Proto-Indo-European *sneigʷʰ- 'to fall down; to snow'

Kroonen, G.J.; Wigman, A.W.; Thorsø, R.

Proto-Indo-European *sneig*^{wh}- 'to fall down; to snow'*

Guus Kroonen, Andrew Wigman and Rasmus Thorsø

Abstract: In this paper we present a diachronically syntactic analysis of the PIE verbal root *sneig*^{wh}-, arguing that it did not originally mean 'to snow', in the proto-language, but rather more primarily 'to fall down'. Evidence from several Indo-European branches is evaluated and argued to support a scenario in which the former meaning arose from the latter in a so-called impersonal verbal construction.

Keywords: Proto-Indo-European, etymology, historical syntax

1. Introduction

Reflexes of the Proto-Indo-European verbal root *sneig*^{wh}- can be found across the language family, which makes its formal reconstruction unproblematic. The semantic reconstruction, on the other hand, does not appear as straightforward. The meaning 'to snow' or 'to precipitate' is prevalent in most of the languages in which the root is attested, cf. YAv. *snaēžāṱ* 'will pour snow', Gk. νείφει 'it is snowing', Lat. *nīuit* 'id.', ON *snýr*, OHG *snīwit* 'id.' < *sneig*^{wh}-e-, Lat. *ning(u)it* 'id.', Lith. *snìgti* (*sniñga*) 'id.' < *sni-n-g*^{wh}- and OIr. *snigid* 'it is raining, dripping, snowing' < *snig*^{wh}-(i)e-. While these meanings are generally considered to be sufficiently close to each other to be united into a single proto-meaning, this unification is challenged by a much-debated semantic outlier as represented by Skt. *sneh*, cf. *asnihat* 'fell down, kept lying down' and *sneháyat* 'put down, made to lie down' (see section 4). Previous scholarship has interpreted this as a secondary, internally Indic development. Here we argue, by adducing evidence from multiple Indo-European branches, that 'to fall down' is the primary meaning and that the development into 'to snow' presupposes the presence, in the Indo-European proto-language, of an "impersonal" verb construction. Impersonal constructions occur widely in the Indo-European languages, especially with weather verbs (cf. Brugmann 1904: 625), and may date back to the proto-language (cf. Barðdal & Smitherman 2013). Thus, historical syntax can

---

be invoked to elucidate the origin of a hitherto ill-understood polysemy of a well-established Proto-Indo-European verbal root.

2. Germanic: *snīgan-

The root *sneig^{wh}- in the meaning 'to snow' is well-attested in Germanic. It is continued, among other forms, by the aforementioned ON *snýr* and OHG *snīwit* < *snīwan-. In addition, it may have a separate manifestation, one that is closer in meaning to Skt. *sneh* 'to fall down', in the strong verb *snīgan-. Such a strong verb can be inferred from Middle English *snīʒen* 'to creep'. Although attested only once in the *Wars of Alexander* (+/-1450), it appears to have a continuant in MoE obs. *to sny* 'to move, proceed' (Murray 1909: 343). The same strong verb has additionally been reported for Nordic in the form of Sw. dial. *sniga* 'to sneak' (Rietz 1862–1867: 642). It appears to originally have been more widespread, since it gave rise to at least two nominal formations: 1) ON *snigill*, G obs. *Schniegel* 'snail' < *snigila- and 2) OHG *snecko*, G *Schnecke*, Du. dial. (Sax.), LG *snigge* 'snail', E dial. *snig* 'little slug; eel' (Jackson 1879: 394–395) < *sniggan-.

More abundant Northwest Germanic evidence points to a parallel strong verb *snīkan-. This verb appears to have a direct representation in OE *snīcan* 'to crawl, creep', ME *snīken* 'id.' (whence possibly MoE *to snitch*) and in Nw. *snike*, Sw. obs. *snika*, Da. *snige* 'to sneak'.[1] The root-final *k is clearly secondary, i. e. introduced from the appurtenant iterative verb *snikkōn-, cf. G *schnecken* 'to crawl, creep', G dial. (Rhnl.) *schnicken* 'to sneak', ostensibly regular from *snig^h-néh₂- with Kluge's Law.[2] MoE *to sneak*, apparently a causative-iterative *snaikjan- (Falk & Torp 1909: 522), was in turn derived from *snīkan-.

