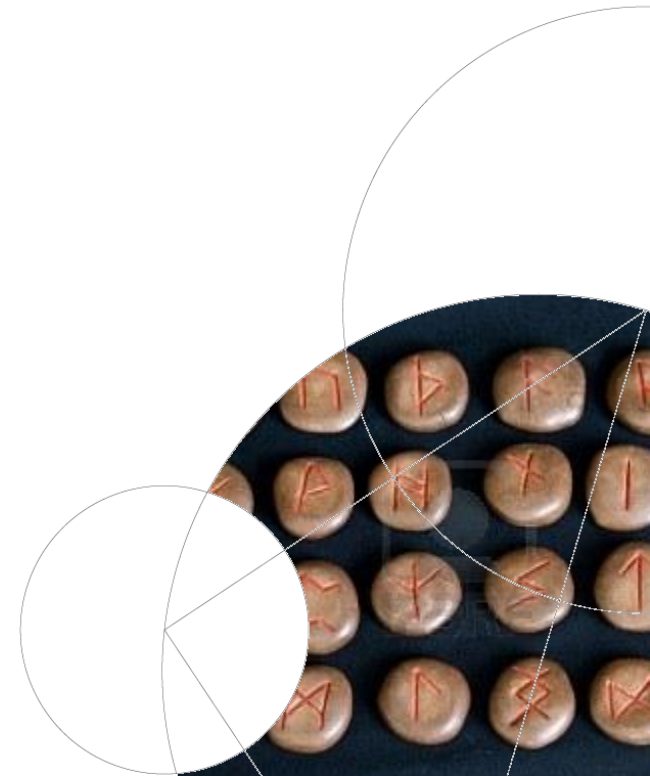




The outcome of PIE $*-ē̃(C)\#$ and $*-ēũ(C)\#$ in Germanic

Bjarne Simmelkjær Sandgaard Hansen, Ph.D. fellow
Roots of Europe – Language, Culture, and Migrations
Department of Nordic Studies and Linguistics
Faculty of Humanities at the University of Copenhagen



Structure of the presentation

- Introduction
- PIE state of affairs
 - Rise of the PIE declension of i- and u-stems
 - Extra-Germanic evidence
- Germanic evidence
 - Previous attempts at a solution
 - A (partly) new working theory: Relevant data and problems
- Conclusion
- References
- Questions and comments from the audience



Introduction

- **Introduction**
- PIE state of affairs
 - Rise of the PIE declension of i- and u-stems
 - Extra-Germanic evidence
- Germanic evidence
 - Previous attempts at a solution
 - A (partly) new working theory: Relevant data and problems
- Conclusion
- References
- Questions and comments from the audience



Introduction

- Question: What is the Proto-Germanic outcome of PIE $*-ej(C)\#$, $*-\bar{e}i(C)\#$, $*-eu(C)\#$, and $*-\bar{e}u(C)\#$?
- Relevance to Indo-European linguistics
 - Oblique cases of i- and u-stems
 - Unmotivated e- and o-grade forms side by side
 - Importance of Proto-Germanic
- Meillet (1922:79-80):
 - “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.”



PIE state of affairs

- Introduction
- **PIE state of affairs**
 - **Rise of the PIE declension of i- and u-stems**
 - **Extra-Germanic evidence**
- Germanic evidence
 - Previous attempts at a solution
 - A (partly) new working theory: Relevant data and problems
- Conclusion
- References
- Questions and comments from the audience



PIE state of affairs

- Szemerényi (1970:160-165)
 - Type I: Stems in open syllables, subsidiary type (gen.sg. $*-i̯-os$, $*-u̯-os$)
Not relevant to these studies
 - Type II: Stems in closed syllables, main type (cf. table below)

	i-stems	u-stems
nom.sg.	-i-s	-u-s
voc.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

PIE state of affairs

- Szemerényi (1970:160-165)
 - Types already known, cf. e.g. Wackernagel III (1929:138-144)
 - Original distribution: $*-ei̯-$ and $*-ou̯-$ (< $**-ij̯-$ and $**-uu̯-$)
 - Subsequent mutual analogical influence → $*-oi̯-$ and $*-eu̯-$
 - Loc.sg.: $*-ēi̯ < *-ei̯-i$; $*-ōu̯ < *-ou̯-i$

- Rasmussen (1996:137-141)
 - Underlying full-grade in the suffixes, i.e. $*-ei̯-$ and $*-eu̯-$
 - Pre-PIE could not have stems ending in three or more consonants →
 - Reduction of underlying stem $/-ei̯-/$ and $/-eu̯-/$ to $*-i̯-$ and $*-u̯-$ only where possible, i.e. with roots ending in no more than one consonant
 - Retention of full-grade in suffix with roots ending in two consonants in order to avoid stems ending in three consonants, i.e. $*ment-ei̯-$ rather than $**ment-i̯-$.
 - Problem: Why o-grade forms?



