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THE OUTCOME OF PIE *-ĕ̯i̯(C)# AND *-ĕ̯u̯(C)# IN GERMANIC

By suggesting an interconnected series of soundlaws for the outcome of Proto-Indo-European (PIE) falling e-vowel diphthongs in final syllables in Proto-Germanic (PG) and in the individual Germanic languages, viz. PIE *-*e̯i̯(C)#* > PG *-*ai(C)#*, PIE *-*ēi̯(C)#* > PG *-*ei(C)#*, PIE *-*eu̯(C)#* > PG *-*au(C)#*, and PIE *-*ēu̯(C)#* > PG *-*eu(C)#*, this article renders superfluous the old, prevalent assumption of competing o-grade allomorphs in some of the oblique cases of the PIE i- and u-stems. Consequently, the i-stem gen.sg. is reconstructed only as PIE *-*e̯is* (not as †-*ois* in addition), the u-stem gen.sg. only as *-*eu̯s* (not as †-*ou̯s*), the u-stem loc.sg. only as *-*ēu̯* (not as †-*ōu̯*), the u-stem voc.sg. only as *-*eu̯* (not as †-*ou̯*), etc.

1. The importance of the Germanic "Auslautgesetze"

To many scholars of Indo-European linguistics, the question of the Germanic "Auslautgesetze" constitutes a frustrating puzzle and an endless sequence of circular argumentation that may actually raise more questions than it answers. Meillet stated these concerns quite succinctly in his *Caractères généraux des langues germaniques*:

> Le traitement des finales est imparfaitment connu. Les exemples de chaque type de faits sont rares, et l'original indo-européen n'est pas toujours déterminable. On opère avec des formes grammaticales, suspectes par leur nature même d'avoir subi des actions analogiques (Meillet 1922: 79-80).

Even if the situation has improved since Meillet's days, many issues still lack tenable solutions; solutions that the scholarly community definitely ought to seek, for when carefully examining the different Proto-Germanic (PG) outcomes of Proto-Indo-European (PIE) final syllables, i.e. the syllables containing the desinences, one soon comes to realise that a correct and thorough understanding of the Germanic "Auslautgesetze" may actually contribute considerably to the solutions to long-lasting problems of PIE phonology and desinential morphology. One such case is the question of the development of word-final diphthongs where the scholarly community has, so far, posited a range of adversely and unmotivatedly competing PIE desinences.

The present study offers a new explanation of the development of the PIE ĕ̯-vowel diphthongs in final syllables. The corresponding ă̯/ŏ̯-vowel diphthongs

will play only a minor role. What is, in other words, the expected outcomes of PIE *-*eḭ(C)#*, *-*ēḭ(C)#*, *-*eu̯(C)#*, and *-*ēu̯(C)#*? When in final position, precisely these diphthongs play a pivotal role in our understanding of the desinential morphology of the PIE i- and u-stems in particular. In fact, they are found nowhere else in the PIE desinential system except for in the mainly Greek (and Baltic) βασιλέυς- or ἱππεύς-type and its sub-type *πάτρως* (< *-*ōu̯s*).[1]

2. The Proto-Indo-European state of affairs

The oblique cases of the PIE i- and u-stems may be formed in one of two ways: either by the derivational suffix in the unaccented zero grade represented by the glide *i̯* or *u̯* (corresponding to the *i* or *u* of the stem) followed by the standard desinence in the accented full grade, e.g. i-stem gen.sg. *-*i̯-é/ós* or u-stem dat. sg. *-*u̯-éi̯* (open inflection), or by accented 'full grade' of the derivational suffix followed by unaccented zero grade of the desinence proper, e.g. i-stem gen.sg. *-*é/ói̯-s* or u-stem dat.sg. *-*é/óu̯-ei̯* (closed inflection). Only the latter principle, which was also by far the one most frequently adopted in the formation of oblique cases of PIE i- and u-stems, is of relevance here.

The existence of these two types was known and recognised fairly early, cf. e.g. Wackernagel III (1929: 138-144) who also very briefly mentions a third type represented, in Indic, only by Skt. *sáhkāy-* 'friend, companion'. To my knowledge, however, serious attempts at an explanation of the existence of the two types were not provided until Szemerényi (1970: 160-165) suggested that the subsidiary type (with gen.sg. in *-*i̯-os*, *-*u̯-os*, or type I, in Szemerényi's terms) would originally have contained only nouns whose underlying stem contained an open syllable, whereas stems in underlyingly closed syllables would originally have yielded the prevalent type (with gen.sg. in *-*ei̯-s*/-*oi̯-s*, *-*ou̯-s*/-*eu̯-s*, or type II, in Szemerényi's terms). Stems of the structure *CeC-i/u-* would thus yield oblique cases of type I whereas stems of the structure *CeCC-i/u-* or *CeC-Ci/u-* would result in obliques cases of type II.[2]

1. It has been suggested that this type did not, in fact, contain an original diphthong, cf. e.g. Szemerényi (1957: 159-181), Schindler (1976: 351-352), Rasmussen (1989: 273-274) and Olsen (2008).
2. This distributional theory has the additional advantage of providing a rationale for the preference of type II to type I. Most i- and u-stems are not primary but, in fact, secondary, e.g. ti- and tu-stems. Such secondary stems would virtually automatically produce closed stem syllables seeing that the general, minimal root structure of PIE is *CeC*, cf. e.g. Benveniste (1935: 170).

Table 1: Szemerényi's (1970: 162) original, reconstructed desinences of type II:

	i-stems	u-stems
nom.sg.	*-i-s	*-u-s
accc.sg.	*-i-m	*-u-m
gen.sg.	*-ei̯-s / *-oi̯-s	*-ou̯-s / *-eu̯-s
dat.sg.	*-ei̯-ei̯	*-ou̯-ei̯ / *-eu̯-ei̯
loc.sg.	*-ēi̯ ♦	*-ōu̯ / *-ēu̯
voc.sg.	*-ei̯	*-ou̯
nom./voc.pl.	*-ei̯-es	*-ou̯-es / *-eu̯-es

♦ Szemerényi (1970: 110) explains the long grade loc.sg. form PIE *-*ēi̯* as a result of earlier **-*ei̯-i*. The corresponding u-stem form PIE *-*ōu̯* and, secondarily according to Szemerényi, *-*ēu̯* would then have emerged as a result of proportional analogy to the i-stem desinence. The original u-stem loc.sg., i.e. the form not originating from analogical processes, might, then, be what underlies the Skt. by-form *-avi* < PIE *-*eu̯-i*, cf. e.g. Wackernagel III (1929: 157) and Kuiper (1942: 214-215).