In conclusion, the root underlying PGm. *snīgan-, *snīkan-, *snikkōn- 'to creep, crawl' appears identical to that of Skt. *sneh*. This root at face value reconstructs to *sneig^h-, which theoretically could be unrelated to PIE *sneig^{wh}-. The former, however, can be regularly derived from the latter by assuming delabialization in Germanic. This is supported by the fact that the two form a proportion identical to that of ON *hníga*, OE *hnīgan*, OHG *(h)nīgan* 'to bow' < *hnīgan- and Go. *hneiwan* 'id.' <

---

[1] The (predominantly) weak verb ON, Icel. *sníkja* 'to cadge', Far. *sníkja* 'to sneak', Nw. *sníkje* 'to scrounge', Sw. *snika* 'to be greedy' is a closely related but ostensibly different formation (cf. Wood 1909: 441–442; Venås 1967: 44).

[2] Cf. for a similar proportion the strong verb doublet OE *sūgan* ~ *sūcan* 'to suck' vs the iterative OHG *suckōn* < *sukkōn- < *suk-néh₂- (cf. Kroonen 2013: 489–490).

hnīwan-. The proportion can be extended to the iteratives, since *snik-kōn-* has a full parallel in Nw. *nikka* 'to bow the head' < *hnikkōn-*. Delabialization of labiovelars was early and regular in the position before *j* (cf. Stausland Johnsen 2009 with refs.), an environment that would have been present in the preforms of the causatives *snaigjan-* and *hnaigjan-* (Kroonen 2013: 233, 236–237).

3. Celtic: OIr. *snigid*

The aforementioned Germanic formations *snīgan-* ~ *snīkan-* have in previous scholarship been connected to a similar verb in Celtic. This is MoIr. *snighim* 'to glide, crawl' (cf. Falk & Torp 1909: 522; Falk & Torp 1910–1911: 1095; Lane 1933: 255). From our perspective, it is indeed tempting to maintain the connection, as it could strengthen the reconstruction of a Proto-Indo-European root *sneig^(w)h-* as 'to fall' *vel sim*. However, a clear objection is the full semantic range of the Modern Irish verb, which includes the meanings 'to pour (down), flow, seep'. This is a close reflection of the Old Irish predecessor *snigid* 'to pour (down), flow, drip, drop', both of rain and snow (cf. Mac Mathúna 1978: 50), which itself derives from PIE *sneig^wh-*.[3] Theoretically, it is possible to assume that the meaning 'to crawl' of MoIr. *snighim* was inherited from Old Irish, and ultimately from Proto-Indo-European, assuming that this meaning remained under the radar in the older language. A less costly assumption, however, is that the meaning 'to creep, crawl' developed secondarily, between the Old and Modern Irish periods. Nevertheless, it seems plausible that the original meanings of OIr. *snigid*, i. e. 'to pour (down), flow, drip, drop', rather than having developed secondarily from 'to snow', continue a more primitive semantic stage 'to precipitate'; the latter is more easily explained from the former, probably through an intermediate stage 'to precipitate', than the other way around (cf. Mac Mathúna 1980).