PIE state of affairs

- Superficial o-grade forms
 - Baltic (e.g. Lith. *-aũs*, *-aũ* (U-voc.sg.), *-aus/-ous* (U-nom.pl., dialectal))
 - Slavic (e.g. OCS *-ovi*, *-ove* (U-nom.pl.))
 - Italic (e.g. OLat. *-ovs*, Umbr. *Trifo*, Lat. *-uei* > *-uī*)
 - Celtic (e.g. Gaul. *-oou*, *Lugoves* (U-nom.pl.), OIr. *-o*)
 - Germanic (e.g. Goth. *-ais*, *-aus*, *-ai*, *-au*, OE *-a* (U-nom.pl.))
 - Indo-Iranian: Ambiguous in most regards (however e.g. Skt. *-ave* < PIE **-euēj* and not ***-ouēj*)
- Have all been accounted for by other scholars, e.g.
 - Stang (1966:73-75, 215-216) for Baltic (and Slavic): BSl. **-au(-)* < PIE **-eu(-)/*-au(-)/*-ou(-)*, sometimes palatalisation from PIE **-eu̯(-)*. Maybe problems with žemaitic/High Latv. *-ou̯/-ū* < **-uo* < PIE **-ōu̯*?
 - Sihler (1995:40) and Buck (1904:46) for Italic: PIE **eu* > *ou* (cf. e.g. PIE **neu̯os* > Lat. *novus*)
 - Thurneysen (1975:39-40, 122) about Celtic: **eu* > *ou* (> *ó* in stressed syllables in Old Irish)
 - Germanic...?



Germanic evidence

- Introduction
- PIE state of affairs
 - Rise of the PIE declension of i- and u-stems
 - Extra-Germanic evidence
- **Germanic evidence**
 - **Previous attempts at a solution**
 - **A (partly) new working theory: Relevant data and problems**
- Conclusion
- References
- Questions and comments from the audience



Germanic evidence

- Previous attempts at a solution
 - Bazell (1937:1-4), following and elaborating on Streitberg (1896:245-246):
 - PIE $*-\bar{e}j$ > PGm. $*-ai/-\ae$? (coexisting with PGm. $*-\bar{i}$ < PIE $*-ej$??)
 - PIE $*-\bar{e}u$ > PGm. $*-au$
 - Standard explanation, e.g. Brugmann II/2 (1911:135, 156, 175-177, 215) and Krahe I (1966:133-134), II (1967:30-33):
 - PIE $*-o\check{s}$ > Goth. $-ais$ (I-gen.sg.)
 - PIE $*-\bar{e}j$ > Goth. $-ai$, WGm. $*-i$ (I-dat.sg.)
 - PIE $*-o\check{u}s$ > Goth. $-aus$, ON $-ar$, OE $-a$, OS $-o$, OHG $-ō$ (U-gen.sg.)
 - PIE $*-\bar{e}u$ > Goth. $-au$, RN $-iu$, OHG $-iu$ (U-dat.sg.)
 - PIE $*-\bar{o}u$ > OE $-a$, OS $-o$ (U-dat.sg.) (only Krahe, cf. also Szemerényi (1970:162))
 - PIE $*-ou$ > Goth. $-au$ (U-voc.sg.)
 - PIE $*-eu\check{s}$ > Goth. $-jus$, ON $-er$, OS $-i$, OHG $-i$ (U-nom.pl.)
 - PIE $*-ou\check{s}$ > OE $-a$ (U-nom.pl.) (only Krahe, cf. also Szemerényi (1970:162))
 - Differentiation between acute and circumflex vowels and diphthongs



