg.) passive aorist type *tāri*, *jāni*, continues a neuter in *-i*. Kortlandt (*IF* 86. 1981: 127) shares the idea (1981: 127). As the type is also found in Avestan (GAv. *vāci*, *srāvī*), the passive aorist is at least of Proto-Indo-Iranian date. If Kortlandt is right in assuming that the causatives are derivatives of such verbal nouns, the type must be very old. He also assumes (1981: 128, note 1) that such a noun was used in the formation of the Germanic weak preterite (e.g. Gothic 2nd sg. *nasidēs* 'you saved' < *\*nosi dhēs*) and of the Old Irish denominatives, type *-suidigedar* < *\*sodi sagitro* (see Thurneysen 1946: § 524).<sup>1</sup> This would mean that this type of *i*-neuter must date back to Proto-Indo-European and lived on into the separate languages, although perhaps already as a fixed (indeclinable) form with restricted use. No doubt OIr. *guin* 'wounding' is a remnant of these verbal nouns (it is isolated in Irish, Thurneysen 1946: 448).

Rather speculative is the following suggestion. The neuter dual ending *-ih*<sub>1</sub> (Gr. *ósse* < *\*ok<sup>u</sup>ih*<sub>1</sub>) might have its *i* from the neuters in *-i*. This would prove their former importance in Proto-Indo-European. (Note that du. *-h*<sub>1</sub>, pl. *-h*<sub>2</sub> was a not well marked system.)

## 2. *i/n*-Neuters

2.0. Four Indo-Iranian neuters have *i/n* inflection. On this basis an *i/n*-inflection for Proto-Indo-European parallel with the *r/n*-stems has been postulated (the first was J. Schmidt 1889: 248ff). I do not think this is correct.

2.1. The evidence outside Indo-Iranian is very untrustworthy. What Benveniste (1935: 6–8) presents "gehört entschieden zu den Teilen der Jagdbeute, die Benveniste aus der vollen Jagdtasche als unrechtmässig erlegt wird ausliefern müssen" as Pedersen (1938: 17 n. 1) said of parts of "das wertvolle *r/n*-Wild".

Passing by Lith. *vāgis* etc., Lat. *axis* etc. (and the word for 'ear', where both Av. *ušibya* and Lith. *ausis* are innovations), we note that for Skt. *hārdi* etc. the Germanic forms do not prove a Proto-Indo-European *n*-stem, and retain only three words: Gr. *álphi* 'barley', Lat. *mel* and Lat. *sal* etc.

For *álphi*, normal plural *álphita*, the Hesych gloss *alíphata álphita ē áleura* would show an old *n*-stem: it would replace *\*álphata*. Unnecessary to say that this interpretation, based on a gloss, is not certain enough to prove anything for Proto-Indo-European. Latte corrects the form into *\*alēphata*; cf. Chantraine (1968–1980: s.v.).

Lat. *mel*, *mellis* would represent *\*meli-t*, *melnes*. But the *n*-stem is not certain. Ernout-Meillet (1959: s.v.) consider *-ln-*, *-ld-* or "ancienne géminée populaire". Leumann (1977: 213) follows Szemerényi's idea (KZ 75. 1958: 183 n. 1) that it is analogic to *fel*, *fellis* 'bile'. In any case the *n*-stem is found nowhere else. From Hittite *melit* no oblique cases are known, but the adjective *meliddu* 'sweet' and Luw. *malli*, pl. *mallitinzi* are based upon the form with *t*, so *t*-flection seems probable. Gr. *blíttō* must be based on a stem form *\*mlit-*, which points to an old inflection *\*melit*, *mlit-ēs*.

‘salt’

“Auf Grund von aksl. *slanz* (‘gesalzen’), air. *salann* ‘Salz’, gr. *hálasin húei* (Suid.) setzt Schmidt (1889: 182) einen obliquen Stamm *\*sal-n-* neben den nom. *\*sal-d* oder *\*sal-i* an, eine Annahme, für die jedenfalls der anscheinend späte griechische Ausdruck keine Stütze bilden kann”, says Frisk (1960: 79). The Slavic adjective is of course a *no*-adjective derived from *\*sol-* (Meillet 1934: 267), the Celtic word is supposed to continue *\*saleino-* (Pokorný 1959: 878) and does not point to *\*sal-n-*. The athematic inflection of Greek, Latin (the nom. *sale* is secondary according to Ernout-Meillet) and Slavic (the *i*-stem is shown to be secondary by *\*sol-no-*) must be old.