4. Indic: Skt. *asnihat* and *snehάyat*

As noted above, Indo-Iranian has unambiguous continuants of PIE *sneig^wh-e-* 'to snow', cf. esp. Av. *snaēžaiti** 'to (pour) snow'. In addition, Skt. *sneh* exhibits a divergent meaning 'to fall down' (*vel sim.*). The evidence consists of the form *asnihat* (KS XXVIII 4) and the hapax *snehάyat* in *άsvāpayan nigútaḥ snehάyac ca* … 'he put our enemies down (lit. "made them sleep") and *snehάyac*' (RV 9.097.54). The interpretation

---

[3] Mac Mathúna (*loc.cit.*) notes the remarkable occurrence *snigid gaim*, lit. "winter pours" (LU 852).

of these contexts is notoriously difficult and has inspired a number of etymological proposals, all of which assume some relation with PIE *$sneig^{wh}$- 'to snow'.

Geldner (1951 III: 101) translates the Rigvedic passage as "Er schläferte die Schwätzer ein und beschneite sie", taking the verb to be a causative to PIIr. *$snaij^hati$ 'to snow'. Hoffmann (1965), in an article specifically devoted to the root *$sneig^{wh}$-, takes a different position. Elaborating on Gonda (1955) and Benveniste (1956), he rather sees the meaning of the *ya*-present *snihyati* 'to stick, be sticky' as primary, and 'to snow' as secondary (thus also LIV²: 573). Neither of these meanings fits the context of the Kāṭhaka-Saṃhitā, however, in which a *dakṣiṇā*-cow sent by the Asuras is rejected because it *asnihat*. The solution Hoffmann proposes is that *sneh* 'to stick' acquired the meaning "niedergestreckt liegen bleiben", by metaphorical use in warrior slang (1965: 18–19; cf. also Puhvel 1978– 1979: 40–42). Jamison (1983: 91) also assumes idiomatic use, but stays closer to Geldner's more literal interpretation and translates *sneháyat* as 'overwhelms (with snow), destroys'. She is sceptical of the view that the meaning 'to be sticky' is more primary than 'to snow', arguing that the assumption of loss of this meaning in all branches except Indic is uneconomical. Feulner (2009), in one of the most recent investigations of the root *$sneig^{wh}$-, indeed proposes a reverse semantic shift from 'to snow' into both 'to stick' and 'to lie down' in Indic, the latter through metaphorical "to fall like snow".

It thus appears that all pre-existing explanations start from the idea that the original meaning of Skt. *sneh* was 'to snow', 'to stick, coagulate' or both, and that the meaning 'to fall, sink down, succumb(?)' developed from this semantic range secondarily, probably in metaphorical use, within Indic. However, as the aforementioned material demonstrates, the meaning 'to fall down' (*vel sim.*) is not actually isolated to Indic, but also found in Germanic. It might therefore be unnecessary to postulate an intermediate semantic step to account for the Vedic meaning. Instead, we may straightforwardly gloss *sneh* as 'to fall down' in the aforementioned contexts (cf. also EWAia II: 772), assuming that this is a direct manifestation of one of the primary Proto-Indo-European meanings of the verb.

5. Iranian: Av. *snaēžana-*

In the present context, and especially the given Vedic semantics, the Iranian evidence cannot be left out of consideration. The relevant form here is the isolated participle YAv. *snaēžana-*. Its meaning has, too, been

a matter of debate, which does not surprise given its marginal attestation. In V. 30, 48, it occurs in a list of comparisons of a dog: *xᵛafnō yaϑa apərənāiiuš, snaēžanō yaϑa apərənāiiuš, hizu.drājō yaϑa. apərənāiiuš*, i. e. 'a dog who is asleep like a child, *snaēžanō* like a child, sticking its tongue out like a child', etc. In V. 30, 40 it can be found in the sequence *jąϑβa vəhrka, scąϑβa vəhrka, pōiϑβa vəhrka, snaēžana*, which translates as 'to be defeated, exterminated, eradicated are the wolves, *snaēžana*'.

