



Minimum standards for acceptable sound laws

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MINIMUM STANDARDS FOR ACCEPTABLE SOUND LAWS: SOME ALLEGED ROOT NOUNS IN PROTO-NORSE

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1 Introduction

By defining a system for explaining linguistic changes consistently, the formulation of the Comparative Method marks one of the greatest advances, or even the birth, of modern historical linguistics. The Neogrammarians applied this method on data from Indo-European languages and, by formulating countless sound laws, made wide-ranging discoveries, cf., e.g., Lass (1997: 132–134). In addition, as the well-known example of, e.g., Verner’s Law shows, they also refined the method by stating that even exceptions to the sound laws are regulated and thus systematic.

An issue worth considering is, however, on how limited a conditioning and on how few corroborating examples we may justifiably base a sound law. I will discuss this issue by examining the development of two phonotactically and derivationally unexpected root nouns and monosyllabic consonant stems in Proto-Norse.

2 Root nouns in Proto-Norse

Proto-Norse, i.e., the earliest attested variant of Germanic written in the elder Futhark, seems to offer attestation of a handful of root nouns and monosyllabic consonant stems. Henceforth, I will label both stem types “root nouns” for the sake of convenience (despite Griepentrog 1995: 476). The forms in question are **gaupR** on the Illerup fire-steel handle, **unwodR** on the Gårdlösa clasp, **alugod** on the Værløse clasp and **unnam(R)** on the Reistad stone. In the following sections, I will examine each of them with the purpose of determining if they are, in fact, original root nouns or if they have alternative sources of derivation.

2.1 *gaupR*

On the wooden Illerup fire-steel handle from c. 210/220–250/260 CE (Imer 2007: II, 198), we find the single-word inscription *gaupR* (MJy 93) carved around the knob. Due to its relatively recent discovery (1991/1992), only a few handbooks, grammars and outlining articles of Proto-Norse treat this inscription, but most of those that do (Stoklund 1992: 255f., 264f., 1994: 101, 1995: 209f., Seebold 1994: 71f., Peterson 2004: 8, 50, Imer 2007: I, 150) interpret the form as an agent noun *gaupR* ‘barker, shouter’. Looijenga (1997: 83f., 2003: 155f.) suggests an alternative interpretation, viz. *gaupR* ‘Goth’, which she then relates to ON *gautr* ‘someone who was dedicated to be offered to a god = Odin’ < PGmc. **gautaz* and/or ‘someone belonging to the tribe of the Gautar’. We must reject this proposal, however, as the ancient Germanic languages always display the root-final consonant of the word for Gautar, Goths etc. as a reflex of PGmc. **t*, never of **p* (ON *Gautr*, *Gautar*, Sw. *Götar*, OE *Gēatas*, Goth. *Gut-piuda* etc.). Stoklund’s interpretation mentioned above assumes a cognate relation between the *gaupR* attested here and the feminine *ō*-stem ON *gauð* ‘barking’, OE *gēap* ‘foolishness, luxury, mockery’, both derived from the root of the verb PGmc. **gawa-*, **gauja-* > ON *gá*, *geyja* ‘bark’, cf. also de Vries (1961: 158) and Bosworth & Toller (1973: 369). If this relation – and thus Stoklund’s interpretation – is correct, we must assume that the stem-final consonant of *gaupR*, *gauð* and *gēap* is suffixal. In all probability, the full suffix of the Old Norse and Old English forms is the PGmc. **-pō*-suffix used for deriving feminine abstract nouns (< PIE **-teh₂-*) from verbs, i.e., the substantivized feminine variant of the verbal adjective PIE **-to-*. Therefore, when they formed an agent noun to this root, we would have expected the speakers of Proto-Norse to use the substantivized masculine variant of this suffix, which forms passive action nouns with transitive verbs, but active agent nouns with intransitive verbs like PGmc. **gawa-*, **gauja-* ‘bark, shout’, cf., e.g., Krahe & Meid (1967: 141f.) and Kluge (1886: 94f.). What we find, however, is not **gaupar*, but *gaupR*. Admittedly, Seebold (1994: 71f., 90) argues that we also meet root nouns with *t*-extensions in other Indo-European branches. In addition, he argues, a root noun *gaupR* would be semantically meaningful, since root nouns form both action and agent nouns; i.e., both ‘shouting, barking’ (abstract noun) and ‘shouter, barker’ (agent noun) are compatible with root-noun formation. Although Seebold is right that a root-noun formation would be semantically impeccable here, the formal part of his argument fails to recognize one important detail. As exemplified by Vedic *deva-śrú-t-* ‘audible to or heard by the gods’, Latin *com-i-t-* ‘companion’, Greek *ἀ-γνώ-τ-* ‘unknowing’ (< PIE **n-ǵnh₃-t-*) etc., such *t*-extended root nouns are always accompanied by radical zero grade, if phonotactically possible, cf. Krahe & Meid (1967: 139f.).

In Indo-European terms, PN *gaubr* represents the radical *o*-grade, not the zero grade, which would have resulted in PN **gubr*.