If one were to believe the linguistic data represented in table 1, it would seem incontrovertible that, in a number of cases, the PIE speakers could choose between two competing desinences, e.g. i-stem gen.sg. *-*ei̯-s* vs. *-*oi̯-s* and u-stem nom./voc.pl. *-*ou̯-es* vs. *-*eu̯-es*. Needless to say, unregulated allomorphy – as well as free variation in general – is far from being an unknown typological phenomenon in the world of linguistics,[3] but one should always try to provide realistic explanations for the variation, e.g. if any variant is more original. Szemerényi (1970: 163-165) actually did this. He proposed an original distribution with e-vowel pertaining to the oblique cases of the i-stems and o-vowel pertaining to the oblique cases of the u-stems. He further believed this *e and *o to have developed from earlier **i* and **u*, respectively, i.e. PIE **-i̯i̯-* > *-*ei̯-* and **-u̯u̯-* > *-*ou̯-*, and he regarded the i- and u-vowels as resulting from some kind of pre-PIE Sievers development

3. One need not go any further than to other parts of the PIE desinential system where, only to mention one example, free variation seems to have prevailed between **m* and **b*^{h} in the dat./abl.pl., instr.pl., and dat./instr./abl.du. of any PIE nominal paradigm but the thematic one (with instr.pl. in PIE *-*ōi̯s* rather than †-*o-mis*/-*o-b*^{h}*is*), cf. e.g. Fortson (2004: 116). Later, of course, the former variant was generalised in Germanic and Balto-Slavic, the latter variant in the remaining branches.

where an *i* or a *u* would be inserted before a homorganic glide in order to facilitate the pronunciation of heavy consonant clusters. In this way, a straightforward basis for mutual analogical levelling between the morphologically parallel i- and u-stems has been created so as for u-stems to add the e-vowel forms (*-*eu̯*-) to the existing inventory of o-vowel forms (*-*ou̯*-) and vice versa for the i-stems. Elegant and ingenious as this explanation may seem, it fails to account for the precise nature of this otherwise unattested pre-PIE Sievers development as well as for the fact that e-vowel forms have infected the u-stem paradigm to a significantly higher extent than o-vowel forms have infected the i-stem paradigm. Thus, as can be seen from table 1, Szemerényi lists four secondary e-vowel forms in the u-stem paradigm (gen.sg. *-*eu̯-s*, dat.sg. *-*eu̯-ei̯*, loc.sg. *-*ēu̯*, and nom./voc.pl. *-*eu̯-es*) but only one secondary o-vowel form in the i-stem paradigm (gen.sg. *-*oi̯-s*). In my view, this distribution can suggest hardly anything but a general preference for e-vowel forms to o-vowel forms.

Rasmussen (1996: 137-141) attempts to account for at least the first of the difficulties of Szemerényi's model, viz. the precise nature of this otherwise unattested pre-PIE Sievers development. By positing that, underlyingly, the derivational suffixes of the i- and u-stems were not the 'naked' vowels *-*i*- and *-*u*- alone but rather the corresponding glides *-*i̯*- and *-*u̯*- preceded by the suffixal full grade e-vowel, i.e. *-*ei̯*- and *-*eu̯*-, Rasmussen renders the assumption of the said pre-PIE Sievers development superfluous. With application of a process where all unstressed vowels are deleted at a pre-PIE stage, the stem would then initially have appeared in the form of **CéC-i̯/u̯*- or **CéCC-i̯/u̯*- to which the true case forms should be added. However, Rasmussen argues that this pre-PIE stage would not allow stems ending in three or more consonants;[4] consequently, a structure like **CéCC-i̯/u̯*- would not be allowed, and the underlying e-vowel of the derivational suffix would be retained, i.e. **CéCC-ei̯/u̯*- rather than the structurally inadequate †*CéCC-i̯/u̯*-. When regularly shifting the accent one slot rightwards in the oblique cases of the two different types of i- and u-stems, i.e. **CéC-i̯/u̯*- with expected deletion of the suffixal vowel and **CéCC-ei̯/u̯*- with retention of the suffixal vowel in order to avoid the stem ending in three consonants, one would end up with e.g. gen.sg.-forms in **CeC-i̯/u̯-é/ós* and **CeC-éi̯/u̯-s*, respectively, from which the forms normally reconstructed for PIE are easily deducible by application of yet another round of deletion of unstressed syllables and subsequent,

4. Rasmussen (1996: 581) supports his argument by calling the readers' attention to the fact that no PIE suffix /-nt-/ exists, only /-ent-/ added to a preceding stem final or root final consonant.

paradigmatic levelling of the zero grade of the root from the oblique cases into the strong cases.

However, given Rasmussen's model of positing an underlying e-vowel in both the i- and u-stems, no account can be provided for the presence of o-vowel forms. Admittedly, such a suffixal o-grade could have arisen in the voc.sg. or nom./voc. pl., which, in a proterokinetic paradigm such as the one posited for the type II i- and u-stems, would be accented on the root syllable with weakening or at least alteration of the suffixal vowel as a consequence, but Rasmussen's article does not mention that option. It should also be noted that, even if the type II i- and u-stems are basically proterokinetic, they fail to show the expected, unaccented o-vocalism of "true" proterokinetic paradigms in the two most prominent cases, viz. nom.sg. and acc.sg. Such o-grade forms are found merely within the residual *sakhāy*-type mentioned above, cf. e.g. Kuiper (1942: 197-198).[5] For the sake of convenience, we shall therefore regard all case forms of the type II i- and u-stems

5. As for the system of Proto-Indo-European accent and ablaut, I choose to follow Rasmussen (1999[1978: esp. 17-20, 27-28, 44-45 LG 1+3+7]) who operates with and elaborates on the theoretical model of the Erlanger Schule. He thus claims that e-grades are accented and that unaccented original PIE **e* are first turned into **o* only to be lost altogether at a later stage (zero grade). However, if lengthened by means of influence from the **-s* of the PIE nom.sg. or the **-h_2* of the PIE collective, the *o* would be preserved. Hence follows that an original proterokinetic paradigm would be nom.sg. **CéC-eC-s* > **CéC-oC-s* > **CéC-ōC-s*, acc.sg. **CéC-eC-m* > **CéC-oC-m* > **CéC-C-m* (→ **CéC-oC-m* in analogy with the pattern of the hysterokinetic paradigm type) and gen.sg. **CeC-éC-e/os* > **CoC-éC-e/os* > **CC-éC-s*, whereas an original hysterokinetic paradigm would be nom.sg. **CeC-éC-s* > **CoC-éC-s* > **CoC-ḗC-s* > **CC-ḗC-s*, acc.sg. **CeC-éC-m* > **CoC-éC-m* > **CC-éC-m* and gen.sg. **CeC-eC-é/ós* > **CoC-oC-é/ós* > **CC-C-é/ós*. From this follows that the residual i-stem type of Skt. *sakhāy*- is, in principle, a 'true' proterokinetic i-stem with nom. sg. in PIE **-ōi̯s*. The two prevalent types of i- and u-stems, however, seem to resist analysis within the framework of this theoretical model since one would a priori expect the type I (open inflection with gen.sg. in PIE **-i̯-ós/-u̯-ós*) to have a nom. sg. †*-ḗi̯-s*/†*-ḗu̯-s* and an acc.sg. †*-éi̯-m̥*/†*-éu̯-m̥*, not **-is*/*-us* and **-im*/*-um* as actually attested, and the type II (closed inflection with gen.sg. in PIE **-éi̯-s/-éu̯-s*) to have a nom.sg. †*-ṓi̯-s*/†*-ṓu̯-s* and an acc.sg. †*-ói̯-m̥*/†*-óu̯-m̥*, not **-is*/*-us* and **-im*/*-um* as actually attested. Rasmussen (1999[1978]: 42) seeks to explain this discrepancy by means of prevocalic Sandhi variants where original (i.e. before the series of sound-laws mentioned above came into effect) nom.sg. PIE **-ei̯s/-eu̯s V-* was reinterpreted as **-ei̯/-eu̯ sV-* (> **-oi̯/-ou̯ sV-* > **-i/-u sV-* by application of the same soundlaws). For a different account of the prehistory of the i- and u-stems cf. e.g. Beekes (1985: esp. 150-164).

except for the nom.sg. and acc.sg. as oblique or weak even if this is not in accordance with standard terminology.

To my knowledge, the scholarly community has yet to propose a theoretical model that can account smoothly for the suffixal o-grade forms of the oblique cases of the PIE i- and u-stems.[6] Consequently, one should ask if there were, in fact, any o-grade forms at all. At first sight, any such speculation would seem futile seeing that, after all, suffixal o-grade forms of the oblique cases of the i- and u-stems seem to be attested in most Indo-European branches, viz. in Indo-Iranian, Balto-Slavic, Italic, Celtic, Anatolian and Germanic.