The meaning originally proposed by Bartholomae is 'slavering, drooling', which indeed seems to be acceptable in either context (cf. Pisani 1935). Bartholomae's attempt to analyse the formation as a derivation from the thematic verb *snaēžaiti** 'to (pour) snow', "eig. 'Schnee fallen lassend sva. Schaum, Geifer aus dem Maul, Mund fliessen lassen'(?)" < **sneig^{wh}-e-* seems less evident (cf. Morgenstierne 1923: 256–257), however, if not somewhat far-fetched. It would seem more attractive, if Bartholomae's textual interpretation is accepted, to assume that 'to drool' developed from 'to drip', one of the meanings attested for OIr. *snigid* (thus already Turner 1956: 449), in a dative experiencer construction, cf. Sp. *se me cae la baba* 'I'm drooling' (lit. "drool falls for me"). Semantically, a direct comparison to Germanic **snīgan-* and MoIr. *snighim* appears feasible as well. For both of the Avestan contexts, a meaning 'crouching, crawling' is difficult to reject, at least, as it is applicable to wolves, dogs and children. Still, these Avestan attestations seem too isolated to allow for such a direct connection.

6. Italic: Lat. *cōnīveō*

Another possible comparandum of Skt. *sneh* can be identified in Italic in the form of the Latin verb *cōnīveō* 'to close the eyes, blink, be drowsy'. Traditionally, this verb has been compared to Go. *hneiwan*, OHG *(h)nīgan* 'to bow, be inclined' (see section 2), assuming that both continue an otherwise unattested root **kneig^{wh}-* (cf. LIV²: 366).[4] Under this proposal, the Latin form is assumed to have developed from a Proto-Italic stative **kon-kneiχʷ-ē-*, which through **ko(ŋ)χneiχʷ-ē-* should have produced the attested form *cōnīvē-* (cf. Sommer 1902: 264; Leumann 1977:

---

[4] Lat. *nītor* 'to rest/lean on, be supported by, strive' is frequently connected as well, based in part on the ancient pronunciation *gnitor*, *gnixus* given in Paul. Fest. It would reconstruct to **(g)nīwi/et-* (Walde & Hofmann 1930–1954 II: 171 with refs., De Vaan 2009: 410), but the source of the formation in **-e/it* is unclear. Leumann (1977: 188) instead assumes that the present formation is backformed from the perfect participle *nīsus*, but this is unparalleled. The semantics of the word do not seem strong enough to confirm the connection.

218; De Vaan 2009: 130). However, with its combination of a voiceless and a voiced-aspirated stop, the inferred *kneig^{wh}- poses a problem in that it violates a possible Indo-European root constraint, making it a less plausible reconstruction (De Vaan 2009: 130).[5] In addition, the origin of the long ō is ambiguous: while the traditional derivation from *kon-knei χ^w- potentially accounts for it, an alternative is to assume that it arose from the loss of a sibilant in this position, cf. for a parallel cōnūbium '(inter) marriage' < PIt. *ko(n)-snouf- (Sommer 1902: 265).

The question that thus arises is whether the formation should not rather be derived from the root *sneig^{wh}-. A possibility that presents itself is to reconstruct cōnīveō as continuing a causative *kom-snoig^{wh}-eie- "to make fall". The reconstruction of such a formation has two advantages over the previously proposed stative *kom-kneig^h-eh₁-. First, if cōnīveō were a stative, the ablaut would be unexpected. Statives take the zero-grade of the root, but the long ī of cōnīveō clearly points to a full-grade.[6] Second, while the meaning 'to shut (the eyes), blink' can arguably be derived from 'to bow, be inclined', it may be more easily understandable from 'to fall down', e. g. through an intermediate meaning *'to make (the eyelids) fall together', where co- represents 'together'.