The non-Indo-Iranian evidence, then, appears to be non-existent. It should also be observed that Hittite, where we find so many *r/n*-stems, has no *i/n*-stems.

2.2. Sanskrit has four *i/n*-neuters: *ásthi*, *sákthi* ‘thigh’, *dádhi* ‘sour milk’, *ákṣi* ‘eye’ (Wackernagel 1957: 302–306). However, the Avestan cognate of *ásthi* has the following forms according to Kellens (1974: 336–339) (younger forms in brackets, masculine/feminine forms and *a*-stem forms):

	singular	dual	plural
nom.			<i>asti</i>
acc.	<i>as-ca</i> , ( <i>astəm</i> )	( <i>asta-ca</i> )	<i>asti-ca</i> , ( <i>astēs-ca</i> , <i>asta-ca</i> )
gen.	<i>astō</i> , <i>astas-ca</i>		<i>astqm</i> , ( <i>astanqm</i> )
instr.			<i>azdābiš</i> , <i>azdibiš</i> = <i>/azdābiš/</i>

It is evident that the oldest inflection was that of a root noun, and this must be the Proto-Indo-Iranian inflection, and, we may add confidently, the Proto-Indo-European inflection.

Avestan has one form that suggests an *n*-stem, *astāntāt-* YH 41.3. (First it should be recognized that *\*ast-tāt-* was difficult. Note further that we would expect */astātāt-/*, cf. GAv. *karapō.tāt-* */karpatāt-/*. I think that *-ən-* was taken over from a form like Skt. *astanvānt-* (GAv. has *astvant-*), where *-an-* was regular before *-v-*. If this is correct, it proves the existence of other forms in *-an-* Iranian, then, may have had *n*-forms too, but this cannot invalidate the conclusion that the root-inflection was the oldest type.

Gr. *astakós/ost.* ‘lobster’ is considered to represent *-n-ko-*, but because of the vocalism this is uncertain. The word cannot be a Greek formation, and it is hard to believe that it is of Proto-Indo-European date. The word is probably non-Indo-European. (Cf. Beekes 1969: 51; Furnée 1972: 137, who thinks that *stakhós* is not old. *óstrakon* does not represent *\*Hostrko-*, or even *\*Hostrnko-*; nor is *astrágalos* a Proto-Indo-European *\*Hstr-g(h₂)lo-*.)

Further support could be seen in Venetic, where *ostinobos* (in Latin script) is interpreted as ‘ossibus’ (Lejeune 1974: 337) and explained from *\*ost-n-*. But it could also be an adjective in *-tino-* (id. 99). *ostiako* (olim ‘ossuarium’) has turned out to be a personal name.

*Sákthi* has in the Rígveda further an *i*-stem form *sakthyā* and the *n*-stem *sakthāni*. The Avestan cognate appears in three forms, acc. du. *haxti*, gen. *haxt(a)yā* and *haxta* (see section 3.4.), none of which is an *n*-stem. As the *i*-stem can be explained (e.g. from the dual), we may suppose an original consonant-stem as for *ásthi*, which may be confirmed by *haxta*.

For *dádhi* OPr. *dadān*, which is an *o*-stem neuter, shows that there was no *i/n*-stem.

Du. *akṣi* shows (cf. the accent) that the word for ‘eye’ was a consonant stem.

Compounds of all these words are from consonant stems: Skt. *an-asth-á-*, *-sakth-á-*, *an-áks-* (Wackernagel 1954: 93, 108f; “aber bei uneigentlicher Bedeutung [that is in younger forms] *-akṣi-*, *-sakthi-* P. 5.4.113”). Though in itself this is not definite proof for consonant stems, it confirms the other evidence.

2.3. The conclusion is that neither Indo-Iranian nor the other languages have evidence for Proto-Indo-European *i/n*-inflection.

### 3. *i/zero*-Neuters

3.0. Is there any evidence for neuters that had *-i* in the nominative but no suffix in the oblique cases? We shall first look outside Indo-Iranian.

3.1. It should be remarked in advance that the distinction between *i/zero* neuters and neuters with complete *i*-inflection is difficult. One aspect of the problem is that neuters often occur only in the nominative-accusative singular.