According to my own theory on phonotactically based predictability of radical ablaut grades in inherited root nouns (Hansen 2014: 39f., 2016: 172, 176–178), we would also expect a root noun to manifest as **gubr* rather than *gaubr*. Building on Nielsen Whitehead (2010, 2013, forthc.) and partially on Schindler (1972: 34–36) and Kümmel (2004: 298–300), this theory states that we can always predict from the phonotactics of the root if an inherited root noun manifests in Germanic with radical zero grade on the one hand or radical full, *o*- or lengthened grade on the other. With roots of the structure (C)CVT(C), (C)CVH(C) and CVC, we find radical full-, *o*-, or lengthened grade, cf., e.g., PGmc. **fōt*- ‘foot’ and **naht*- ‘night’. Correspondingly, with roots of the structure (C)CVRC, we find radical zero grade, cf., e.g., PGmc. **dur*- ‘door’ and **spurd*- ‘track course’. In other words, we would expect root nouns to manifest as (C)C_RC, not as (C)CVRC as in *gaubr*.

Radical *o*-grade is, on the other hand, what we would expect in a Germanic thematic stem (*a*-stem). Therefore, already Stoklund (1992: 256, 264) mentions that “the form is surprising, because one would normally expect a thematic vowel before -R-”, and Düwel (2008: 27) shares her concerns by stating that *gaubr* is “mit unerklärter Endung -R gegenüber üblichem -aR.” Stoklund (1992: 264) also admits, however, that “[i]t is tempting to compare this with **ekunwodR** on the Gårdlösa fibula [...] concerning which it has been suggested that it is a root stem” (see section 2.2). Her temptation is easy to understand, since the form in question displays no thematic vowel, and there are no known tendencies of syncope in this position already at this very early stage of Proto-Norse. As for syncope, however, Looijenga (2003: 156) speculates that the missing *a/i*-stem formant “may indicate syncope or an unknown root-stem.” We shall return to discussing the former of Looijenga’s alternatives in section 3.2.

2.2 unwodR

The two-word inscription **ekunwodR** (Sk 41, KJ 12), whose last word **unwodR** was mentioned briefly in the previous section, is carved on the silver clasp from Gårdlösa, dated ca. 210/220–250/260 CE like the Illerup fire-steel handle (Imer 2007: II:198). With this inscription, opinions differ as to both its reading and, consequently, its interpretation.

Adherents of a reading **unwodR** and an identical interpretation *unwōdr* ‘the unraging, the calm one’ comprise Lindquist (1951: 179–193), Antonsen (1975: 21, 31), Seebold (1994: 63), Looijenga (1997: 89, 2003: 161) and, possibly, Stoklund (1994: 101, 1995: 210, 1995a: 324), who all categorize this word as a root

noun. Alternatively, Krause & Jankuhn (1966: 35f.) and Moltke (1985: 127f.) suggest an *i*-stem interpretation: *unwōdir* ‘the unraging, the calm one’, either with *iR* as a bind rune **i=R** due to lack of space or with the assumption of erroneous **R** for **iR**. Düwel (2008: 30) takes no stand as to the derivational status of **unwodR** but merely translates it as ‘der Unwütige; der ohne Ekstase auftritt’. Finally, acknowledging the aberrant form of the alleged final **R**, which rather resembles the *k*-rune of the Younger Futhark or a torn *w*-rune of the Elder Futhark, Marstrander (1952: 109–114) and Imer (2007: I, 157f.) both read **unwodw**, but they interpret it in different ways. Marstrander sees it as *ek Unwodagar wunju* ‘I, Unwodag, bring happiness’ and thus interprets the **w** as a concept rune. Imer, on the contrary, takes **w** to represent *writu* ‘wrote’ (sic! – better: *wrait(a)* ‘wrote’ or *writu* ‘write’) or *wor^ahtō* ‘did’, assuming *unwōd* to represent a West Germanic nominative singular form of a masculine personal name. However, like Stoklund (1995: 214–218), I see no compelling reason to assume specifically West Germanic forms in runic material of probably Zealandic origin and of such an early age.

If we discard the reading **unwodw** and accept **unwodR** (or **unwodi=R**), we must decide at first if an *i*-stem suffix is present or not. Krause & Jankuhn’s (1966: 35) bind-rune interpretation would elegantly present us with an *i*-stem *unwōdir* that, being a compound, would make much better sense than a root noun *unwōdR*, cf. also below, but as Imer (2007: I, 157) and Schuhmann (2018: 45) rightly object, bind runes containing **i** are problematic per se. Since the **i**-rune consists of nothing more than a vertical staff, it may be read into any context, and suggestions involving bind runes with **i** therefore automatically constitute a free pass for the interpretation of any inscription that would not make linguistic sense otherwise. In keeping with that, Moltke’s (1985: 127f.) claim that the rune master had simply forgotten to carve the **i**-rune constitutes, though possible, a no less general free pass. Therefore, even if both suggestions are theoretically possible, I personally prefer interpretations that base themselves on the reading of the runes without further additions.

The form at face value, *unwōdR*, also presents us with another problem. As Krause & Jankuhn (1966: 35) point out, we would expect such a Bahuvrīhi compound to be formed with an *i*-stem as its second member, even if the same noun would manifest with other stem formants as a simplex. Personal names such as PN *aljamarkiR* and *ungandiR*, i.e., *i*-stem Bahuvrīhis whose second-elements are originally *ō*-stems (PGmc. **mark-ō-* > ON *mǫrk* ‘region, border’; secondarily a root noun **mark-*, cf. Hansen 2014: 31f., 2016: 173f.) and thematic stems (PGmc. **gand-a-* > ON *gandr* ‘wand, magic’), illustrate this derivational phenomenon perfectly. As for the age and origin of this phenomenon, Wackernagel