3. Apparent suffixal o-grade forms in the individual branches

At first glance, Indo-Iranian might be the easiest branch to account for. As a consequence of the Indo-Iranian merger of PIE *$\check{e}$, *$\check{a}$, and *$\check{o}$ into *$\check{a}$, cf. e.g. Wackernagel I (1896: 4-5), it is simply not possible to determine if a given Proto-Indo-Iranian (PIIr) diphthong *$\check{a}i$ would have resulted from PIE *$\check{e}i̯$, *$\check{a}i̯$ or *$\check{o}i̯$ and, correspondingly, if a given PIIr diphthong t*$\check{a}u$ would have resulted from PIE *$\check{e}u̯$, *$\check{a}u̯$ or *$\check{o}u̯$. Only in one position does a difference arise between the outcomes of (short) PIE *e, *a, and *o in PIIr,[7] viz. in open syllables where Brugmann's Law dictates that PIE *o > PIIr *$\bar{a}$ rather than *a, cf. e.g. Wackernagel I (1896: 13-14). For the i- and u-stems, such surroundings are found only in the dat.sg. (PIE *-$eu̯$-$ei̯$/*-$ou̯$-$ei̯$) and nom./voc.pl. (PIE *-$eu̯$-es/*-$ou̯$-es) where the Indo-Iranian ubiquity of the short-vowel diphthong *-au- and the consequent absence of the corresponding long-vowel diphthong *-$\bar{a}u$- strikingly point towards PIE *-$eu̯$- rather than *-$ou̯$-, e.g. Skt. *sūnáve* 'son' (dat.sg.).[8] The

6. Beekes (1985) actually operates with only e-grade forms in the oblique cases of the PIE i- and u-stems. For instance, he, as one of the few scholars dealing with this problem, reconstructs only e-grade forms in the gen.sg. (Beekes 1985: 128). However, to my belief, Beekes still fails to account for the appearance of the alleged o-grade forms.
7. Though not relevant to the i- and u-stems due to lack of decisive material, a difference of outcome is also found where palatalisation of a preceding velar plosive would reveal the origin of a PIIr *a as PIE *e rather than *a or *o, cf. e.g. Wackernagel I (1896: 139-144).
8. An instance of PIIr *-$\bar{a}u$- may be claimed for the Iranian by-form nom.pl. Av. -$\bar{a}uu\bar{o}$, OPers. -$\bar{a}va$, cf. e.g. Hoffmann & Forssman (1996: 131). However, this form may be seen as analogical from the residual proterokinetic type of Skt. *sakhāy*- where

PIIr i-stem loc.sg. *-*āi*[9] (and u-stem loc.sg. *-*āu*) can be explained from PIE *-*ēi̯* and *-*ōi̯* (and *-*ēu̯* and *-*ōu̯*) alike, and the PIIr i-stem gen.sg. *-*ais* (and u-stem gen.sg. *-*aus*) and i-stem voc.sg. *-*ai* (and u-stem voc.sg. *-*au*) that all contain tautosyllabic glides can likewise be developed from PIE e- and o-vowel forms alike. Consequently, the remaining Indo-European branches must be the ones to show whether suffixal ĕ- or ŏ-grade forms should be reconstructed for the i- and u-stem gen.sg., loc.sg. and voc.sg.

Balto-Slavic seems to offer suffixal o-grade forms in some of the oblique cases of the u-stems, e.g. Lith. gen.sg. *-aũs*, voc.sg. *-aũ* and nom.pl. *-aus*/*-ous* (dialectal) for the Baltic material, and OCS gen.sg. *-u*, dat.sg. *-ovi*, loc.sg. *-u*, voc.sg. *-u*, gen./loc.du. *-ovu*, nom.pl. *-ove* and gen.pl. *-ovъ* for the Slavic material. Stang (1966: 73-75, 215-216), however, is among a number of scholars who are not convinced that these outcomes actually mirror original PIE *-*ou̯*-. If, as assumed for Balto-Slavic by e.g. Kortlandt (1979: 57; 2008: 8) who elaborates on Stang's theories (1966: 73-75, 215-216) for Baltic, Proto-Balto-Slavic (PBS) **e* is rounded to **o* before intervocalic **w*, i.e. PIE *-*eu̯V*- > PBS *-*ewV*- > *-*owV*-, one could easily eliminate most instances of apparent, suffixal o-grade vowels in the oblique cases of u-stems in Balto-Slavic. The u-stem gen.sg. PBS *-*aus*, loc.sg. *-*au*/*-ōu*,[10] and voc.sg. *-*au* would have to be explained by paradigmatic levelling from the already affected cases,[11] as actually recognised already by Vaillant II (1958: 110).

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o-grade vowels are, indeed, expected. Thus, for the *sakhāy*-type, which is also attested in Iranian, one would expect PIE nom.sg. *-*ōi̯s*, acc.sg. *-*oi̯m̥* etc., cf. Kuiper (1942: 197-198) and also Beekes (1985: 85-89) for parallel assumptions regarding some of the Iranian singular forms with *ā*.

9. In Sanskrit, the original PIIr i-stem loc.sg. *-*āi* was replaced by the corresponding u-stem desinence, but it still prevails in Iranian as Av. *-ā* in *gərəzdā* 'in/by walking' and maybe also as a sandhi variant *-ā* in Sanskrit, cf. e.g. Hoffmann & Forssman (1996: 134).
10. An alternative u-stem loc.sg. *-o̯u*/*-ū* is found in Žemaitic and High Latvian. Stang posits a development *-o̯u*/*-ū* [Stang's notation] < *-*uo* < PIE *-*ōu̯* which, if correct, implies the necessity of positing an original o-coloured vowel in the u-stem loc.sg. Stang (1966: 215-216) recognises himself, though, that *-o̯u*/*-ū* might have arisen from the enlarged form *-uoję*.
11. If one were to accept the theories of handbooks such as Vaillant I (1950: 110) who argues that the soundlaw PIE *-*eu̯V*- > PBS *-*ewV*- > *-*owV*- would only happen if V = V[-front], one would also need to count the dat.sg. and the nom.pl. to the cases with paradigmatic levelling in favour of PBS *-*au*-. In a recent article, Olander (2012) posits a special development of original PIE *-*os* > Proto-Slavic (PS) *-*əs*, even when a glide is inserted in between, i.e. PIE *-*oi̯s* > pre-PS *-*aj̯x* > PS *-*əj̯* >