I can find only one form for which *-i* in the nominative has been supposed (and *-n-* in the oblique cases, which, however, proved, improbable, supra section 2.0.), the word for ‘salt’ (Benveniste 1935: 8). However, Lat. *sale* is secondary, OCS *solb* replaces *\*sol* as appears from *slanž* ‘salted’, Gr. *hali-* in compounds (against *háls*) does not prove a neuter in *-i* (though Chantraine still states this possibility, apparently because Benveniste’s authority is still strong; cf. below).

Gr. *ískhi* was discussed above (section 1.6.).

We need not discuss Benveniste’s theory (1935: 75ff) of a large scale transference of *i*-neuters to masculine-feminines. The least one can say about it, is that it has not been proven. To posit, e.g. *\*ikri*, *\*orni* for *ikrion*, *órnis órneon*<sup>2</sup> is gratuitous. Certainly wrong is it to take *klónion* (a gloss in Hesychius) as a basis for *\*kloni*, as *klónion* is clearly based on *klónis* (after words like *iskhíon*; the gloss begins with *klónion iskhíon*), which is feminine, as are the cognates Skt. *śróni-*, Av. *sraoni-*, Lat. *clūnis*, W. *clun*; OPr. *slaunis* Vocabul. is not neuter, so probably feminine; OIc. *hlaun* was mostly given as neuter, now mostly as feminine (as far as I know the gender cannot be ascertained for Old Icelandic; as it is at present neuter, this gender was assumed for Old Icelandic too; this is improbable, also because the language has no other *i*-stem neuters). Chantraine (1968–1980) again still posits the possibility of a neuter. Nor is there any reason to posit a *\*kreuHi* n. for Skt. *kravyám* (*á-kravi-hasta-* may contain *\*kreuH-* or *\*kreuHi-*, but it is not necessary to posit a neuter for it), Lith. *kraūjas*, OPr. *krawian*.

3.2. In Indo-Iranian Sanskrit has *hārdi*, the four *i/n*-stems and *vāri*. The latter replaces older *vār*. This *i*-stem may have developed from an *-i* added to the nominative singular, but this is not certain. In any case the nominative in *-i* was evidently a younger form. There is no reason to suppose that *vār* (RV) is a secondary form (as does Wackernagel 1957: 34).

The word for ‘heart’ is now generally reconstructed as:

<i>ḱērd</i>	pl. <i>ḱerd-h?</i>
<i>ḱrd-és</i>	<i>ḱrd-óm</i>
etc.	etc.
( <i>ḱerd-i?</i> )	

It was recently discussed by Szemerényi (1970), with whom I agree on most points. (I am not convinced that the nominative was *\*kēr* in Proto-Indo-European. I do not believe in a development *\*kerd* > *\*kerr* > *\*kēr*.) He has definitely refuted the idea, repeated over and over again in all handbooks, that there was an old *i*-stem. In fact many languages prove an old consonant stem (Lith. *širdū* etc. prove that *širdis* is recent; and even if we would not have that evidence, *širdis* cannot be used as proof for an old *i*-stem, as is done so often; recently by Brosman (*JIES* 6. 1978: 98), though he knows Szemerényi's article), and the forms with *-i-* can be explained as younger formations (Gr. *kardia* has a suffix found in other words for parts of the body; OIr *cride* < *\*krdiom* has nothing surprising; Hitt. *kardias* does not prove an old *i*-stem and there is the regular genitive *kardas*; see also below on *kardias*). The Armenian *i*-stem is not sufficient to prove Proto-Indo-European origin; Szemerényi (1970: 526) reminds that Armenian has more often unoriginal *-i*-stem forms (e.g. from *otn* 'foot').

It is most improbable that an *i*-stem existed by the side of this root formation. In that case most languages would have chosen the *i*-inflection, which does not present the difficulties of the root noun. A full *i*-inflection has been assumed especially to account for Skt. *hṛdayam*, LAv. *zərədaēm*. (The same explanation is often given for Gr. *ostéon*.) Not only is a full *i*-inflection most improbable, even if it had existed it would probably not have given, with thematization, the Ilr. *-aya*-suffix, as there is no evidence for such a development (Wackernagel 1954: 213–215; there is evidence for *-ya-* from hysterodynamic *i*-stems, *ibid.* 807f).