(1957: 105) notes that “*i* im Ausgang von Bahuvrīhis stammt aus der Grundsprache.” Therefore, it should come as no surprise that we come across identical derivational patterns in other Indo-European branches, e.g. Latin *im-bellis* ‘peaceful, unwarlike’ (simplex: *bellum* ‘war’, thematic stem) and Vedic *dhūmā-gandhi-* ‘smelling of smoke’ (simplex: *gandhā-* ‘smell, odour’, thematic stem). Though regular in verbal governing compounds of the type Vedic *deva-śrūt-* ‘audible to or heard by the gods’, root nouns as second members of compounds are thus highly unexpected if the compounds are of the Bahuvrīhi type. As in section 2.1, we would understand this noun better if it were, in fact, a vocalic stem. As we have already noted, we would normally expect an *i*-stem, even if thematic stems are far from unprecedented in Proto-Norse onomastic Bahuvrīhi compounds, cf., e.g., PN *frawarādar* (Möjbro stone) and *Landawarijar* (Tørvika A stone). However, as noted by Schuhmann (2018: 45), since this very compound consists of a simple negated adjective, an *a*-stem may actually turn out to be the expected form after all, cf., e.g., Sanskrit *a-jñā-* ‘not knowing, ignorant, stupid’ (< PIE **ǵ-ǵn-ó-* < **ǵ-ǵnh₃-ó-*). Thus, Schuhmann (2018: 45) also rejects the root-noun proposal, and he even speculates (2018: 47–56) in different lines of reduction of PGmc. **-az*. We shall discuss some similar thoughts in section 3.2.

2.3 *alugod*

Our third alleged root noun, **alugod**, emerges from the single-word inscription (Sj 21, KJ 11) on another Zealandic silver clasp, the Værløse clasp, also dated c. 210/220–250/260 CE (Imer 2007: II, 460). A svastika is carved on both sides of the needle holder, and the one on the inscription-side is situated immediately after the final **d** of the inscription. Opinions largely differ as to how to interpret **alugod** even if all scholars but two take that very reading at face value. To my knowledge, only Bæksted (1945: 88–91) speculates if a final **o** could have been left out due to lack of space, thus **alugod(o)** *alugōdō*, the svastika being carved prior to the six runes on its left. In following this reading and interpretation, Moltke (1985: 123, 126) categorises *alugōdō* as a feminine *n*-stem in the nominative singular, designating the owner of the clasp.

One interpretation based directly on the reading **alugod** is that of Seebold (1994: 62f., 90, 1995: 163), who assumes it to be a neuter root noun in the nominative singular. Other interpretations include that of Antonsen (1975: 75f.) who, followed by Looijenga (1997: 89, 2003: 164) and Imer (2007: I, 157), sees it as a nominative singular of a West Germanic vocalic stem (masculine *a*- or *i*-stem). Thirdly, Krause & Jankuhn (1966: 34) and Krause (1971: 116), followed by Stiles (1984: 23–34) and Nielsen (2000: 149f., 282, 284f.), regard it as vocative singular of a masculine *a*-stem. Stoklund (1994: 98, 1995a: 320f.) and Peterson (2004: 6, 44) list several of the options already mentioned without preferring one to the other.

Notwithstanding the derivational history, the meaning of **alugod** is a matter of dispute in and by itself. The first member of the compound, *alu-*, is probably identical to the magic word known from many other inscriptions, cf., e.g., Düwel (2008: 13) and Imer (2007: I, 184–187). According to most scholars today, *alu-* harks back to PGmc. **alut-* ‘ale’ (Høst 1981, Seebold 1994: 62f.). In this specific case where we find the word as a first compositional member rather than in word-final position with application of the reductive Germanic *Auslautgesetz*, we might, however, have expected a compositional form along the lines of **alut-* vel sim. rather than *alu-*. Another etymological option is PGmc. **alh-* ‘temple’ (probably via **aluh-*, cf. again Kümmel 2004: 298–300 on the *u*-insertion) with the derived verb PGmc. **algōja-* > OE *ealgian*, *algian* ‘defend, protect’ and extra-Germanic cognates in Lith. *alkas* ‘(holy) grove on a hill’ and Gr. ἀλκή ‘strength; defence, help’. Finally, a third possible candidate for etymological relationship may be the Hittite adjective *alwanza-* ‘affected by witchcraft’, Gr. ἀλῶω ‘am distraught, am beside myself’ and Latv. *aluōt* ‘be distraught’ as suggested by Polomé (1995: 248).

The second member of the compound, **-god**, is even harder to understand. One option is to regard it as the noun ‘god’, i.e., *-god* < PGmc. **guda-* which is, however, otherwise known only as a thematic stem and not a root noun. Seebold (1994: 63, 1995: 163), who adheres to this option, argues that ‘god’ was a neuter noun in pre-Christian times and that it is attested as a root noun in Gothic. Even if Seebold is certainly right in his first claim, nothing in the Gothic inflection of *gub* indicates that he is also right in his second. All 639 inflected forms of *gub* behave as a neuter thematic stem (*a*-stem), cf. Project Wulfila (2004: s.v. *gub*), which is also what we would expect from its Indo-European ancestral form, whether this be PIE **ǵʰu-tó-* ‘what is poured, what is libated’ or PIE **ǵʰu-tʰó-* < **ǵʰuH-tó-* ‘what is invoked’ (Rasmussen 1999 [1992]: 492f.). Most other scholars (Krause & Jankuhn 1966: 34, Stoklund 1995a: 321, Peterson 2004: 6, Düwel 2008: 29, Schuhmann 2018: 50, etc.) postulate the adjective PGmc. **gōda-* ‘good’ as the source of the second member of **alugod**, thus interpreting it as *-gōd*. They all admit, however, the challenges connected with this interpretation, viz. “daß es im germanischen Namenschatz das Namenwort *gōda-* „edel, gut“ als zweites Kompositionsglied nicht gibt” (Krause & Jankuhn 1966: 34).