A formal question regarding the derivation of cōnīveō from *kom-snoig^{wh}-eie- is whether the diphthong -oi- would give -ī- in this position. It is generally assumed that -oi- yields -ū- in non-final syllables, except after u and between l and u, explaining the difference between e. g. lūdus 'play' < *loid-o- vs vīcus < *uoiḱ-o- and clīvus < *ḱloi-uo- (Meiser 1998: 86–87). This conditioning is confined to initial syllables, however, and the outcome of *oi in medial syllables is contested (see Weiss 2020: 130 fn 16): commūnis and impūnis < *kom-moin-i-, *en-poin-i- point to ū, which may or may not be analogical after mūnia and pūniō, but pōmērium < *post-moir-io- exhibits an unrounded reflex that may have been lowered from ī before r, and which cannot possibly be analogical from the simplex mūrus < *moi-ro- (Meiser 1998: 70–71).[7] Not least in view of

---

[5] While TERDʰ/TREDʰ sequences are accepted by some (Weiss 2020: 50), the only other TnEDʰ root that LIV² lists is ?*kneibʰ- 'hängen lassen, sinken lassen' attested in Lithuanian and Old Norse.

[6] Note that LIV² (p. 366) indeed reconstructs a causative *Knoig^{wh}-eie- rather than a stative *Knig^{wh}-eh₁-.

[7] It has been argued that pollūceō 'to offer, serve (up)' should be derived from *post-loik-, as though related to licet, and as such demonstrates the former development (Nussbaum 1994). It would thus provide a counter-argument to the derivation of cōnīveō from *kom-snoig^{wh}-. However, the older derivation from *-leuk-, i. e. through a causative *louk-eie- 'to make visible', seems at least equally attractive, both formally and semanti-

the labial environment, and the absence of a related simplex verb from which the vocalism could have adopted secondarily, it is possible to view the $\bar{\imath}$ of $c\bar{o}n\bar{\imath}ve\bar{o}$ as the regular outcome of *oi. In conclusion, there seem to be no formal objections to assuming that Lat. $c\bar{o}n\bar{\imath}ve\bar{o}$, like Skt. $sneháyati$*, continues a causative formation *$snoig^{wh}$-eie- with an original meaning 'to make fall/sink down'.[8]

7. Armenian: *nig*

Finally, it is possible to provisionally adduce Armenian evidence for the root *$sneig^{wh}$-. Armenian has no reflexes of this root with the meaning 'snow'. Instead, this meaning is covered by $jiwn$ (gen.-dat.-loc.sg. $jean$) < *$\acute{g}^{h}i$-$\bar{o}m$ (cf. Gk. χιών 'id.') and its derivations. We do, however, encounter a noun nig (gen.-dat.-abl.pl. $ngac'$) 'latch, lock, bar on a door; traverse between logs or columns, crosspiece; lever'. Hitherto, this word has not been furnished with a generally accepted etymology. Ačar̄yan (1977: 450–1) derives it from the aforementioned, putative Proto-Indo-European root *$kneig^{wh}$-, for which he assumes an original meaning 'to lean'. As noted above, any etymology starting from this root suffers from the problem of having to accept an illegal root structure. Moreover, in absence of any direct parallels, it is not certain that the Armenian outcome of initial *kn- or *$\acute{k}n$- is n-. Olsen (1999: 951) considers Arm. nig to be of unknown or foreign origin, which is possible. On the other hand, if the meaning 'latch' or 'crosspiece' is assumed to be primary, it might be feasible to connect it to PIE *$sneig^{wh}$- in the sense 'to come down, fall', perhaps via 'to come across' or 'to shut'. In the latter case, the semantic development would be similar to what we propose for Lat. $c\bar{o}n\bar{\imath}ve\bar{o}$. Taking the Arm. a-stem at face value, we may assume an original verbal abstract *$snig^{wh}$-eh_2-. However, it cannot be excluded that the Arm. a-stem is secondary, e. g. extended from an original root noun or a verbal compound.[9]

─────────

cally, and is not contradicted by inscriptional *POLOUCTA* (Dedication of the Vertuleii, 1.6.).

[8] If this new etymology is accepted, the appurtenance of Umbrian **kunikaz**, *conegos*, already shaky given the uncertainty of their meaning 'kneeling' (cf. Untermann 2000: 417), is impossible; Umbrian does not regularly lose s before n (cf. Buck 1904: 8).