I think the explanation of the forms in *-ayam* is the following. "Auch sonst ist im Veda der NAVSg. n. mancher Stämme durch andere Bildungen vermieden" observes Wackernagel 1957: 32) and gives *hṛdayam*, as an example. I think this is the explanation: the form replaces the difficult nominative (*\*ghêrd* > *\*hār*). The form is at least Proto-Indo-Iranian, and as its formation in Indo-Iranian is not understandable (Wackernagel 1954: 213), it seems to be of Proto-Indo-European date. The comparison with Gr. *ostéon* and Lat. *hordeum* seems quite apt: in all instances the old form was a root noun that presented difficulties (specially in the nominative). The explanation of the suffix must be that given by Risch (1974: 132) for *ostéon*: "eigentlich 'Knöchernes'", i.e. *-eios* was the suffix meaning 'belonging to', well known from the adjectives indicating materials. The substantivized form of this adjective would get almost the same meaning as the noun from which it was derived. This explanation is also given by Szemerényi (1970: 525), who gives the curious parallels that Lat. *cuprum*, *fāgus* were in the Romance languages replaced by *cupreum*, *fāgeus*. I wonder whether the Hittite genitive *kardias* is not simply this adjective, *krdeios* 'belonging to the heart, of the heart'. Compare the Luwian adjectives in *-assi-* replacing the genitive.<sup>3</sup> (A secondary formation on the basis of the dative and instrumental (*kartit*) seems improbable to me: these starting points for *i*-inflection were present with all consonant stems; and why would only the genitive shift to the *i*-stems?) I would even consider the possibility that *hastijas* < *\*HostH-eios* was the origin for the rather enigmatic inflection *hastai*, *hastias*. (Once the adjective was incorporated as a genitive, apparently an *i*-stem form, analogic spread of an *i*-stem was only to be expected.)

The conclusion is that the *-i* of *hārdi* is not cognate with the *i*'s of the words for 'heart' in other languages nor with that of *hṛdayam*. Proto-Indo-Iranian inherited *\*kêrd* *\*krdés* with an adjective *\*krdeios* of which the neuter *\*krdiom* could be used in the place of *\*kêrd*. The question remains from where the *-i* came.



Szemerényi (1970: 526) assumes that the *-i* developed from a prop vowel before words with initial consonant. He gives parallels of languages that have such (final) vowels. But here the difficulty of this solution becomes clear: some languages have such phenomena, but then rather frequently, others do not have it. And as Sanskrit has no evidence for such a development, this explanation cannot be accepted.

I can think of only one source, which to my mind is evident: *hárđi hrdás* was formed after *ástthi \*asthás*. Essential is that the *-i* of *ástthi* can be explained. Note that *hárđi* and *ástthi* belong to the same semantic sphere.

3.3. Remains the group *ástthi \*asthás*. The *-i* can hardly date from Proto-Indo-European, as there is no evidence for *i*/zero neuters elsewhere. The other languages give no support for a nominative in *-i* in this case. Hitt. *hastai, -ias* does not have *-i*. Gr. *ostéon* has been explained above (from an *eio*-adjective). Arm. *oskr* < *\*ostuer* and Lat. *os, ossis* have no trace of an *-i*. When the *-i* is of Indian origin, it cannot have been taken from *hárđi*, where it must be explained itself, and there were no other neuters in *-i*. The *-i* must have originated in the word itself. The explanation has been given by Hamp (1953: 137–141). It may be well to draw attention to his explanation, as it is not mentioned in Mayrhofer's dictionary (1953: 67, 553; 1976: 637f). The *-th-* shows that the word had a laryngeal, and *\*HóstH, HostH-és* gave *\*ástti, \*asthás*, with generalization of the *-th-* in Sanskrit *ástthi* (cf. *pánthāḥ*). I arrived at the same conclusion independently. (Szemerényi (1970: 526, n. 61) does not accept the laryngeal, but without any argument. Kellens (1974: 336) says that Gr. *ostéon* disproves a laryngeal, which is not true. Note that Hittite and Greek would have got *\*hasta* and *\*oste/a/o* respectively in the nominative.)

The development to *\*asti* was Proto-Indo-Iranian (Beekes, *IJJ* 23. 1981: 275–287). *hárđi* occurs also in Dard- and Kafir languages (Mayrhofer 1976: 605), which means that *hárđi* probably existed already in Proto-Indo-Iranian. If *hárđi* got its *-i* from *\*asti*, this must be of Proto-Indo-Iranian date, too. (Cf. below on possible Iranian *\*dadi*, section 3.5.).