Similar soundlaws may be posited with certainty for Italic and with probability for Celtic. It is a well-established fact that PIE **eu̯* yielded Proto-Italic (PI) **ou* in every position of the word (as in PIE **neu̯os* 'new' > Lat. *novus*), cf. e.g. Sihler (1995: 40) for Latin and Buck (1904: 46) for Sabellic. As such, accounting for u-stem case forms such as OLat. u-stem dat.sg. *-uei* (> Lat. *-uī*), Osc. gen. sg. *-ous*, and Umbr. dat.sg. **-u**/*-o* (in **trifu**/*trifo*) as developed from forms with original e-vowel diphthongs is entirely straightforward. The Celtic situation is just as propitious. Thurneysen (1975: 39-40, 122) operates with a soundlaw PIE **eu̯* > OIr. *ou (*> *ó* in stressed syllables in Old Irish), by which process OIr. u-stem gen.sg. *-o* (Ogham *-OS*) may be derived from PIE **-eu̯-s* as well as from PIE **-ou̯-s*, and Lambert (2003: 44), among others, apply an identical soundlaw to the Gaulish material, i.e. PIE **eu̯* > Gaul. *ou*. Consequently, the apparent o-grades of the Gaul. u-stem dat.sg. *-oov* and nom.pl. *-oves*, cf. Lambert (2003: 62) and also Pedersen II (1913: 91), may be ascribed to the same phenomenon as the corresponding desinences of Old Irish and Italic. The Old Irish i-stem gen.sg. *-o*/*-a* (Ogham *-OS*) deserves mentioning here, too, since it is, by some scholars, e.g. Pedersen II (1913: 94), reconstructed as PIE **-oi̯s*, albeit with the questionable assumption that word-final PIE **-oi̯s* is treated differently than PIE **-oi̯*, cf. the OIr. o-stem nom.pl. *-i* < PIE **-oi̯*. Alternatively, one could ask if PIE **-ei̯s* could not simply have been remodeled as **-oi̯s* in analogy with the u-stems whose **-ou̯s* has developed from PIE **-eu̯s* by regular soundlaw. After all, a high level of parallelism prevails between these two stem types in general, cf. e.g. Pedersen II (1913: 94) – who even advocates himself that OIr. *-o*/*-a* < PIE **-oi̯s* by means of regular sound change – on the interparadigmatic leveling between the gen.sg., the gen.du. and the gen.pl. forms of the stem types in question.

The o-grades of Anatolian cannot be as easily dismissed as those of the previous branches. To my knowledge, no soundlaws can explain e.g. the Hitt. i-stem gen.sg. *-ayaš* or the u-stem gen.sg. *-awaš* from PIE **-ei̯s* and **-eu̯s*, respectively (with subsequent addition of the productive gen.sg. *-aš* < PIE **-os*).[12] According

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e.g. OCS *-i*, cf. especially Olander (2012: 332-333). Olander has further suggested (p.c.) that a parallel development would have taken place with a u-dipthong, i.e. PIE **-ou̯s* > pre-PS **-au̯x* > PS **-əu̯* > e.g. OCS *-y*. Since the OCS u-stem dat.sg. is, in fact, *-u* rather than †*-y* (< **-ū*), it is seen that the origin of that desinence cannot be PIE **-ou̯s*. More fruitful speculations would result in a development along the lines of PIE **-eu̯s* > PS **-au̯x* (postdating the Slavic development of **a* > **ə* before final **s*) > PS **-au̯* > e.g. OCS *-u*.

12. In general, suffixal a-vowels are prevalent throughout the entire i- and u-stem paradigm, though competing with the zero grades *-(i)y-*/*-(u)w-*.

to e.g. Kimball (1999: 213-214, 220-221), original short-vowel diphthongs are generally monophthongised: PIE *-*ei̯* > Hitt. -*e* or -*i* (no consensus), PIE *-*oi̯* > Hitt. -*e* and PIE *-*eu̯*/-*ou̯* > Hitt. -*u*. A sequence Hitt. -*ai*- could only result from an original long-vowel diphthong, and – again according to Kimball (1999: 226-230) – probably only from the o-grade diphthongs PIE *-*ōi̯* and *-*ōu̯*, since PIE *-*ēi̯* > Hitt. -*ē* and PIE *-*ēu̯* > Hitt. -*ū*.[13] Ironically, Hitt. *-*aiš* < PIE *-*ōi̯s* and Hitt. *-*auš* < PIE *-*ōu̯s* might be exactly what we need in order to establish that Anatolian provides no evidence for suffixal o-grades of the oblique cases of the i- and u-stems. Weitenberg (1984: 352-356, 369-376) mentions that Hittite tends towards generalising the full grade suffix -*āu*- of the u-stem nom.sg. form throughout the entire paradigm, and we have to bear in mind that this is the residual *sakhāy*-type (represented in Hittite by e.g. *lingaiš* 'oath' or the neuter plural-collective *hastai* 'bone(s)') – or, more precisely, the parallel type with nom.sg. in PIE *-*ōu̯s* (represented in Hittite by e.g. *harnauš* 'birthstool'). These two types are far more predominant in Anatolian than in any other branch of Indo-European. Granted the validity of that assumption, the Anatolian o-grade forms belong to or have arisen in a different paradigm type, viz. the residual *sakhāy*-type, and are thus of no relevance to us here.

Finally, for the sake of completeness, it should be mentioned that neither Greek (with e.g. i-stem gen.sg. -*εως* < -*ηος* < pre-Gr. *-*ēi̯os* remodeled from *-*ei̯s* by application of the lengthened suffixal vowel of the loc.sg. and the full grade gen. sg. form, or u-stem gen.sg. -*εος* < pre-Gr. *-*eu̯os* remodeled from PIE *-*eu̯s*, cf. Szemerényi (1970: 165)) nor Armenian (with e.g. i-stem gen.sg. -*i* < PIE *-*iu̯os* or u-stem gen.sg. -*ow* < PIE *-*uu̯os*, i.e. either the type I i- and u-stem inflection or simply the result of addition of the productive case endings to the suffix in the form -*i*-/-*u*- standardised from the strong cases, cf. Olsen (1999: 77, 106)) show any instances of what could be interpreted as o-grade forms in the relevant desinences.

With the relevant data from Indo-Iranian, Balto-Slavic, Italic, Celtic and Anatolian examined and accounted for, we may now conclude that we could find no unequivocal evidence for suffixal o-grade forms of the oblique cases of the i- and u-stems in these branches (except for Anatolian whose o-grade forms belong to or have arisen in a different paradigm type, viz. the residual *sakhāy*-type), and we shall now turn our attention to the last of the Indo-European branches in which apparent, suffixal o-grade forms of the oblique cases of the i- and u-stems seem to occur, viz. Germanic.

13. Some scholars do, however, propose a change PIE *-*ēu̯* > Hitt. -*au*, cf. Kimball (1999: 230).

4. Accounting for the Germanic evidence: a selection of previous attempts

Among the Germanic languages, we encounter an array of apparent, suffixal o-grade forms in the oblique cases of the i- and u-stems, e.g. Goth. i-stem gen.sg. *-ais*, u-stem gen.sg. *-aus*, i-stem dat.sg. *-ai*, u-stem dat.sg. *-au* and OE u-stem nom.pl. *-a*. The *communis opinio* regarding their origin still seems to be the one presented in e.g. Krahe I (1966: 133-134), II (1967: 30-33) following, among others, Brugmann II/2 (1911: 135, 156, 175-177, 215):

PIE i-stem gen.sg. *-oĩ̯s* > Goth. *-ais*
PIE i-stem dat.sg. *-ēi̯* > Goth. *-ai* (as also WGm. *-*i*)
PIE u-stem gen.sg. *-oũ̯s* > Goth. *-aus*, ON *-ar*, OE *-a*, OS *-o*, OHG *-ō*
PIE u-stem dat.sg. *-ēu̯* > Goth. *-au* (as also RN *-iu*, OHG *-iu*)
PIE u-stem dat.sg. *-ōu̯* > OE *-a*, OS *-o* (only Krahe, cf. also Szemerényi (1970: 162))
PIE u-stem voc.sg. *-ou̯* > Goth. *-au*
PIE u-stem nom.pl. *-ou̯es* > OE *-a* (only Krahe, cf. also Szemerényi (1970: 162))[14]

In this account, Krahe only explains the apparent o-grade forms of the i- and u-stem dat.sg., developed from the PIE loc.sg., by PIE e-grade forms. In doing so, he follows Bazell (1937: 1-4) who, in turn following and elaborating on Streitberg (1896: 245-246), seems to imply the following phonological development: PIE *-ēi̯ > PG *-ai* and PIE *-ēu̯ > PG *-au*. The remaining case forms are still explained by application of PIE o-grade forms. Given the validity of that assumption, Germanic would, in fact, be the sole Indo-European branch to require unambiguous PIE o-grade forms in the relevant case forms.