[9] Additionally, we find MArm. nig 'Grubengas' attested twice in the law code of Smbat Sparapet, 14th century (Karst 1905: 3, 30) and dial. nik' 'thick, heavy gas produced in catacombs and wells' (Amatowni 1912: 503). To account for these semantics, it is tempting to speculate on a further development of 'to creep, seep', as attested in Germanic and Celtic, but for want of information about the declension of this nig, it is difficult to confirm that it is etymologically identical with the word for 'latch, crosspiece'.

8. Evaluation

The reconstructed root *$sneig^{wh}$- is a well known verbal base that is widely attested in the Indo-European languages with the meaning 'to snow'. The Sanskrit root *sneh* 'to fall down' is generally assumed to be etymologically identical, despite its divergent meaning. Previous attempts to resolve the semantic gap typically start from the assumption of an internally Indic shift from 'to snow' to 'to fall down', e. g. through "to overwhelm with snow". However, evidence from the other Indo-European branches suggests that the meanings 'to fall down' and 'to snow' coexisted in the proto-language. The strongest support for this polysemy comes from Germanic in the form of a verbal complex including *$sn\bar{\imath}gan$- 'to creep, crawl'. It appears that the original meaning 'to fall down' or 'to let oneself fall, sink down' developed into 'to crawl' (*vel sim.*) in this branch. Additional support comes from some potentially related formations in Italic and Armenian, but the evidence is circumstantial in view of the more derived semantics. The interpretation of the Celtic and Iranian evidence is not without problems either, but these branches at a minimum support the reconstruction of a third, intermediate semantic stage 'to precipitate' for the proto-language.

The Proto-Indo-European polysemy proposed here raises the question of how it could have arisen and been sustained in at least two and potentially six branches until well after the dissolution of the linguistic ancestor. The answer may be syntactic in nature. It is well known that most Indo-European languages employed so-called "impersonal" verbal constructions to express events without a clear agent (cf. Brugmann 1904: 625). In such constructions, which are notoriously frequent with weather verbs, no subjects are expressed. For the root *$sneig^{wh}$-, an impersonal construction is found in Greek, Latin, Baltic and Germanic. Although these verbs may continue different or even independent verbal formations–note the difference between Gk. νείφει, Lat. *nīuit*, ON *snýr*, OHG *snīwit* on the one hand and Lat. *ning(u)it*, Lith. *sniñga* < *sni-n-g^{wh}-*eti* on the other–their shared syntactic structure can be inherited from Proto-Indo-European (cf. Barðdal & Smitherman 2013; Barðdal & Eyþórsson 2020). We therefore propose that the meanings 'to precipitate' and 'to snow' developed from more primary 'to fall down' in exactly such a syntactic environment. In fact, it does not seem possible to elucidate this semantic shift without assuming this type of construction.

Our explanation can be bolstered with typological evidence. A possible parallel for the proposed development from 'to fall down' to 'to precipi-

tate' is found in Polish. In this language, the verb *padać* 'to fall' in impersonal use acquires the meaning 'to precipitate': *pada* 'it is raining' or 'it is snowing'. The verbal phrase can be complemented with a subject noun, e. g. *pada deszcz* or *pada śnieg*, but this is facultative. With this syntactic parallel in mind, we may assume that the Proto-Indo-European root **sneigʷʰ-* originally meant 'to fall down', and that this meaning evolved into 'to precipitate' in an impersonal verbal construction. Not only does the assumption of such syntactic differentiation account for the attested semantic discrepancies, it also offers a possible explanation for how the original polysemy may have survived, over a considerable period of time, so as to resurface in some of the historically attested Indo-European descendant languages.