Germanic evidence

- Previous attempts at a solution
 - Boutkan (1995:83-89, 236-257):
 - Following more or less the standard explanation
 - Exception no. 1: No difference between acute and circumflex vowels and diphthongs (of minor relevance)
 - Exception no. 2: Development PIE $*-\bar{e}_j$ > PGm. $*-\ae i$ which accounts for both Goth. $-ai$ and WGm. $*-i$ (following Kortlandt (1990:6))
 - Exception no. 3: Only U-dat.sg. PIE $*-\bar{e}_u$ > PGm. $*-\ae u$ accounting for both the high and the low reflexes
 - Exception no. 4: OE $-a$ < Pgm. $*-ewiz$ (not $**-iwiz$) < PIE $*-eu_s$ (elaborating on and refining an idea by Bazell (1937:4))
 - Rasmussen (1996:137¹):
 - No reason to posit PIE $*-ou_s$ > PGm. $*-auz$.
 - Equally possible to posit PIE $*-eu_s$ > PGm. $*-auz$ (no counterexample)
 - Goth. I-gen.sg. $-ais$ analogical from the u-stems



Germanic evidence

- Disadvantages with the previous explanations
 - Retention of the undesirable o-grade forms
 - Counterintuitive phonological developments
 - Excessive use of analogy

- Any new attempt should...
 - try to avoid these disadvantages,
 - and – if possible – make as few adjustments to the generally accepted picture as possible

- Working hypothesis
 - PIE $*-ei_{\alpha}(C)\# > \text{PGm. } *-ai(C)\#$
 - PIE $*-\bar{e}i_{\alpha}(C)\# > \text{PGm. } *-ei(C)\# > *-\bar{i}(C)\#$
 - PIE $*-eu_{\alpha}(C)\# > \text{PGm. } *-au(C)\#$
 - PIE $*-\bar{e}u_{\alpha}(C)\# > \text{PGm. } *-eu(C)\# > *-\bar{i}u(C)\#$



Germanic evidence

- The relevant i-stem endings according to the working hypothesis

	PIE	PGm.	Goth.	RN/ON	OE	OS	OHG
gen.sg.	-e _i s	-aiz	-ais	-er	-æ/-e = <i>dat.</i>	= <i>dat.</i>	= <i>dat.</i>
dat.sg.	-e _i e _i	-ai	-ai _{D?}	-ai _{D?} -e _{D?}	-æ/-e _{D?}		
loc.sg.	-ē _i	*-ei > -ī			-i _D	-i _D	-i _D
	-e _i ?	-ai	-ai _{D?}	-ai _{D?} -e _{D?}	-æ/-e _{D?}		

Germanic evidence

- The relevant u-stem endings according to the working hypothesis

	PIE	PGm.	Goth.	RN/ON	OE	OS	OHG
gen.sg.	-eu _ς	-auz	-aus	-OR -ar	-a	-o	-ō
dat.sg.	-eu _ϑ e _ϑ	-au	-au _{D?}	-o _{D?} -au _{D?}	-a/-o/ -u _{D?}	-o/-u _{D?}	
loc.sg.	-ēu _ϑ	*-eu > -iu		-iu _D -e _D			-iu/-i _D
	-eu _ϑ ?	-au	-au _{D?}	-o _{D?} -au _{D?}	-a/-o/ -u _{D?}	-o/-u _{D?}	
voc.sg.	-u	-u	-u	= <i>nom.</i>	= <i>nom.</i>	= <i>nom.</i>	= <i>nom.</i>
	-eu _ϑ	-au	-au				
nom.pl.	-eu _ς	-ewiz	-jus	-er	-a	-i	-i



Germanic evidence

- Alternative endings arisen from interparadigmatic analogy
 - Goth.: Masculine i-stems in the singular in general (← o-stems), i.e. gen.sg. *-ai*, dat.sg. *-a*, voc.sg. *-∅*
 - ON: I-gen.sg. *-s* (← o-stems), *-ar* (← *ā*- and/or u-stems); I-dat.sg. *-∅* (← *ā*-stems), *-o* (← *ā*-stems; subsidiary ending); U-gen.sg. *-s* (← o-stems), U-dat.sg. *-∅* (← U-acc.sg.)
 - OE: I-gen.sg. *-is*, *-es* (← o-stems); I-dat.sg. *-∅* (only Northumbrian, ← old I-instr.sg. **-ī* or C-instr.sg. **-i?*); U-gen.sg. *-es* (← o-stems), *-e* (← *ā*-stems), *-∅* (with heavy roots; possibly analogy from the corresponding dative); U-dat.sg. *-e* (← o- or *ā*-stems), *-∅* (with heavy roots; possibly U-instr.sg. used as a dative)
 - OS: I-gen.sg. *-∅* (← C-stems), *-(i)æs* (← io-stems); I-dat.sg. *-∅* (← C-stems), *-(i)æ* (← io-stems), *-iu* (← *iā*-stems); U-gen.sg. *-æs* (← o-stems), *-(i)æs* (← io-stems); U-dat.sg. *-æ* (← o-stems), *-(i)æ* (← io-stems), *-i* (← i-stems), *-∅* (with heavy roots; possibly U-instr.sg. used as a dative)
 - OHG: I-gen.sg. *-es* (← o-stems), *-∅* (← C-stems); I-dat.sg. *-e* (← a-stems), *-∅* (← C-stems); U-gen.sg. *-es* (← o-stems); U-dat.sg. *-e* (← o-stems), *-∅* (only in *hant*; possibly U-instr.sg. used as a dative)