Boutkan (1995: 83-89, 236-257) more or less adopts the *communis opinio*, represented by Krahe's outline in the present article, albeit with a couple of minor exceptions. Firstly, since, in his interpretation of the Germanic "Auslautgesetze", syllable structure constitutes the decisive factor for the outcome of the final syllables in the individual Germanic languages (as opposed to the standard view which is based on the prosodic or moraic nature of the mere vowel of the final syllable, cf. e.g. the concise account given by Jasanoff (2004: 247-255)),

14. Also attested in Old Frisian as *-a*, cf. e.g. Bremmer (2009: 63). Parallel to the PIE u-stem nom.pl. *-ou̯es* > OE *-a*, all scholars, including Krahe, posit an uncontroversial u-stem nom.pl. PIE *-eu̯es* > Goth. *-jus*, ON *-er*, OS *-i*, OHG *-i*.

he need not operate with any difference between acute and circumflex vowels and diphthongs.[15] This difference of opinion, while pivotal to Boutkan's outline of the Germanic "Auslautgesetze" in general, will be of no relevance to our purpose. Secondly, Boutkan, while accepting the notion that PIE *-*ēi̯* > Goth. -*ai*, Proto-West-Germanic (PWG) *-*i* and that PIE *-*ēu̯* > Goth. -*au*, OHG -*iu* etc., chooses to follow Kortlandt (1990: 6) by positing a different PG outcome in order to account for the coexistence of high- and low-vowel reflexes from the same PG source in the different Germanic languages, viz. PG *-*ēi* and *-*ēu* rather than the Bazell/Krahe variants PG *-*ai* and *-*au*. Thirdly, he chooses to elaborate on and refine an idea by Bazell (1937: 4) that OE -*a* < PG *-*ewiz* (not †-*iwiz*) < PIE *-*eu̯es*.

In a short but, to our purpose, highly relevant footnote, Rasmussen (1996: 137[1]) suggests that the Goth. u-stem gen.sg. -*aus* is developed from PIE *-*eu̯s* (supposedly through the intermediate stage of PG *-*auz*) rather than from *-*ou̯s*. In this way, as Rasmussen also remarks, no u-stem gen.sg. of any Indo-European language seems to point to *-*ou̯s*. By means of analogy to the parallel u-stems, the Goth. (feminine) i-stem gen.sg. could hardly be reshaped as anything but -*ais*.

With the addition of Rasmussen's footnote to the views of Boutkan (elaborating on Bazell), we are left with a picture that points increasingly towards the elimination of PIE suffixal o-grade forms in the oblique cases of the i- and u-stems. Nonetheless one can hardly help noticing a somewhat adverse lack of system in the developments above, i.e. the developments that have been proposed by previous scholarship – either with or without any disclosure of intent to render the position of PIE suffixal o-grade forms in the oblique cases of the i- and u-stems superfluous. In addition, none of the developments posited may account for the Goth. u-stem voc.sg. -*au* as descending from anything but PIE *-*ou̯*.[16]

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15. Boutkan (1995) thus distinguishes between protected (i.e. final vowel followed by consonant) and non-protected (i.e. vowel in absolute final position) final vowels.
16. I choose to follow Braune-Ebbinghaus (1973: 71) and with them Boutkan (1995: 254-255) in their distributional analysis of the Goth. u-stem voc.sg. where -*au* coexists with -*u* and where free variation seems to prevail. However, when realising that -*au* is present 7x in *sunau* 'son' and 1x in *magau* 'boy' whereas -*u* is only present 1x in *sunu* and 1x in *dauþu* apart from 7x in Greek personal names (← Greek voc. sg. -*υ*), one would have to conclude that -*au* is original and that -*u* has entered the paradigm due to influence from Greek or due to its appearance (apart from the Greek personal names) in the orthographically unstable Mss. Ambr. A and Ambr. B where, as also in the Gospel of Luke and in the Ms. Cal., the employment of <u> and <au> vowel forms is seemingly randomised throughout the entire u-stem paradigm.

Admittedly, most scholars would probably expect a case as marginal as the voc. sg. to be highly prone to paradigmatic levelling from the more prominent cases; consequently, this latter objection is of only minor relevance.

5. Accounting for the Germanic evidence: a new attempt

Any new account of the problem presented here should avoid "patchwork solutions" and rather search for a more general soundlaw or a coherent series of general soundlaws. Consequently, in the present study, the following, interconnected series of soundlaws will be suggested as an alternative to those presented in the previous paragraph:[17]

PIE *-*eį(C)#* > PG *-*ai(C)#*
PIE *-*eų(C)#* > PG *-*au(C)#*

PIE *-*ēį(C)#* > PG *-*ei(C)#* (> *-*ī(C)#*)
PIE *-*ēų(C)#* > PG *-*eu(C)#* (> *-*iu(C)#*)

These soundlaws share the advantage of typological adequacy in relation to the general reductional and apocopical tendencies of unaccented syllables in Proto-Germanic and, secondarily, in the individual Germanic languages, cf. e.g. Krahe I (1966: 127-134). Thus, both PIE *-*ēį(C)#* > PG *-*ei(C)#* and PIE *-*ēų(C)#* > PG *-*eu(C)#* may be described as shortening by one mora. Even if PIE *-*eį(C)#* > PG *-*ai(C)#* and PIE *-*eų(C)#* > PG *-*au(C)#* can hardly be cases of true shortening, I would, while recognising that such a hypothesis is entirely unfalsifiable, tentatively suggest interpreting the development of PIE **e* > *PG *a* as an underlying reduction through the intermediate stage of a schwa-like vowel at a very early stage, i.e. before unstressed PG **e* started tending towards developing into **i* in various positions. Subsequently, the schwa-like vowel would be interpreted by

17. In a narrow sense, only the two first soundlaws offer a solution to the problem of apparent, suffixal o-grade forms of the oblique cases of the i- and u-stems, but it should be noted that we also need to include the two latter ones in order to obtain the full picture of the relevant desinences without leaving any form unaccounted for. In other words, since explaining e.g. RN *-iu* and OHG *-iu* from PG *-au* (< PIE *-*eų*) would now seem impossible or at least unlikely, an alternative explanation must be sought, and, in this case, PG *-*eu* < PIE *-*ēų* – a PIE desinence with cognates in other Indo-European branches – appears to be the straightforward option.

the speakers of Proto-Germanic as *a*. Thus, PIE *-*ei̯(C)*# > pre-PG *-*əi̯(C)*# > PG *-*ai(C)*# and, correspondingly, PIE *-*eu̯(C)*# > pre-PG *-*əu̯(C)*# > PG *-*au(C)*#.[18]

Table 2 seeks to illustrate how the relevant material may or may not fit with the soundlaws just proposed. In order to establish the soundlaws, material from the oldest stages of the main Germanic languages, i.e. Gothic, Runic Norse (Proto-Norse),[19] Old Norse, Old English, Old Saxon and Old High German, has been inserted into the table as well.

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18. Whether a similar development can be upheld for the development of the PIE o/a-vowel diphthongs into Germanic, i.e. if the development of PIE *-*oi̯*/-*ai̯* and PIE *-*ou̯*/-*au̯* > PG *-*ai* and *-*au*, respectively, could also have passed through the intermediate stage of pre-PG *-*əi̯* and *-*əu̯*, respectively, falls outside the scope of the present study.
19. It should be noted that no attempt has been made to distinguish between different stages of Runic Norse; consequently, we should apply the relevant data on our analysis with a considerable amount of caution.