Avestan nom. sg. *as-ca* instead of *\*asti* then presents a problem. Hamp here makes a suggestion which is apt to discredit his theory: that Av. *\*ast* represents *\*Host*, supposing that *-H* was a collective suffix. This is unacceptable. First, Sanskrit and Avestan must be derived from the same form. (And if we assume *\*Host* for Sanskrit, we cannot explain its *-i*.) Secondly, a collective suffix for (the singular of) 'bone' is quite improbable. We must look for another explanation. (Note that those who assume Proto-Indo-European *\*HostHi* have the same problem.) I see three possible explanations (which do not exclude one another):

- (1) In derivations (*astvant-*), in compounds and before clitics (*as-ca!*) the *-H* was not vocalized in Iranian (as normally in interior syllable).
- (2) The inflection *\*asti, astas* could lead to a new nominative *\*ast* (a tendency strengthened by the development in 1).
- (3) The plural, which was rather frequent given the meaning of the word, was *asti* (< *\*HostHH*). To avoid the homonymy with the plural the singular could have been reshaped to *\*ast*. I think, then, that *as(t)* replaces *\*asti*.

Whether *\*HostH* originally contained a suffix *-tH* cannot be made out. The comparison with *sákthi* suggests it, but this word could have been assimilated to *ástthi*.

3.4. Skt. *sákthi* 'thigh' may have *-i* < *-H* just as *ástthi*. It is of course possible that it got its *-th-* and/or *-i* from *ástthi*, but there is no necessity to assume this. In any case *śúpti-* 'shoulder' did not take over *-th-*. The *n-* and *i-* inflection (du. *sakthyā*, probably for original *\*sakthī*) point to a root noun.

We do not know what the nominative singular was in Avestan. The gen. pl. *haxt(a)yā* /*haxtiāh*/ is an *i*-stem. This form may be analogic after the nominative dual in *-i*, but it might also be analogic after the nominative singular (cf. GAv. *jānayō* 'women' from *jani-* < *\*g<sup>w</sup>enH*). Of the form *haxta* (F 3 g 'haxt') we do not know which case it was. I see four possibilities:

- (1) An *n*-stem nominative is improbable.
- (2) A locative (singular) of an *i*-stem is not very probable for this word.
- (3) A good possibility seems to be that it is the instrumental singular of a consonant stem.
- (4) Lastly, it might be the nominative dual of an *a*-stem (cf. the *a*-stem forms of *ast-*).

GAv. *haxt(i)-* does not agree with *sákthi*: we expect *\*sakth-* > *\*haxəδ-*. Again it is possible that the *-t-* was taken over from Av. *ast-* (with regular *sth* > *st*). But in the nominative *\*haxti* is regular from *\*sakti* < *\*saktH*. Compare for the non-generalization of *-th-* in Av. *pantā* *pantānəm* against Skt. *pānthāh* (and, more generally, *aogō* *aojah-* against Skt. *ójas*). However, in this case we find *-t-* in the oblique cases. This can be explained if the *i*-stem originating in the nominative was generalized. Lastly, the *-t-* of the nominative might have spread to the other cases after the example of *\*asti*.

3.5. With *dádhi*, *dadhnás* have been connected OPr. *dadān* 'milk' Voc. and Alb. *djathë*. *dadān* is probably an *o*-stem. (The only neuter *n*-stem in Old Prussian is *semen*; cf. also Trautmann (1910: § 157b) on *wundan*.) The Albanian word represents *\*dedh-*. This gives a problem for OPr. *-a-*. Therefore, Szemerényi (KZ 73. 1958: 81 n. 5) suggested that *dadān* is a loan from a Germanic word for milk, comparing it with Gothic *daddjan* 'suckle'. I think Toporov (1975: 284–286) is right in objecting: (1) that we have no other evidence for this Germanic word; (2) that the Slavs took their word for milk from Germanic, but that was *\*melko-*, not *\*dada-*; (3) that *dada-* occurs in Prussian geographical names. The last point seems not certain to me, the first two, however, make the suggestion improbable.

I see three possibilities for OPr. *-a-*:

- (1) There was assimilation *\*deda-* > *dada-*, but this is ad hoc.
- (2) In the vocabulary *a* often is found for older *e* (Trautmann 1910: § 11c). It is a peculiarity of that dialect of Old Prussian.
- (3) The original inflection of the word had *o/e*-ablaut. (A fourth possibility is that Alb. *\*e* is not original.)