Returning to the derivational properties of *alugod* (from the noun ‘god’) or *alugōd* (from the adjective ‘good’), we may, with both interpretations, critically question the status of this compound as a neuter root noun. Despite Seebold (1994: 63, 1995: 163) on Gothic *gub*, neither PGmc. **guda-* ‘god’ nor **gōda-* ‘good’ are ever inflected as root nouns in the Germanic languages, cf. also Schuhmann (2018: 50). Just as easily may we discard the suggestion of a West Germanic

nominative singular of a vocalic stem, cf. again Stoklund (1995: 214–218, esp. 216) on the runological challenges associated with assuming the existence of specifically West Germanic forms in this type of runic material.

If taking the actual reading of the inscription seriously and not assuming the addition of any further runes, we are therefore left with only one other option: a vocative singular of a masculine vocalic stem, i.e., voc.sg. pre-PGmc. **-gōd-e* > PN *-gōd*. Even though the presence of an invocation in the vocative on a Proto-Norse runic inscription may seem odd, Krause & Jankuhn (1966: 34) has pointed to clear parallels in **alawin** *alawin* (x 3) and **alawid** *alawid* on the, admittedly much younger, Skodborg bracteate (SJy IK 161, KJ 105). On this bracteate, *Alawin* follows **auja** *auja* ‘luck’, and *Alawid* follows **j**, which may be interpreted as a concept rune for PN **jāra* ‘good year’, cf. Krause & Jankuhn 1966: 241f. and also Antonsen (1975: 76f.). Therefore, a translation along the lines of “Good luck, Alawin! (3×); good year, Alawid!” may make perfect sense here. On the Værlose clasp, a parallel to *auja* and **jāra* is absent, though. Krause & Jankuhn (1966: 34) speculate, however, if the svastika following the inscription, though carved prior to the runes, may represent a maybe otherwise unknown greeting word, in which case a vocative would make perfect sense also here. In that case, **alugod** may turn out not to be a root noun at all.

2.4 unnam(R)

Only one scholar, viz. Antonsen (1975: 21, 52f.) has claimed that our last alleged root noun, **unnam(R)**, is, in fact, a root noun. His claim is closely tied to the circumstance that he is also the only scholar to recognize clearly an **R** after **unnam** as a last rune on the second row of the Reistad stone (KJ 74), which is dated to the first half of the 5th cent. CE (Høst 1976: 91). Antonsen thus interprets and translates the entire inscription as [...] *ek wakraz unnamz wraitā* “[...] I, Wakraz, the untakeable, wrote (this),” seeing *unnāmz/unnāmR* as a root noun meaning ‘untakeable’ and paralleling *unwōdR* (see section 2.2) in its formation. As for the final rune of this word, he notes that “R. II-14 **z** is located directly on the edge of the stone, somewhat more weather-torn than the others, but has the same ductus as R.I-8 and II-8” (Antonsen 1975: 52).

Other scholars (Høst 1977: 153, Knirk *apud* Bammesberger (1996), Eythórsson 1999: 194f., Nielsen 2000: 151f., etc.) severely criticize Antonsen’s proposal and, among other reservations, refrain from reading this final **R** after **unnam**, since they only register it as “bedeutungslose Schrammen,” as Krause & Jankuhn (1966: 171) put it. Similarly, Høst (1977: 153) claims that “[t]he reason why this ‘rune’ has been ignored is that it does not exist. It is impossible to see or feel, as Bugge does, a cut line on the right side of **m** in **unnam**,” and Knirk *apud* Bammesberger

(1996) states “with 99% security that **m** is the last rune of line 2.” Instead, they regard *unnam* as a strong verb in the preterite 1.sg. meaning either ‘took’ (Eythórrsson 1999: 195–200) or, in a preterite-present sense, ‘know, understand’, i.e., ‘have taken up’ (Marstrander 1930: 248, Krause & Jankuhn 1966: 171, Høst 1976: 91, etc.).

Also, as Poulsen (2017: 14) rightly notes, since the surface of the stone is indeed weather-torn and something may have broken off, we cannot know for certain whether to read, say, **unnam#**, **unnamj**, **unnamj[R]** or (**unnamā**). Therefore, we must either stick to reading what we do observe with certainty, i.e., **unnam**, or at least base any additions to our reading on the assumption of forms that are linguistically meaningful. With its derivationally unexpected root-noun form, cf. also sections 2.2 and 2.3, Antonsen’s **unnāmz* does not qualify in this regard, and we must therefore discard it – even more so when we consider the uncertainty of his reading **unnamz/unnamR**.

2.5 Irrelevant forms

As revealed by a simple query for all 741 nouns in the database of the Runenprojekt Kiel (s.v. *Substantive (S)*), the older runic inscriptions do present us with a range of other forms that resemble root nouns. However, all these inscriptions are either of a later, post-syncope date or unearthed in an area where dialectal (East Germanic) features are less surprising than with, say, the Zealandic-type clasps treated in sections 2.2 and 2.3.