*Table 2: Relevant Germanic material possibly reflecting PIE *-ĕ̯i and *-ĕ̯u:*[20]

	PIE	PG	Goth.	RN/ON ♦	OE	OS	OHG
i-stem gen.sg.	-eı̯-s	-aiz	qenais	vetter-ges Norw. Alfer-	bēnæ/e = *dat.sg.*	= *dat.sg.*	= *dat.sg.*
i-stem dat.sg.	-eı̯(-eı̯)	-ai	qenai D? ♦♦	**winai?** D? brúþe D?	bēnæ/e D?	-	-
i-stem loc.sg.	-ēı̯	-ei > -ī	-	-	wini D	stedi D	ensti D
	-eı̯ ???	-ai	qenai D?	**winai?** D? brúþe D?	bēnæ/e D?		
u-stem gen.sg.	-eu̯-s	-auz	sunaus	**magoz** sonar	suna	suno	fridō
u-stem dat.sg.	-eu̯(-eı̯)	-au	sunau D?	**hakuþo** D? **asau**? D?	suna/o/u D?	suno/u D?	-
u-stem loc.sg.	-ēu̯	-eu > -iu	-	**mAgiu** D **-mudiu** D syne D	-	-	sitiu/i D
	-eu̯ ?	-au	sunau D?	**hakuþo** D? **asau**? D?	suna/o/u D?	suno/u D?	-
u-stem voc.sg.	-u	-u	sunu	= *nom.sg.*	= *nom.sg.*	= *nom.sg.*	= *nom.sg.*
	-eu̯	-au	sunau				
u-stem nom.pl.	-eu̯-es	-ewiz	sunjus	syner	suna	süni	siti

♦ In addition, maybe Antonsen's i-stem dat./loc.sg. RN **faþai** (Charnay Clasp, 550-600 AD). However, this inscription is poorly understood in almost every regard and can hardly count as evidence for or against the developments suggested in table 2.

♦♦ The capital D designates the synchronic use of the form as a dative.

20. An array of additional forms has not been listed in the table, viz. the following desinences that have obviously developed from interparadigmatic analogy, also cf. Krahe II (1967: 30-33) and Boutkan (1995: 236-258). For Gothic: Masculine i-stems in the singular in general (← a-stems), i.e. gen.sg. *-is*, dat.sg. *-a*, and voc. sg. *-Ø*. For Old Norse: i-stem gen.sg. *-s* (← a-stems), *-ar* (← ō- and/or u-stems); i-stem dat.sg. *-Ø* (← ā-stems), *-o* (← ō-stems; subsidiary ending); u-stem gen.sg. *-s* (← a-stems), u- stem dat.sg. *-Ø* (← u-stem acc.sg.). For Old English: i-stem gen. sg. *-is*, *-es* (← a-stems); i-stem dat.sg. *-Ø* (only Northumbrian, ← old i-stem instr.

While offering much-needed solutions to some of the issues discussed in the present article, my theory is not entirely seamless and raises new issues to be solved. One such new issue is the RN i-stem gen.sg. *-īz* attested in RN *ekgudija-ungandiz...* (Nordhuglo stone, Norway, 425 AD) which Antonsen (1975: 47), representing the standard interpretation, translates as 'I, the priest of Ungandiz', i.e. RN i-stem gen.sg. *-īz* < PG **-eis* – a form hardly deducible from PIE **-ei̯s* if we are to believe the development of PIE **-ei̯s* > PG **-ais* posited above; a development PG **-ei̯s* < PIE †*-ēi̯s* is even less likely in PIE terms. An alternative and in fact more preferable solution is offered by Boutkan (1995: 245) who firmly believes RN *ungandiz* to reflect the ia-stem nom.sg. **-īz* (< PG **-ijaz*), i.e. "I, the priest Ungandijaz". However, thanks to a recent e-mail correspondence with Roland Schuhmann, I now regard the case form RN *-ǐz* as resulting from the i-stem nom.sg. *-iz* (rather than i-stem gen.sg. or ia-stem nom.sg. †*-īz*) seeing that, in contemporaneous RN forms such as RN **stainawarijaz**, the alleged contraction of PG **-ijaz* > RN *-īz* in post-unstressed position has not taken place.

Puzzling high-vowel reflexes of the i-stem gen.sg. are not found only within Runic Norse. Also the PWG reflex **-ī* poses at least a couple of issues to be accounted for. The main issue strongly resembles that of the RN form above, viz. that PWG **-ī* would imply an i-stem gen.sg. PG **-īz* < PG **-eis* < (non-existing) PIE †*-ēi̯s*. The second issue is how to account for the parallel OE i-stem gen. sg. *-æ*/*-e* which seemingly reflects the expected form PG **-aiz* < PIE **-ei̯s*. Two mutually exclusive strategies may be applied. We may choose to follow either the explanation offered in the present article that PWG **-ī* (< **-iz*), parallelling the situation of the ō-stems, was spread analogically from the i-stem dat.sg. PWG **-ī* before the latter was regularly shortened or the proposal outlined by Boutkan (1995: 245), following Kortlandt (1990: 6), that PG **-aiz* > pre-WG **-æi(z)* > PWG **-ī*, implying that the OE i-stem gen.sg. *-æ*/*-e* does not represent a direct

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sg. **-ī* or consonant stem instr.sg. **-i*?); u-stem gen.sg. *-es* (← a-stems), *-e* (← ō-stems), *-Ø* (with heavy roots; possibly analogy from the corresponding dative); u-stem dat.sg. *-e* (← a- or ō-stems), *-Ø* (with heavy roots; possibly u-stem instr. sg. used as a dative). For Old Saxon: i-stem gen.sg. *-Ø* (← consonant stems), *-(i)æs* (← ia-stems); i-stem dat.sg. *-Ø* (← consonant stems), *-(i)æ* (← ia-stems), *-iu* (← iō-stems); u-stem gen.sg. *-æs* (← a-stems), *-(i)æs* (← ia-stems); u-stem dat.sg. *-æ* (← a-stems), *-(i)æ* (← ia-stems), *-i* (← i-stems), *-Ø* (with heavy roots; possibly u-stem instr.sg. used as a dative). For Old High German: i-stem gen.sg. *-es* (← a-stems), *-Ø* (← consonant stems); i-stem dat.sg. *-e* (← a-stems), *-Ø* (← consonant stems); u-stem gen.sg. *-es* (← a-stems); u-stem dat.sg. *-e* (← a-stems), *-Ø* (only in *hant*; possibly u-stem instr.sg. used as a dative).

development from PG *-*aiz* but rather has been taken over from the ō-stems by means of interparadigmatic analogy.

What would most likely disturb many scholars of Indo-European linguistics is the assumption, implied by my hypothesis, of an endingless i-stem loc.sg. PIE *-*eį̄* and, correspondingly, of a u-stem loc.sg. *-*eų̄*, i.e. forms without the hic-et-nunc particle PIE *-*i*. Even if endingless loc.sg. forms are well attested within other paradigms, cf. e.g. Skt. n-stem loc.sg. *rā́jan* 'king' beside *rā́jan-i*, they are normally not reconstructed for the i- and u-stems. However far-fetched the reconstruction of such a desinence might therefore seem, it might actually be attested in Indo-Iranian, cf. Brugmann II/2 (1911: 176-177) and, in more detail, Beekes (1985: 112), e.g. Av. *mrūiᵗte* 'to say', Skt. *vásto* 'by illumination' (infrequent ending), OPers. *gāϑav-ā* 'on the square' etc. For a variety of reasons (including a number of sandhi mechanisms), however, Wackernagel III (1929: 155) chooses to disregard the existence of such PIE short-diphthong loc.sg. forms in Indo-Iranian. With the dubious relevance of the short-diphthong loc.sg. forms borne in mind, the dat.sg. may offer a more attractive alternative. Granted that an i-stem dat.sg. PIE *-*eį̄* developed from PIE *-*eį̄-eį̄* by haplology,[21] we could easily assume the analogical creation of a corresponding u-stem dat.sg. PIE *-*eų̄*.