9. A final note on the root **kneigʷʰ-*

Several of the comparanda discussed in this paper have previously been used to support a hypothetical Proto-Indo-European root **kneigʷʰ-*. This includes Lat. *cōnīveō* and–more speculatively–Arm. *nig*. The root is otherwise only supported by Go. *hneiwan* and its Germanic cognates. If all of our alternative derivations from **sneigʷʰ-* are accepted, the root, which already had limited distribution in the first place (cf. LIV^2: 366), effectively becomes isolated to Germanic. In Germanic, moreover, it is impossible to substantiate that the root continues **kneigʷʰ-*, as it alternatively can be derived from **kneikʷ-* or **ḱneikʷ-*, with Verner's Law and analogical levelling of the resulting **(g)w*. It follows that there is no longer any compelling evidence for a Proto-Indo-European root **kneigʷʰ-*. As a corollary of this study in historical syntax, it might therefore be necessary to eliminate the root altogether. This would not be a high price to pay, as the root with its combination of a voiceless and voiced-aspirated stop would have had an illegal root structure in the first place.

References

Ačaṙyan, Hračʿeay (1977). *Hayerēn armatakan bararan*. Vol. 3. 2nd edition. Yerevan: Erevani Hamalsaran.

Amatowni, Sahak Vardapet (1912). *Hayocʿ baṙ ow ban*. Vałaršapat: Ējmiacin.

Barðdal, Jóhanna & Þórhallur Eyþórsson (2020). How to identify cognates in syntax? Taking Watkins' legacy one step further. In: Jóhanna Barðdal, Spike Gildea & Eugenio R. Lujan (ed.), *Reconstructing syntax*, 197–238. Leiden: Brill.

Barðdal, Jóhanna & Thomas Smitherman (2013). The quest for cognates: A reconstruction of oblique subject constructions in Proto-Indo-European. *Language Dynamics and Change* 3(1): 28–67.

Benveniste, Émile (1956). Hiver et neige en indo-européen. In: Heinz Kronasser (ed.), *ΜΝΗΜΗΣ ΧΑΡΙΝ, Gedenkschrift Paul Kretschmer* I, 35–9. Wien: Wiener Sprachgesellschaft.

Brugmann, Karl (1904). *Kurze vergleichende Grammatik der indogermanischen Sprachen*. Strassburg: Trübner.

Buck, Carl Darling. 1904. *A grammar of Oscan and Umbrian*. Boston: Ginn & Company.

EWAia = Mayrhofer, Manfred (1992–1996). *Etymologisches Wörterbuch des Altindoarischen*. Heidelberg: Winter.

Feulner, Anna Helene (2009). Uridg. *sneig^uh-. Rosemarie Lühr & Sabine Ziegler (ed.), *Protolanguage and Prehistory. Akten der XII. Fachtagung der Indogermanischen Gesellschaft, Krakau, 11.–15.10. 2004*, 119–133. Wiesbaden: Reichert.

Falk, Hjalmar & Alf Torp (1909). *Wortschatz der Germanischen Spracheinheit*. Göttingen: Vandenhoeck und Ruprecht.

Falk, Hjalmar & Alf Torp (1910–1911). *Norwegisch-dänisches etymologisches Wörterbuch*. Heidelberg: C. Winter.

Geldner, Karl Friedrich (1951). *Der Rig-Veda*. Harvard University Press: Cambridge.

Gonda, Jan (1955). Die Grundbedeutung der idg. Wurzel *sneigṷh-. Zeitschrift für vergleichende Sprachforschung auf dem Gebiete der Indogermanischen Sprachen* 72(3/4): 228–230.

Hoffmann, Karl (1965). Idg. *sneig^uh-. Münchener Studien zur Sprachwissenschaft* 18: 13–28.

Jackson, Georgina F. (1879). *Shropshire word-book: a glossary of archaic and provincial words, etc., used in the county*. London: Trübner & Co.

Jamison, Stephanie W. (1983). *Function and form in the -áya- formations of the Rig Veda and Atharva Veda*. Göttingen: Vandenhoeck und Ruprecht.

Karst, Josef (1905). *Armenisches Rechtsbuch. Ediert und kommentiert. Erster Band: Text und Übersetzung*. Strasbourg: Trübner.

