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Indo-European 'heel'

1. It is well known that the consonant initials of many Indo-European roots show irregular correspondences. Notorious is the so-called s-mobile, which appears in some reflexes of a root, but is absent in others. We also find unexpected aspiration, different order of the consonants, unusual "prothetic" vowels, etc. These irregularities are usually treated on an ad hoc basis, but I believe that we can account for them in a principled way by assuming heavy initial clusters which were simplified in various ways. The problem is that there are only a few cases where the clusters can be demonstrated, and furthermore, these clusters are usually unique, so that sound changes which we observe there cannot be verified.

A good example is the IE word for 'female breast, nipple', which can safely be reconstructed as *psten- with the preserved cluster in Iranian (Av. fšāna-, Middle Persian pēstān) and Tocharian (A pāśān, B pāścane du.), but with *pst > st- in Sanskrit (stāna-), Greek (Hes. στηνίον), Armenian (stn), and possibly in Hittite (if istanu /istants/ 'soul' belongs here), and with *pst > sp- in Baltic (Lith. spenys, OPr. spenis), Celtic (OIr. sīne < sp-, cf. bó tri-phne 'cow with three teats') and Germanic (ON spen). Derivatives of this root reflecting *pst- lose the -t- in Indo-Iranian (Skt. viśva-psnya-, LAv. arāwua-fšnt-). Although these sound developments can hardly be doubted, they have no parallels. Here we are lucky that the cluster pst- has been preserved in Iranian and Tocharian, otherwise we probably would not have ventured to assume the rule *pst- > sp- in Baltic, Celtic and Germanic.

2. After these preliminary remarks, let us consider the etymology of the Indo-European word for 'heel', which, in my opinion, also contained a heavy initial cluster. This word is usually reconstructed as *(t)persneh/, on the basis of the following cognates:

- Skt. pāṣṇā- f. 'heel';
- Plr. *pāṣṇā- 'heel' (LAv. pāśnā- f.; Khot. pārrā-, Sogd. pšn', Shūni pārnak);

1 A few remarks on the Avestan form are in order, because the account in our handbooks is wrong. Bartholomae gives LAv. pāśna- n. in his dictionary, which can hardly be correct. The attested forms are: instr. du. pāsēnibia (V 2.31, V 23.2: aigad zman pāśnabiya vispari 'stamp the earth with your heels') and pāśnaēbibiya (V 8.70: hakāq nigrapaēbibiya angustaeēbibiya uggrapaeēbibiya pāśnaēbibiya dašūnēm he haēxēm paiit hīpcērī 'with, at the same time, toes down

3. Before we proceed, let us first shortly discuss three moot points concerning the reconstruction *(t)persneh₂.

(1) The lengthened grade. It is attested only in Indo-Iranian, but since in all other languages the long vowel would have been shortened due to Osthoff’s Law anyway, it is likely that the long vowel is old in Indo-Iranian. MAYRHOFER (EWAia: 124 with a reference to BENVENISTE 1954: 42) assumes that “Irr. *päršn- ist wohl Vṛddhibildung zu *parśna- (idg. *persneh₂)”, but this seems improbable to me. First of all, it is unclear what would be the function of this vṛddhi formation. Secondly, the distribution (short vowel only in those languages that undergo Osthoff’s Law) pleads against this explanation. Thirdly, Iranian has an a-stem *päršnā-, so that we cannot account for the i-stem by referring to Irr. vṛddhi formations in -i-. Most probably, the lengthened grade is analogical after the word for ‘foot’ (PIE *pēd-), as suggested by DE VAAN (2003: 97). In view of the distribution, the analogical replacement could even be of Indo-European date².

and heels up, you should pour (water) onto the right sole and very similar passages V 8.71, V 9.25, V 9.26. Of these two forms, pāṣnabia is clearly a lectio difficilior, because -aibīia in pāṣnaeibīia might be perseverated after the preceding nogorptieibīia nagorpstieibīia.

The form pāṣnabīia unambiguously points to a fem. a-stem, since, in spite of our handbooks, the instr. du. ending of Avestan short a-stems is always *aibīia (OAv. -ābīiiā, LAv. -aibīia / -aibē as opposed to Skt. -ābyām). Next to pāṣnabīia, HOFFMANN-FORSSMAN (1996: 120) only mention dōṭrābīia, attested in the Yashts (Yt 1.29, 10.107, 19.94), which they, just as Bartholomae, consider to be instr. du. of dōṣra- n. ‘eye’. However, the word for ‘eye’ is a feminine a-stem in the Yashts, cf. dat. pl. Yt 10.82 (2x) ābīiā dōṭrābīiā, Yt 19.94 dōṭrābīiā, and Y 68.22 nāmā ābīiā dōṭrābīiā yā aharave mazādā. Since the other Iranian languages point to an a-stem in the word for ‘heel’, too, it is most economical to assume the same for Avestan.