However, though disregarded by Wackernagel III (1929: 155), the idea of an endingless loc.sg. should perhaps not be abandoned quite yet seeing that, in fact, a u-stem loc.sg. PIE *-*eų̄* might be exactly what underlies Gr. *ἄνευ* 'without, far from', to which not only a desinential but also a perfect, lexical cognate may be found in PG **enau* (< PIE *-*eų̄*) and **ēnu* 'without' as reflected in OHG *aano*, *ano* (with variants *ana*, *ane*, *an* and ultimately *ânu* < PG **ēnu*) and OS *āno*, both from PG **ĕ̄n-au*, cf. Lloyd I (1988: 289-290). Beekes (2010: 102) flatly rejects any etymological connection between the Greek and the Germanic forms and prefers to reconstruct Gr. *ἄνευ* as a u-stem loc.sg. **sn̥(H)-eu* to PIE **sen(H)-* 'without', cf. also Skt. *sanutár-* 'away, off, aside' and Lat. *sine* 'without', based on his disinclination towards Eichner's Law. Consequently, in Beekes' view, even if Gr. *ἄνευ* could formally reflect PIE **h₂n̥-eų̄*, PG **ēn(a)u* < PIE **ēn(e)u* could never reflect PIE **h₂ēn-eų̄-* with lack of laryngeal colouring of a following long vowel as suggested by Nikolaev (2007: 165). Whether or not one accepts Nikolaev's explanation through Eichner's Law, one would have to agree that the Goth. by-form *inu* (< PG **enu* or **inu*) is hardly

21. As has also been suggested for e.g. Lat. *-ī*, Osc. *-eí*, and OCS *-i*, cf. Brugmann II/2 (1911: 170-171) and Szemerényi (1970: 162). Sihler (1995: 316), however, posits a regular, phonological development PIE *-*eį̄eį̄* > *-*eeį̄* > *-*ēį̄* > *-ei*/-ę̄* > Lat. *-ī*.

explicable from any root constellation containing PIE *h_2. Kroonen (2012, s.v. *ĕnu-*) does provide a solution to the Goth. *inu*, though, viz. the application of the heavily debated process of pretonic shortening also known as Dybo's Law. As such, Kroonen would reconstruct PIE *h_2*ēn-ú-* > post-PIE **ēnú* > PG **enu* > Goth. *inu*, and PIE *h_2*ēn-eu̯-* > PG *ēnau-* > PWG **ānau-*[22] > OHG *aano* etc. Alternatively, *inu* could be a mere Gothic shortening of PG **ēnu* in a weakly stressed, i.e. prepositional, form.

Admittedly, the u-stem nom.pl. does not contain a word-final diphthong. The reason for its inclusion in table 2 in spite of this is the dual purpose of the present study, viz. (1) to eliminate or render superfluous all previously posited instances of suffixal o-grade vowels in the oblique cases of i- and u-stems, and (2) to provide evidence for a new coherent series of soundlaws affecting word-final diphthongs. Whereas the u-stem nom.pl. with its word-internal diphthong is of no relevance to our purpose no. (2), it certainly does meet the requirements for being relevant to our purpose no. (1).[23] As previously mentioned, only the OE (and Old Frisian) u-stem nom.pl. *-a*, which has traditionally been reconstructed as PIE **-ou̯es*, may cause us problems in our attempt to satisfy our purpose no. (1); the remaining Germanic forms may be derived straightforwardly from the expected form, i.e. PIE **-eu̯es*. The OE form may be accounted for in a number of ways.

Firstly, one might consider regarding it as a result of an analogical process in which the original u-stem nom.pl. was replaced with the corresponding form of other stems, e.g. the ō-stems (West Saxon and Late Kentish *-a*) or the a-stems if one dare run the risk of operating with either an otherwise unattested a-stem nom. pl. OE *-*a* < PG *-*ōz* besides attested *-as*/*-æs* or an acc.pl. OE *-*a* < PG *-*anz* as attested in OHG, OS and Old Low Franconian (but not in OE where the nom. pl. *-as*/*-æs* has replaced the old acc.pl.). As for the a-stem nom.pl., another and far more serious issue is that a reconstruction along the lines of PG *-*ōz* for the a-stem nom.pl. might not be valid at all. According to Boutkan (1995: 187-191), all the attested forms could and should be explained from PG *-*ōs-ez* (> Goth. *-ōs*, OE *-as/-æs*, OS *-ås*) alternating with PG *-*ōz-ez* (> Goth. *-ōs*, ON *-ar*, OFris.

22. Or, in Kroonen's (2012, s.v. *ĕnu-*) terms, NWGm. **āneu* seeing that such a form would also account perfectly well for ON *án*, *ón* 'without'.
23. The nom.pl. is a strong case; not a weak or an oblique one. Consequently, we could reasonably argue that it also falls outside the scope of purpose no. (1), viz. to eliminate or render superfluous all previously posited instances of suffixal o-grade vowels in the oblique cases of i- and u-stems. It is included here nonetheless because it contains the same suffixal PIE *-ou̯- as the weak or oblique cases.

-ar (especially in the area around Emsigoland)).[24] As such, no actual foundation for that specific analogy remains.

Providing us with a second alternative, Bammesberger (1985: 366-370) suggests that OE *-a* continues the old a-stem nom.du. PG *-*au* < PIE *-*ō(u̯)*. According to Bammesberger, the motivation for such a substitution would be found in the fact that the original u-stem nom.pl. would virtually disappear in Old English if the soundlaws ran their course, i.e. traditionally expected PG *-*iwiz* > pre-OE *-*ju* > OE *-Ø*[i]* (geminating effect of Umlaut-causing *-*j*-; subsequent loss of *-u* after heavy syllables, e.g. pre-OE **sunju* > OE †*synn* 'sons'). Whether or not such a suggestion might seem attractive to the individual scholar, one would have to admit that, by accepting it, one would run a risk identical to that of one of the first alternatives, viz. that of operating with an otherwise unattested form.

In my view, Boutkan's (1995: 83-89) suggestion that OE *-a* is a result of a regular, phonological development therefore seems far more appealing. As such, PIE *-*eu̯es* > PG *-*ewiz* (rather than PG †-*iwiz*, as usually assumed) > PWG *-*ew* [vel sim.] > OE *-a*, OS *-i*, OHG *-i*.

Although other diphthongal desinences (reflecting PIE *-*ŏi̯*/-*ăi̯* and *-*ŏu̯*/-*ău̯* or other constellations) should ideally be left out of consideration here as not directly pertinent to the present study, a list of expected correspondences will nevertheless be given in table 3 so as to illustrate in particular that, when we apply our new soundlaws on the Germanic material, a problematic difference arises between the outcome of "original" PG *-*ai* (< PIE *-*oi̯*/-*ai̯*) and "secondary" PG *-*ai* (< PIE *-*ei̯*).