Thus, in inscriptions of East Germanic provenance, we find three nouns without a derivational suffix, viz. **tilarids** on the Kowel spearhead (KJ 33), **wih** on the Pietroassa gold ring (KJ 41) and **marings** on the Szadbattyán buckle (KJ 167), cf., e.g., Krause & Jankuhn (1966: 77–80, 91–95, 310f.), Antonsen (1975: 74f.), Looijenga (1997: 5, 79, 96f.) and Düwel (2008: 31f.). As well-known sound laws reveal, these nouns may straightforwardly reflect Proto-Germanic *a-* or *i-* stems, since nom.sg. PGmc. **-az* and **-iz* > EGmc. *-s* and acc.sg. PGmc. **-aʷ* and **-iʷ* > EGmc. *-θ*, cf., e.g., Boutkan (1995: 167, 171f., 236).

Seeming root nouns in relatively late-period inscriptions from the continent (West Germanic) include **p^hruphild** (Friedberg), **haribrig**, **awimund** (Weimar), **birg**, **leub** (Kleines Schulerloch), **alagup** (= *alagunþ*), **arogis** (Schretzheim), **husibald** (Steindorf), **idorih** (Wurmlingen), **alirgub** (Weingarten), **godahid** (= *godahild*) (Bezenye) and many more, cf., e.g., Krause & Jankuhn (1966: 277–310) and Opitz (1987). Due to the general West Germanic syncope of both the derivational suffix and the inflectional ending nom.sg. PN *-R* (PN *-aR* > WGmc. *-θ* and PN *-iR* > WGmc. *-θ* (after heavy syllables), cf., e.g., Boutkan 1995: 167, 171f., 236), these forms may all be *a-* or *i-* stem nominatives (or accusatives), too.

Finally, from what develops into the North Germanic area, we find a couple of seeming root nouns, too, viz. **rhoalTR** (Vatn), **taitR** (Tveito), **hapuwol^afr**, **hariwol^afr** (Stentoften), **h^aer^amalausR** (Björketorp), **hapuwul^afr** (Istaby), **fiskR** (Eggja) and **udR** (Roes), cf., e.g., Krause & Jankuhn (1966: 152f., 202–220, 227–236). These inscriptions all stem from the syncope period, i.e., from the beginning of the 7th to the middle of the 8th centuries CE, where syncope of short vowels in final syllables becomes regular, i.e., PN *-aR* and *-iR* > NGmc. *-R*, cf., e.g., Boutkan (1995: 167, 171f., 236). We must not forget, however, that this period also presents us with two additional root-noun attestations, and these do, in actual fact, represent a true root noun, viz. late PN **mar** *mannr* and **manr** *mænnr* on the Eggja stone (KJ 101). However, given its late attestation in Proto-Norse, its relatively uncontroversial structure and its well-known record in the entire Germanic area, cf. Hansen (2014: 31, 44f., 2016: 173, 179), we shall leave it out of further consideration here.

2.6 Summary of the runic material from Proto-Norse

Aside from forms in a few inscriptions that are hardly legible, I have attempted to give in sections 2.1–2.5 a comprehensive description and analysis of those forms in Proto-Norse (and beyond) that one or more scholars have previously interpreted as root nouns. From this, we have learnt that **unnam** (section 2.4) can hardly be a root noun and that doubt remains whether **alugod** (section 2.3; and **alawin** and **alawid** along with it) is a vocative singular, a West Germanic nominative singular or a neuter root noun, even if the first alternative, the vocative, seems to offer the most likely explanation. Needless to say, we may also straightforwardly discount all the specifically East or (late) West or North Germanic nouns listed in section 2.5.

As for **gaupR** (section 2.1) and **unwodR** (section 2.2), we have not yet managed to establish any viable way of interpreting them as anything but root nouns. This seeming lack of interpretational alternatives may turn out to leave us with more questions than answers, however, since we also noted that, in these two concrete cases, root-noun derivation makes little sense and we might have understood both terms better as masculine vocalic stems (*a-* and/or *i-*stems).

3 Alternatives to a root-noun interpretation

Keeping our preliminary conclusions of section 2.6 in mind, we may profit from searching for alternatives to a root-noun interpretation. First, we may justly exclude the ever-present option (for the reading or interpretation of virtually any inscription) of adding more runes that do not emerge from the inscription at face value, cf., e.g., Krause & Jankuhn's (1966: 35) bind-rune interpretation for **un-**

wodr as **unwodi=R** or Moltke's (1985: 127f.) claim that the rune master had simply forgotten to carve the **i**-rune. In my opinion, such an option should constitute a mere last resort to be applied only if all other linguistically meaningful explanations based on the forms at face value fall short.

Consequently, we are left with only two alternatives besides accepting *gaupR*, *unwōdR* and possibly *alugōd* as true, original root nouns. Either we must assume that these originally vocalic stems have undergone a shift of declension classes (morphological change), or we must formulate a sound law to explain the loss of the vocalic stem formant (phonological change). We shall examine and evaluate both alternatives in sections 3.1–3.2 below:

3.1 Shifts of declension classes (morphological change)

During the recent couple of decades, Germanic scholarship has focused increasingly on disclosing patterns in shifts of declension classes, culminating with the publication of Luzius Thöny's *Flexionsklassenübertritte* (Thöny 2013). This focus is both well-founded and prudent. As a natural consequence of the Germanic *Auslautgesetze*, cf., e.g., Boutkan (1995), the traditional tripartition of root, derivational stem suffix and inflectional suffix starts to fuse into a more blurred system of inflectional stems (with or without paradigmatically stable derivational suffixes) followed by inflectional suffixes.