Germanic evidence

- Other diphthongal endings I (not relevant)

	PIE	PGm.	Goth.	RN/ON	OE	OS	OHG
o-stems dat.sg.	-ōi̯ _̄	-ai		-ai/-e -e	-æ/-e	-æ	-e
o-stems loc.sg.	-oi̯ _̄	-æ ?	-a	-i -e	-e	-æ	-e
o-stems nom.du.	-ō(u)	-au	-au	-a	-a	-o	-o
o-stems nom.pl. (str.adj.)	-oi̯ _̄	-ai ?	-ai	-e-z -e-r	-e	-æ	-e
ā-stems dat.sg.	-eh ₂ ei̯ _̄	-ai	-ai		-æ/-e	-æ	



Germanic evidence

- Other diphthongal endings II (not relevant)

	PIE	PGm.	Goth.	RN/ON	OE	OS	OHG
ipv.3.sg.	-etu	-adau	-adau				
ipv.3.pl.	-ontu	-andau	-andau				
opt.1.sg.	-oi̯m	-ai ^N	(-au)	(-a)	-e	-æ	-e
opt.2.sg.	-oi̯s	-aiz	-ais	-er	-e	(-æs)	(-ēs)
opt.3.sg.	-oi̯t	-ai(þ)	-ai	-e	-e	-æ	-e
opt.3.pl.	-oi̯nt	-ain	-ain-a	-e	-en	-æen	-ēn
pass.	--oi̯	--æ ?	--a	-e -e	-e		
opt. pass.	?	--au ?	--au				



Germanic evidence

- Problem no. 1a: I-gen.sg. RN $-\bar{i}z$
 - RN *ekgudijaungandiz...* (Nordhuglo stone, Norway, 425 AD)
 - Standard interpretation reflected by Antonsen (1975:47): "I, the priest of Ungandiz", i.e. I-gen.sg. RN $-\bar{i}z < \text{PGm. } *-eis$
 - Problem to this working theory: PGm. $*-eiz < \text{PIE } **-\bar{e}i_s$ (hardly likely!)
 - Alternative – and preferable – interpretation by Boutkan (1995:245): "I, the priest Ungandijaz", i.e. IO-nom.sg. RN $-\bar{i}z < \text{PGm. } *-ijaz$
- Problem no. 1b: I-gen.sg. with high reflexes in West Germanic
 - Solution: Analogy from I-dat.sg. (paralleled by the \bar{a} -stems)
 - Alternative interpretation by Boutkan (1995:245), following Kortlandt (1990:6): PGm. $*-aiz > \text{pre-WGm. } *-\bar{a}iz > \text{WGm. } *-\bar{i}$
 - Consequence of Boutkan's interpretation: I-gen.sg. OE $-\bar{a}/-e$ analogical from \bar{a} -stems and not direct development from PGm. $*-aiz$