The bahuvrhi compounds kasupāsna- ‘with small heels’ (Yt 14.17) and zairi.pāsna- ‘with golden heels’ (Yt 5.38, Yt 19.41) are of course ambiguous as far as the stem of the second member is concerned.

² With secondary voicing of the group -rsn- or with final accentuation?

³ It is improbable that OE fiers(i)n f. ‘heel’ contains lengthened grade (pace POKORNY 823, MAYRHOFER EWAia: 2.124), because e would have been shortened anyhow in Proto-Germanic due to Osthoff’s Law. The OE form shows the regular reflex of PGm. *fersnti.

⁴ Note, however, that Skt. tiksū- adj. ‘sharp’ also has an inexplicable long vowel in the root before the same suffix *sno-.
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(2) The i-stem in Sanskrit and in OE. In my opinion, the i-stem can easily be analogical after body parts like aṅgūrī-(AV+) f. 'finger, toe', aṅghri-(VS+) f. 'foot', śāpti-(RV+) f. 'shoulder', śṛṇi- (RV+) f. 'buttock, hip', etc.

(3) The initial cluster. The initial cluster πτ- in Greek vs. simple *p- in the other languages is usually explained by the various reflexes of PIE *tp-, which was metathesized in Greek and simplified to *p- elsewhere.

4. The most probable reconstruction of the word for 'heel' is thus *tpērsnehr. Unlike the vast majority of terms for body parts in Indo-European, the word for 'heel' has a transparent structure, containing the well-known deverbative suffix *-snehr- (e.g. *louk-snehr-eh- 'light' from the root *leuk- 'to shine', cf. WACKERNAGEL-DEBRUNNER 1954:927ff). It is therefore worthwhile to look for a suitable verbal root from which this word could be derived. As far as I know, it has not been noticed before that a very likely candidate is the IE root for 'to kick with the foot', which is traditionally reconstructed as *spērH- (Skt. sphurāti, Av. sparāitī 'to kick away with the foot, to speed', Lat. spernerē 'to push away, to despise, to reject', Lith. spirti 'to kick, to press to', ON sperna 'to kick out with the feet', Arm. spanal 'to threaten', etc., cf. MAYRHOFER EWIA 2.776, POK ORNI 992-993).

There are two additional arguments in favor of this derivation. First, the usual meaning of the verb is specifically 'to kick with the heel, to spur, to trample with the heel', and many derivatives of this root mean 'heel, shank, spur', cf. Olr. seir 'heel', du. dī pēherid (< *speret-s, cf. MW and MBr. fer 'shank'), ON spori, OE spora, spura, OHG sporo 'spur', OE spearwa 'calf (of the leg)', possibly Gr. φυρόν 'ankle'. Secondly, we find an Avestan expression, already mentioned above, V 2.31 aiihrd zamō pāsnābiia vispara 'trample this earth with your heels', which may go back to a figura etymologica.

The presence of a root-final laryngeal in *spērH- (vs. its absence in the word for 'heel') is not a serious objection. In the word for 'heel', the laryngeal may have been lost as a result of dissimilation *tpērsnehr, > *tpērsnehr, or due to the fact that this is a compound. Alternatively, we can always assume that the final laryngeal of the verbal root is secondary (see also below). The only real problem is the anlaut of the verb. To my mind, neither reconstructing a PIE voiceless aspirate, nor Siebs' Law (*sbh- > *spb- ) are likely options. Therefore,

5 The color of the laryngeal is difficult to determine, cf. comments in LIV s.v. sperH-.
6 It is not obvious that Gr. φυρόν belongs here because of its u. It is usually derived from the zero-grade (< *spērHo-) with irregular reflex, cf. FRUK s.v.: "mit abh. spuri-halz 'hinkend' (eig. "knichellahn") ! bis auf den Auslautvokal undensprechbar", but also -o-grade belongs to the possibilities. Since VINE 1999 does not include φυρόν in his discussion of the so-called iCowiilis Law (*o > Gr. u in a labial context), he probably assumes zero-grade in the Greek word or that it is unrelated.
we have to surmise that aspiration in Skt. *sphurati and Gr. σφυρόν is due to an
initial cluster of some kind. This assumption becomes even more plausible if we
accept with our major etymological dictionaries (Frisk, Chantraine, Pokorny)
that Gr. (Hom.+) ἄσπαἰρο to move convulsively, quiver and (Arist.+) σπαῖρο
'to quiver' (of dying fish) also belong to this root. The prothetic vowel of Gr.
ἄσπαἰρο cannot reflect a laryngeal, since we find no reflexes in Arm. spānus
'to threaten' and Hitt. ḫannuš 'to trample under foot'.