When declension classes are no longer as easily identifiable as they used to be, a wide array of new factors and triggers becomes decisive for the assignment of specific (types of) nouns to specific declension classes, more or less regardless of the previous class membership of these nouns, cf., e.g., Thöny (2013: 112–114). Pivotal case forms, i.e., the formal coalescence of case form(s) in otherwise separate declension classes, constitute one important trigger for shifts of declension classes, cf. Thöny (2013: 23–27) following Schaffner (2003: 212), but even so, such pivots exist between all members of the two (or more) declension classes involved in such a pivotal relationship. Therefore, as Thöny (2013: 25) also notes himself, we still need to justify why only some members of a declension class react to this pivotal trigger and make the entire or partial shift to another class.

Kürschner (2008) operates with the concept of declension-class profiles to solve this problem, and Thöny (2013: 35–45) lists semantic markers and categories, gender, explicit formal markers (largely equalling the traditional stem formants), syllable structure and prosody as elements that all contribute to specific declension-class profiles. Nouns being members of or shifting to a given declension class may then comply with this profile to a greater or lesser extent.

All such considerations as to how a declension class attracts new members may turn out futile when concerning the root-noun class, however, for Thöny (2013:

79–82) follows a long range of scholars before him that regard it as a closed and unproductive class, cf. also, e.g., Krahe & Meid (1967: 56–58). With the exceptions of PGmc. **manna-* → **mann-* ‘man’ and some much later, well-understood shifts in North Germanic (cf. Brøndum-Nielsen 1935: 146, 154f., Thöny 2013: 81f., Hansen 2014: 45–47, 2016: 179f., etc.), this class is highly reluctant to accept new members. On the contrary, the root-noun class has lost a large amount of its members to the vocalic classes throughout the rise and development of the individual Germanic languages.

It may seem, however, that the root-noun class was, at a certain period, more productive than most scholars tend to assume. Kroonen (2012) has convincingly demonstrated that loan words of a structure unfamiliar to the speakers of Proto-Germanic, i.e., words whose stem ended in a consonant in the language of origin, have entered the Germanic root-noun declension; cf. also Hansen (2014: 43f., 2016: 178f.).

In addition, I have proposed myself the existence of a layer of root nouns that shifted from other declension classes to this class at the Proto- or Common Germanic stage (my layer IIb, cf. Hansen 2014: 44f., 2016: 179). However, the triggers for these shifts, if existent at all, point in different directions and fail to contribute to a uniform declension-class profile. In this regard, I have also speculated (Hansen 2016: 179) on whether a shift of declension class could have happened in the case of *gaupR*, but as with most other items of my root-noun layer IIb, I have not succeeded in identifying what triggered the shift. This goes for *unwōdR* as well. For both nouns, a shift seems unmotivated on all known levels (phonetically/phonotactically, prosodically, regarding the inflectional pattern, semantically/functionally, etc.).

3.2 A syncope-causing sound law (phonological change)

Turning to our last alternative, a sound law, to account for the absence of the suffixal vowel **a* (and **i*?) in the nouns of relevance, we must first note the rupture with runological and linguistic traditions that such a sound law creates. Assuming syncope at this very early stage of Proto-Norse (3rd century CE, cf. sections 2.1–2.2) is far from customary, especially not for inscriptions associated with the Danish area, and we meet countless runic examples that contradict a syncope-causing sound law, e.g. **widuhudaR** *widuhundaR* on the contemporary Himlingøje clasp 2 or **hlewagastiR** *hlewagastiR* on the much younger golden horn of Gallehus. From these and multiple other counterexamples, we may learn that, if we still attempt to postulate such a sound law, we will need to establish some conditioning factors first.

Firstly, both nouns potentially affected by syncope, i.e., *gaupR* and *unwōdR*, share a common feature in their consonantal *Auslaut*: Both *p* and *d* [ð] are interdental

fricatives. As evidenced by the already mentioned form *widuhundaR* as well as by **hagustaldaR** *hagustaldaR* on the Valsfjord cliff inscription and **ungandir** *ungandir* on the Nordhuglo stone, the corresponding dental stop does not seem to trigger syncope, so we cannot suffice with positing just any (inter)dental consonant. The non-syncopeated *a* after *s* in **heramalasaraR** *hermalausaR* on the Stentofsten stone and the many attestations of **-gastir** *-gastir* as a second compositional member point in the same direction, as does **hroRaR** *hrōRaR* on the By stone with its dental or palatal fricative. We could continue the list with an additional number of examples, e.g., **staina** *staina* on the Vetteland stone, **wraitha** *wraitha* on the Reistad stone (and possibly on the recently unearthed Trollhättan 2 bracteate, too) and **aipalataR** *aipalātaR* on the axe handle from Nydam, but these will suffice. Secondly, we may also want to control if any random vowel may precede the interdental fricative. Nouns like **frawaradaR** *frawarādaR* on the Mjöbro stone and **s[a]irawidaR** *sairawīdaR* on the Rö stone reveal that this is hardly the case. These vowels share the common features of being long and unrounded (\bar{a} and \bar{i}), whereas the correspondingly situated vowels of the syncopeated forms are rounded and either long or diphthongized, viz. *au* in *gaupR* and \bar{o} in *unwōdR*. Thirdly, and finally, the existence of **haukōpuR** *ha(b)ukōpuR* on the Vånga stone excludes *u* as a possible candidate for syncope, leaving only *a* (and *i*?). This distribution of syncopeated vowels resembles what we find in Gothic, cf., e.g., Goth. *dags* ‘day’ (*a*-stem, syncopeated) and *qēns* ‘wife’ (*i*-stem, syncopeated), but *sunus* ‘son’ (*u*-stem, unsyncopeated), cf. also Boutkan (1995: 167, 236, 250). A sound law accounting for the syncope of **a* (and **i*?) in *gaupR* and *unwōdR* will therefore have to describe the loss of PGmc. short **a* (and **i*?) in final syllables after interdental fricatives (*þ* and *d*) preceded by a rounded long vowel or diphthong, which we may formulate as:

$$a(/i?) > \emptyset / V:_{[+rounded, +/-monophthongal]}C_{[+interdental, +fricative]} _ (R)\#$$