24. OHG *-ā*/-a* may be explained as the acc.pl. form, cf. Boutkan (1995: 191).

*Table 3: Germanic material reflecting PIE *-ŏi̯/-ăi̯ and *-ŏu̯/-ău̯:*

	PIE	PG	Goth.	RN/ON	OE	OS	OHG
o-stem dat.sg.	-ōi	-ai	-	**ha(n)hai ride** dege	dæge/e	dagæ	tage
o-stem loc.sg.	-oi̯	-æ	ūta (daga D?)	**uti** úte	ūte	ūtæ	ūz(z)e
o-stem nom.du	-ō(u̯)	-au	ahtau	átta	eahta	ahto	ahto
o-stem nom.pl. (str.adj.)	-oi̯	-æ	blindai♦	**-arjoste-z** blinde-r	blinde	blindæ	blinte
ā-stem dat.sg.	-eh$_2$-ei̯	-ai	gibai	-	giefæ/e	gebæ	-
ipv.3.sg.	-e-tu →	-adau?♦♦	nimadau	-	-	-	-
ipv.3.pl.	-o-ntu →	-andau?♦♦	habandau	-	-	-	-
opt.1.sg.	-oi̯(h$_1$)-m	-ai^N	(nimau)	(nema)	nime	nimæ	neme
opt.2.sg.	-oi̯(h$_1$)-s	-aiz	nimais	nemer	nime	(nimæs ?)	(nemēs ?)
opt.3.sg.	-oi̯(h$_1$)-t	-ai(þ)?	nimai	neme	nime	nimæ	neme
opt.3.pl.	-oi̯(h$_1$)-nt	-ain	nimain-a	neme	nimen	nimæn	nemēn
passive	--oi̯	--æ	haitada	**haite** heite	hātte	-	-
opt.pass.	?	--au?♦♦	haitaidau	-	-	-	-

♦ Goth. *-ai* is found in this desinence rather than the expected †-*a* due to analogical influence from accented final diphthongs of monosyllabic words; more precisely from the corresponding forms of the demonstrative pronoun represented, in this case, by Goth. m.nom.pl. *þai* 'they'.

♦♦ In Gothic, we encounter a series of enigmatic verb forms ending in *-au*, viz. the imperative 3.sg. *-adau*, the imperative 3.pl. *-andau*, and the optative passive (1./3. sg. *-aidau*, 2.sg. *-aizau*, pl. *-aindau)*. As for the source of the imperative forms, Boutkan (1995: 326-327, 355-356) has ingeniously suggested a combination, or contamination, of PIE *-*etōd* (fut.ipv.) and PIE *-*(n)tu* (ipv.3.sg./pl.). So far, however, the exact prehistory of the forms of the optative passive remains enigmatic. In any case, these forms are of no relevance to the present study and will therefore not be discussed into further detail.

In protected position, i.e. when followed by a consonant, the two different PG *-*ai*'s seem to produce the same outcome in the individual Germanic languages, viz. e.g. Goth. *-aiC*, ON *-eC*, OE *-æ/eC*, OS *-æC*, and OHG *-ēC*. When the PG

*-*ai*'s are in absolute final position, however, the clarity of the developmental chain rapidly decreases. In other words, the two *-*ai*'s produce different outcomes in the individual Germanic languages, viz. Goth. -*a*, ON -*e*, OE -*e*, OS -*æ*, OHG -*e* (for "original" PG *-*ai* < PIE *-*oi̯*/*-*ai̯*) vs. Goth. -*ai*, RN -*ai*, ON -*e*, OE -*æ*/-*e* (for "secondary" PG *-*ai* < PIE *-*ei̯*). Owing to the divergent quality of the resulting vowels of the "original" PG *-*ai̯* in absolute final position, it has tentatively been denoted as "*-*æ?*" in table 3. In my view, this situation can be understood in only one way, viz. that the "original" PG *-*ai* had developed into *-*æ* vel sim. in absolute final position before PIE *-*ei̯* developed into "secondary" PG *-*ai̯*; otherwise even "secondary" PG *-*ai̯* would have developed into *-*æ* vel sim. in absolute final position.[25] We may thus reasonably – by adhering to Boutkan (1995: 468) for at least the more commonly accepted stage (1) – state the following relative chronology of our delicate "PG *-*ai* problem":

(1) PG *-*aiC#* > Goth. -*aiC#*
(1) PG *-*ai#* > Goth. -*a#* (hence the tentative notion of PG *-*æ#* rather than *-*ai#*)

(2) PIE/pre-PG *-*eiC#* > PG *-*aiC#* > Goth. -*aiC#*
(2) PIE/pre-PG *-*ei#* > PG *-*ai#* > Goth. -*ai#*

6. Conclusion

By proposing a series of four Germanic soundlaws (illustrated in table 4) pertaining to PIE word-final e-vowel diphthongs, the present article offers a coherent explanation of the Germanic evidence of alleged o-grade forms of the gen.sg. and loc.sg. of PIE i-stems and the gen.sg., loc.sg. and voc.sg. of the PIE u-stems; and by adopting Boutkan's explanation of the alleged o-grade form PIE *-*ou̯es* of the u-stem nom.pl. (as seen in OE -*a*), alternative explanations have been found for all Germanic evidence of alleged o-grade forms in the oblique cases of PIE i- and u-stems. With previous scholarship having offered alternative ex-

25. Guus Kroonen (p.c.) has perceptively pointed to the fact that, even if the development of PIE *-*ei̯* > PG *-*ai̯* be posterior to that of "original" PG *-*ai* > *-*æ* vel sim. in absolute final position, it must predate the apocope of PIE/pre-PG **e* in the imperative 2.sg. of the Germanic class I weak verbs, cf. e.g. Goth. -*ei*. Otherwise, this form, too, would have developed into †-*ai*.

planations of the evidence from the remaining Indo-European branches, we may therefore state that the very notion of o-grade forms in the oblique cases of PIE i- and u-stems (as also in the strong cases of the voc.sg. and nom.pl.) has now been rendered superfluous.

In addition, it has been suggested that the development of at least PIE *-*ei̯* > PG *-*ai* must postdate that of original (pre-)PG *-*ai*# (from PIE *-*oi̯*/-*ai̯*) > PG *-*æ*# vel sim., cf. also table 4, since these two outcomes would otherwise have coalesced.

Table 4: Summary of the phonological development from PIE to Germanic:

PIE	PG	Goth.	RN/ON	OE	OS	OHG
*-ei̯/ _(C)#	*-ai	-ai	-ai > -e	-æ > -e	-	-
*-eu̯/ _(C)#	*-au	-au	-au/-o > -a	-a > -o/-u	-o/-u	-ō
*-ēi̯/ _(C)#	*-ei > *-ī	-	-	-i	-i	-i
*-ēu̯/ _(C)#	*-eu > *-iu	-	-iu > -e	-	-	-iu > -i
*-oi̯/ _(C)#	*-aiC# *-æ#	-aiC# -a#	-ai/-e > -e	-e	-æ	-ēC# / -e#
*-ou̯/ _(C)#	-	-	-	-	-	-
*-ōi̯/ _(C)#	*-ai	-ai	-e > -e	-æ > -e	-æ	-e
*-ōu̯/ _(C)#	*-au	-au	-a	-a	-o	-o

It should be noted, though, that previous scholarship has offered partial alternatives to the Germanic evidence, as well, cf. e.g. Bazell (1937: 1-4) and Rasmussen (1996: 137[1]). To my knowledge, however, my account of the problem is the first to offer a coherent solution to all the evidence and also the first to operate mainly with regular soundlaws rather than analogical processes. As such, every Germanic form relevant to the present study – with the sole exception of either the PWG i-stem gen.sg. *-*ī* or the OE i-stem gen.sg. -*æ*/-*e* – can be explained by the mere application of regular soundlaws, including in particular the new soundlaws suggested in table 4.

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