I conclude that the verbal root must be reconstructed *TsperH- (where T
stands for one or more stops), under the assumption that simplification of the
initial cluster yielded aspiration in Sanskrit and aspiration or a prothetic vowel
in Greek (possible conditions will be discussed in the next section). Elsewhere,
the initial stop was lost without a trace.

5. We arrive at the following reconstructions:

'heel': *tsper(H)-sneh₂
'to kick with the heel': *TsperH-

If the word for ‘heel’ is derived from the verb ‘to kick with the heel’, as sug-
ggested above, the most straightforward reconstruction of the root is *tsper(H)-.
It becomes immediately clear why the word for ‘heel’ developed differently: in
*tsper(H)-sneh₂, the first -s- was dissimilated, whereas in the verbal root it was
preserved.

The phonetic developments, which have led to the attested forms, cannot be
established with certainty, but we can imagine, for instance, the following sce-

\[ \begin{align*}
\text{In Homer, this verb, which is limited to Epic and Ionic, always refers to the convulsions of a } & \\
\text{dying person. In Hdt., it further means 'to resist', cf. } & \\
\text{8.5'Αδηλιοντος ἄσπαερε μοῦνος 'he was the } & \\
\text{only one who still made a struggle, resisted'. The idea behind the etymology is that convulsions } & \\
\text{and heavy struggle both involve a tight contact of heels with the ground.} & \\
\end{align*} \]

\[ \begin{align*}
\text{It is indeed difficult to separate the Greek forms from the root } *sperH- & \\
\text{cf. also Hes. } & \\
\text{σπαίρειν ἀλλεσαί, σκίρει, πηδ. It is less certain that } & \\
\text{σπαρέχειν 'to dance' (cf. Hes. σπαρθείειν: } & \\
\text{σπάσθαι καὶ ἀγανάκτειν. χυδαρίζειν καὶ σφύειν) also belongs here.} & \\
\end{align*} \]

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phonetic environment. Gr. σφωρόν may reflect either o-grade *hsporHo- or zero-grade *hsporHo-, whereas ἄσπατρό goes back to zero-grade with six consecutive initial consonants *hsprHj-, and it is a distinct possibility that in the latter position the cluster developed differently#. We know from Gr. εἰκόνι (*εικοσι), Dor. ἱκτύτ ‘twenty’ that the initial cluster *dq- shows various reflexes in different dialects. In Doric, *d- disappears without a trace, whereas elsewhere *d- merges with the reflex of *h,- (cf. KORTLANDT 1983). In a similar way, it is conceivable that in the cluster *hspr-, some dialects simply dropped the initial *h-, whereas in others this *h- merged with the reflex of *hj.

6. At the end of this paper, I would like to add some remarks on the possible origin of the heavy initial cluster in our root. The root *tsper(H)- looks like a compound of the verb *(s)per(H)- with a nominal first part. Although there is no IE root *perH- with the suitable meaning, we do have *per- ‘to beat’ (OCS prati, pero ‘to trample, press, wash’, Scr. prāti, pērēm ‘to wash’, Lith. pėtis ‘to beat, lash with a besom (in a bath)’, possibly Arm. ehar (aor.) ‘to beat’), of which *perH- can easily be a secondary extension. The absence of the root-final laryngeal in the word for ‘heel’ is an indication that the root was originally anit.

Since the meaning of the verb is ‘to kick with the foot’, it seems reasonable to assume that the nominal part is the word for ‘foot’ itself, namely *ped-/pod-. I therefore tentatively reconstruct a verbal compound *pdsper(H)-. The zero grade of the word for ‘foot’ is attested in compounds, cf. Skt. upa-bdh- ‘trampling, noise of going’, Av. *upa.bde ‘at the foot of a mountain’, Gr. ἐπίβοσι ‘on the day after a feast’, etc.

Considering the fact that the root *per- ‘to beat’ has no initial *s-, the verbal compound is likely to represent *pds-per(H)-. Admittedly, the -s- of this compound remains enigmatic, and I hope to discuss it on a different occasion. Here I would only like to mention that if this kind of verbal compounds was frequent at some stage of Proto-Indo-European, it might provide a clue to the problem of s-mobile. The simplification of the initial clusters could easily lead to pairs of verbal roots with similar meaning (in our case, *per(H)- ‘to trample’ and *s-per(H)- ‘to trample (with the foot)’), the only difference between them being the presence or absence of an initial s-, which no longer carried any semantic load.

References


# The different reflexes in σφωρόν and (ἄ)σπατρό seem to indicate that the former word rather reflects an o-grade.
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