Remarkably, not only *gaupR* and *unwōdR*, but also *alugōd* (see section 2.3) would comply with these conditionings for syncope. Thus, we may now have even less reason for assuming a root-noun origin for that noun.

As may be evident from this section, our early Proto-Norse syncope-causing sound law, which we may speculatively define as a prelude to the general syncope of late Proto-Norse some centuries later, comes with a very strict conditioning and is corroborated by only two, maximum three examples. This may cast serious doubt on the validity of the law. On the other hand, there are no counterexamples to it, at least not to my knowledge. The question is, however, if this sound law is simply too *ad hoc* to adhere to any factual or imagined minimum standards.

4 Minimum standards for acceptable sound laws

Another question is if there are any minimum standards for sound laws at all. Universally accepted standards may not exist, but Lass (1997: 137, 228–232) has attempted to set up a range of what he labels “quasi-conventionalist guidelines.” Apart from these, one minimum requirement must be close to self-explanatory: Sound laws are mainly meant for accounting for genetic linguistic relatedness, the general principles of which are as follows (Lass 1997: 124):

If two (or more) languages show regular correspondences in lexicon and inflectional and derivational morphology, and certain paradigmatic sets like pronouns, numerals, etc.; and if these correspondences cannot be due to chance because of their pervasiveness and apparent systematicity; and if historical factors and/or the systematicity of the similarities rule out diffusion; then the correspondences are due to common origin; or one language is the descendant of the other.

Pervasiveness and systematicity are the pivotal elements of this definition. Hence, whether it be through common origin or through a direct antecedent-descendant relationship, any sound law explaining genetic linguistic relatedness must define a rule according to which one element in one language or language stage corresponds systematically, regularly and replicably to an element in another language or language stage, cf. also Lass (1997: 135). In other words, we expect a sound law to affect all instances of the element in question. In the case of my suggested sound law (section 3.2), not only one or two, but *all* instances of PGmc. short **a* (and **i?*) in final syllables must be lost in Proto-Norse if occurring after interdental fricatives (*þ* and *d*) preceded by a rounded long vowel or diphthong. As we have already seen, there are no counterexamples to this sound law, from which we may infer that, if nothing else, it complies with this fundamental requirement of systematicity, regularity and replicability.

Other requirements or “guidelines” exist, as well, though. First, we may consider Lass’s principle of process naturalness, according to which we should be more inclined to accept a sound law that suggests a natural or frequently observed change than one suggesting an unnatural or rare change. In the case of our Proto-Norse sound law, this requirement is fulfilled, since syncope and ultimate loss are commoner than fortitions and prothesis, cf. Lass (1997: 137, 228) and – though concerning only changes of consonants – Kümmel (2007: 41–182).

Also, when we consider the related principles of natural systems and phonetic legality, i.e., Lass’s (1997: 137, 228f.) second and fourth principles, we must check if the stages involved in the proposed sound law are natural. In other words, the starting point (e.g. PGmc. **gaupaz* or **unwōd^a/z*), the potential intermediates and the end point (e.g. PN *gaupR* or *unwōdR*) must all display forms that are both consistent with the language(s) in question and cross-linguistically possible. In our case, the syncopated forms of Proto-Norse are attested, thus

representing naturalness *per se*, but also the suggested non-syncopated forms of Proto-Germanic abide by the general principle of natural systems. Languages with words ending in a consonant, a short vowel and yet another consonant (-CVC) are hardly unheard of. Even within Proto-Norse itself, we find multiple such forms, cf., again, the phonologically almost parallel form **frawaradar** *frawarādaR* on the Mōjbro stone.

Lass's (1997: 137, 229) third principle, that of simplicity, does not apply to our case, since it only concerns the task of establishing which forms in a comparison between different languages represent the original form and which are apomorphous. Neither does his seventh principle of portmanteau reconstruction (Lass 1997: 231f.). His fifth principle of family consistency as well as his derived sixth principle of oddity condition (Lass 1997: 229–231), however, do. According to these two principles, we should proceed with utmost caution when reconstructing a segment type for a proto-language that does not occur in at least one descendant language, and the rarer this segment (or string of segments) is cross-linguistically and, more importantly, within the language family in question, the more evidence we need to reconstruct it. Unstressed vowels in final-syllable position, i.e., what I propose to reconstruct in terms of PGmc. **gauþaz* and **unwōd^a/z* as precursors of PN *gauþR* and *unwōdR*, are not rare, and as revealed by other Proto-Norse forms (cf., again, *frawarādaR* on the Mōjbro stone), they are also attested elsewhere within the language family.