The difficulty, then, is not strong enough to deny the at first sight evident relation of *dadān* with *dádhi*. I think there are two more arguments in favour. We now know that (if the word was inherited) it must have had *-dh-*, for Proto-Indo-European *-d-* would have made the preceding vowel long according to Winter's Law. Further, another gloss (690) has *ructan dadān* 'sour milk', which shows that this word could be used in a phrase with exactly the same meaning as *dádhi*.

Therefore the cognates must be accepted. This means that the word did not have *n*-stem forms originally. But an original *i*-inflection as is usually assumed is equally impossible.

In Sanskrit the *i*-inflection might have been replaced by the *i/n*-inflection, (though I think such a development is improbable), but the absence of an *i*-stem in Albanian and Old Prussian cannot be explained.

The word is mostly derived from *\*dheh<sub>1</sub>-*, *\*dheh<sub>1</sub>i-* 'suckle' with reduplication. But a pre-form *\*dhe-dhh<sub>1</sub>i* or *\*dhe-dhh<sub>1</sub>i-* is impossible, because this would have given a full *i*-inflection. Hamp therefore rejected the connection with this root altogether, but this is not probable. See the parallels given by Toporov (1975). The only possibility left is that the root had the *i*-less form and no suffix *-i* (neither throughout nor in the nominative only, for this would certainly have led to *i*-inflection in some of the languages). We thus arrive at the reconstruction *\*dhé-dhh<sub>1</sub>*, gen. *\*dhedhh<sub>1</sub>-és*, which gives directly (Proto-Indo-Iranian) *\*dadhi*, *\*dadhás*. The fact that the laryngeal of the root explains the *i*/zero inflection of Sanskrit directly can hardly be a coincidence. The reduplicated root noun might surprise. Kortlandt points out to me that the word for 'beaver' may have had this formation. We find *\*bhebhro-* and *\*bhebhru-* (Avestan has an *i*-stem) side by side, and this suggests that the word was simply *\*bhebhr* originally.

Interesting is Szemerényi's theory that Hungarian *tej* 'milk' derives from an Ir. *\*dadi* (apud Altheim 1951: 77f). It would point to an Iranian form in *-i*.

3.6. About *ákṣi* we must be short. We have seen that *ákṣi* *\*akṣás* probably was the original inflection. The structure of the word is totally unclear, other languages pointing to simple *\*Hok<sup>u</sup>*. It has been assumed that the *-i* originated from the (frequent) dual *ákṣí*. I would expect a complete *i*-inflection in that case, but it is not impossible. On the other hand, a form in *-H* cannot be ruled out either.

3.7. The results for Proto-Indo-European may be given in this table:

neuters in <i>-i</i>	<i>i/n</i>	<i>i/zero</i>
<i>*ToRi</i> : Ilr. pass. aor.	none	none
Germ. pret.		( <i>*HostH</i> > PII <i>*ásti</i> )
Olir. denomin.		<i>*HostH-és</i> > <i>*asthás</i> )
Skt. — Gr. —		
Av. — <sup>1</sup> Lat. — <sup>2</sup>		
OPr. — Gm. — <sup>3</sup>		
Hitt. + Olir. +		

1) two forms given uncertain; 2) two or three words; 3) recent forms.

## Notes

- 1 Proterodynamic *\*k<sup>u</sup>ori*, *\*k<sup>u</sup>r-ei-*, younger *\*k<sup>u</sup>orei-*, would explain the zero and *o*-vocalism of the *eie*-verbs.
- 2 Hitt. *haran-* shows that the word was originally an *n*-stem. (The nominative *harās* continues *\*Horō* < *\*Horōn*, as Kammenhuber (1969: 289) has shown, (note that Hittite and Palaic write *harās* with long *a*); not mentioned by Tischler (1977) who refers to the theory that the nominative had *\*-ans*, which would have given *-anz*.) Benveniste's *\*or-* *\*oren-* (1935: 24) thus loses its basis. (Tischler wrongly cites *\*oren-*, *\*orn-*.) Gr. *órneon* may have the same suffix *-eio-* as has *ostéon* (see the text, below). There is no reason why Gr. *órnis* would be an old *i*-stem. Benveniste made the mistake to assume that *-eio-* requires the former existence of an *i*-stem.
- 3 Comparable is Szemerényi's explanation of Gr. *gunaikós* as an original adjective (*AION* 2. 1960: 13–30).

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