Kroonen, Guus (2013). *Etymological dictionary of Proto-Germanic*. Leiden, Boston: Brill.

Lane, George S. (1933). Germano-Celtic vocabulary. *Language* 9: 244–264.

Leumann, Manu (1977). *Lateinische Grammatik: Erster Band, Lateinische Laut- und Formenlehre*. München: C. H. Beck.

LIV² = Rix, Helmut, Martin Kümmel et al. (2001). *Lexikon der indogermanischen Verben: LIV. Die Wurzeln und ihre Primärstammbildungen*. 2., erw. u. verb. Aufl., unter Leitung von Helmut Rix und der Mitarbeit vieler anderer bearb. v. Martin Kümmel. Wiesbaden: Reichert.

Mac Mathúna, Liam (1978). On the expression of "rain" and "it is raining" in Irish. *Ériu* 29: 39–57.

Mac Mathúna, Liam (1980). 'Snow' and 'it is snowing' in Irish and Welsh: a semantic study. *Bulletin of the Board of Celtic Studies* 29(1): 66–79.

Meiser, Gerhard (1998). *Historische Laut- und Formenlehre der lateinischen Sprache*. Darmstadt: Wissenschaftliche Buchgesellschaft.

Morgenstierne, Georg (1923). Iranian notes. *Acta Orientalia* 1: 245–284.

Murray, James A. H. (1909). *A new English Dictionary on historical principles: Founded mainly on the materials collected by the Philological Society*. Oxford: Clarendon Press.

Nussbaum, Alan (1994). Five Latin verbs from a root *leik-. Harvard Studies in Classical Philology* 96: 161–190.

Olsen, Birgit Anette (1999). *The noun in Biblical Armenian*. Berlin-New York: Mouton-De Gruyter.

Puhvel, Jaan (1978–1979). Class idiom in early Indo-European. *Bulletin of the Department of English* 14 (1): 40–44.

Rietz, Johan Ernst (1862–1867). *Svenskt dialektlexikon: ordbok öfver svenska allmogespråket*. Malmö: Cronholm.

Sommer, Ferdinand (1902). *Handbuch der lateinischen Laut- und Formenlehre: eine Einführung in das sprachwissenschaftliche Studium des Lateins*. Heidelberg: C. Winter.

Stausland Johnsen, Sverre (2009). The development of voiced labiovelars in Germanic. In: Stephanie W. Jamison, H. Craig Melchert & Brent Vine (ed.), *Proceedings of the 20th Annual UCLA Indo-European Conference, Los Angeles, October 31–November 1, 2008*, 197–211. Bremen: Hempen Verlag.

Turner, Ralph Lilley (1956). Indo-Arica III. *Bulletin of the School of Oriental and African Studies* 18 (3): 449–452.

Untermann, Jürgen (2000). *Wörterbuch des Oskisch-Umbrischen*. Heidelberg: C. Winter.

De Vaan, Michiel Arnoud Cor. 2009. *Etymological dictionary of Latin and the other Italic languages*. Leiden, Boston: Brill.

Venås, Kjell (1967). *Sterke verb i norsk målføre*. Oslo: Universitetsforlag.

Walde, Alois & Johann Baptist Hofmann (1930–1954). *Lateinisches Etymologisches Wörterbuch*. 3. neu bearb. Aufl. Heidelberg: C. Winter.

Weiss, Michael (2020). *Outline of the historical and comparative grammar of Latin*. Second Edition. Ann Arbor, New York: Beech Stave Press.

Wood, Francis A. (1909). Studies in Germanic Strong Verbs. III. *Modern Philology* 6 (4): 441–452.

Leiden University Centre for Linguistics   Guus Kroonen
Postbus 9515
2300 RA Leiden
THE NETHERLANDS
g.kroonen@hum.leidenuniv.nl

a.m.wigman@hum.leidenuniv.nl   Andrew Wigman

r.t.nielsen@hum.leidenuniv.nl   Rasmus Thorsø