So far, it seems that my proposed sound law abides to all relevant principles and/or guidelines of well-formed sound laws, cf. Lass (1997: 137, 228–232). We still need to determine, however, if the conditioning factors for its operation are too narrow for it to be realistic. Lass's principles offer no answer to that question, but we may note in defence of the sound law that many other sound laws exist that are just as strictly conditioned as this one, cf., e.g., the modern West Frisian change **c > t̥ / _jV; /C_[+cor]i_#* (Kümmel 2007: 212).

The very low number of positive examples of our sound law constitutes a second caveat. In a language like Proto-Norse that is very fragmentarily attested, however, a low number of examples is what we would expect. This does not imply, of course, that we should evaluate a sound law more positively just because we happen to propose it for a poorly attested language. It rather implies that we must expect most sound laws of such a language to come with a certain level of both unverifiable and unfalsifiable tentativeness.

Here, we may face the very essence of our potential reservations against the law. Even though it seems formally impeccable, cf. above, too few examples corroborate it. Consequently, it risks disqualification on the grounds of a simple lack of ascertained falsifiability. We may not be able to single out “its logical form

[...] by means of empirical tests, in a negative sense,” and therefore it may turn out impossible for “the empirical scientific system [i.e., the sound law in this case] to be refuted by experience” (Popper 2005 [1959]: 18). In other words, the sound law may simply be unscientific. I dare not assess myself if I am too harsh on the falsifiability criterion. This must be up to the judgement of others.

5 Conclusion

As previously stated, my aim with the present article was not to propose a new sound law for Proto-Norse, nor to defend it by any means. Rather, I have attempted to demonstrate that, irrespective of whether this specific sound law proves valid or not, historical linguists must never forget to evaluate each new (and old) sound law critically and, if possible, with reference to a fixed set of principles or requirements upon which everybody agrees. It is highly dubious if the sound law proposed by me in this article lives up to such criteria.

It still remains to be settled, therefore, if the development of PN *gauþR*, *unwōdR* and possibly *alugōð* from vocalic stems to something formally resembling root nouns was caused by a morphological or a phonological change.

6 Excursus: A couple of true root nouns in early Proto-Norse?

It may seem as if I have also had a secondary agenda of discarding altogether the existence of root nouns in the corpus of Proto-Norse runic inscriptions. Nothing could be farther from the truth, however. We know that root nouns exist in the subsequent stages of North and West Germanic, and common reason dictates that these nouns must, insofar as they are inherited from Proto-Indo-European or Proto-Germanic, have been present also in Proto-Norse; only we do not have any solid attestations of root nouns in our limited corpus. However, two other potential root nouns may actually be present in inscriptions upon which we have yet to touch, but I must stress that both are highly dubious.

The first one is PN **aisgRh** on the Thorsberg shield buckle, dated c. 200 CE. If this is to be read and interpreted as **aisgRh** *aisgR h* ‘challenger of hails (i.e., spears)’ as by Antonsen (1975: 30), we might see here a root noun *aiskR*, even though Looijenga (1997: 151) objects that we would have expected *k* rather than *g*. A root noun PGmc. **aisk-z* would, at first sight, seem just as unexpected as the ones treated in sections 2.1–2.4. Morphologically, this reservation holds true. If PGmc. **aisk-z* somehow continues PIE **h₂eǵs-sk^{e/o-}*, the *ske*-present of the verbal root **h₂eǵs-* ‘seek’, cf. Antonsen (1975: 30), we would definitely expect to find a thematic noun rather than a root noun. Phonologically, on the other hand, PGmc. **aisk-z* may actually be the expected root-noun form even in spite of my theory of phonotactically predictable radical ablaut grades in inherited

root nouns (see section 2.1), according to which PGmc. **isk-z* would be the regular outcome. If PIE **#h₂iC-* yields PGmc. **#aiC-* as per Hansen (2014: 133–143, 160–167, 2015: 41–48, 60–69), we would be facing the phonotactically expected form PIE **#h₂is-sk-*, which would develop regularly into PGmc. **aisk-*. We must not forget, though, that both the reading and, consequently, the interpretations are uncertain, and alternative suggestions abound, cf. also, e.g., Krause & Jankuhn (1966: 55f.), Seebold (1994: 66) and Looijenga (1997: 150f.). It is therefore far from certain that we may even read **aisgrh**.

The second one is no less certain. On both the Killerup bracteate 1 and the Gudme bracteate 1, dated c. 450–540 CE, we come across a single-word inscription **undr**, which Nedoma (2009: 817–823) interprets as a root noun *undR* ‘shoot, sprout’ (= twig of mistletoe). He further connects it to the Indo-European root PIE **h₂end^h-*. The agent-noun semantics is impeccable from an Indo-European point of view, and the radical ablaut is in the zero grade, as is to be expected with nouns of the phonotactic structure (C)CVRC, i.e., not PIE **h₂^ε/ond^h-* ((C)CVRC), but PIE **h₂nd^h-* > PGmc. **und-* ((C)C_RC). To my knowledge, Nedoma stands alone with his interpretation, but not with the root-noun categorization. Antonson (2002: 278) sees in **undz** a root noun meaning ‘front side’, i.e. a form cognate to a zero-grade variant of the Indo-European root noun **h₂ent-* ‘front’, but as Nedoma (2009: 815–817) justly points out, it makes little sense to write ‘front side’ on a bracteate that is only ornamented on the one side. Other scholars regard **undr** as an abbreviated form of the preposition ‘under’, cf., e.g., Imer (2007: I, 177f.), but this assumption requires a (regional?) coalescence of *z/R* and *r* which is otherwise unattested at this stage, cf. also Nedoma (2009: 811f.).

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