Germanic evidence

- Problem no. 2: U-nom.pl. OE *-a*
 - Not a contradiction to the working hypothesis, but problematic for the elimination of o-grade forms in PIE i- and u-stem inflectional morphemes
 - Traditional explanation: PIE **-ou̯es* > OE *-a*
 - Alternative explanation no. 1: Analogy from the nom.pl. of other stems, e.g. *ō*-stems (West Saxon and Late Kentish *-a*) or *a*-stems (if one could operate with otherwise unattested O-nom.pl. OE **-a* < PGm. **-ōz*; the regular O-nom.pl. is OE *-as* < PGm. **-ōs*)
 - Problem: Rather PGm. **-ōs-iz* (> Goth. *-ōs*, OE *-as/-æ̆s*, OS *-ā̆s*) vs. PGm. **-ōz-iz* (> Goth. *-ōs*, ON *-ar*, OFris. *-ar* (especially in the area around Emsigoland)), seeing that OHG *-ā̆/-a* may be explained as the acc.pl. form. → No actual foundation (PGm. **-ōz*) for the analogy.
 - Alternative explanation no. 2: Continuation of the old O-nom.du. ending PGm. **-au* < PIE **-ō(u)* after traditionally expected PGm. **-iwiz* > pre-OE **-ju* > OE *-Ø̆i* (geminating effect of Umlaut-causing **-j-*; subsequent loss of *-u* after heavy syllables, e.g. pre-OE **sunju* > OE **synn* 'sons'), cf. Bammesberger (1985:366-370)
 - Alternative explanation no. 3: Phonological development PIE **-eu̯es* > PGm. **-ewiz* > WGm. **-ew* [vel sim.] > OE *-a*, cf. Boutkan (1995:83-89)



Germanic evidence

- Problem no. 3: Assumption of I-loc.sg. PIE $*-e_i$ and U-loc.sg. $*-eu_i$
 - Actually attested in Indo-Iranian, cf. Brugmann II/2 (1911:176-177), e.g. Av. *mrūite* 'to say', Skt. *vásto* 'by illumination' (infrequent ending), OPers. *gāvav-ā* 'on the square' etc.
 - Easier alternative: I-dat.sg. PIE $*-e_i$ (\leftarrow PIE $*-e_i-e_i$ through haplology) is possible for e.g. Lat. *-ī*, Osc. *-eí*, cf. Brugmann II/2 (1911:170-171)
 - Thus perhaps U-dat.sg. $*-eu_i$ through analogy with i-stems
- Problem no. 4: Different outcomes of PIE $*-o_i$ in Gothic
 - Of no or only minor relevance to the present working hypothesis
 - Solution by Boutkan (1995:468):
 - PGm. $*-aiC\#$ > Goth. *-aiC\#*
 - PGm. $*-ai\#$ > Goth. *-a\#*
 - Exception: Oadj.-nom.pl. Goth. *-ai* < PGm. $*-o_i$ (analogically restored from e.g. demonstrative pronouns like Goth. *þai* 'they')



Germanic evidence

- Problem no. 5: Gothic interchange between *au* and *u* in u-stems
 - Of no or only minor relevance to the present working hypothesis
 - Relevant forms: nom.sg. *sunus/sunaus*, acc.sg. *handu/handau*, gen.sg. *sunaus/sunus*, dat.sg. *sunau/sunu*, voc.sg. *sunu/sunau*
 - Solution by Braune-Ebbinghaus (1973:71):
 - Especially in the Gospel of Luke, and in the Cod.Ambr. A and B
 - Restricted to the singular of u-stems, i.e. analogical
 - In all cases except voc.sg., we almost only find the expected reflexes
 - U-voc.sg. in *-au*: 7x *sunau*, 1x *magau*
 - U-voc.sg. in *-u*: 1x *sunu*, 1x *daupu*, 7x Greek names (← Greek voc.sg. *-u*)
 - → nom.sg. *-us*, acc.sg. *-u*, gen.sg. *-aus*, dat.sg. *-au*, voc.sg. *-au*



Germanic evidence

- Problem no. 6: Enigmatic Gothic verb forms in *-au*
 - Imperative 3.sg./pl.
 - Relevant forms: ipv.3.sg. *-adau*, ipv.3.pl. *-andau*
 - Different inter- and intraparadigmatic analogies are complicated at best... and probably quite unlikely
 - Explanation by Boutkan (1995:326-327, 355-356): Combination of PIE **-etōd* (fut.ipv.) and PIE **(n)tu* (ipv.3.sg./pl.)
 - Optative passive
 - Relevant forms: opt.1.sg.pass. *-aidau*, opt.2.sg.pass. *-aizau*, opt.3.sg.pass. *-aidau*, opt.pl.pass. *-aindau*
 - Remains enigmatic
 - Some kind of analogical influence from the opt.1.sg. (Goth. *-au*) and/or from the passive (Goth. *-a* < pre-Goth./PGm. **-ai*) is definitely needed



Conclusion

- Introduction
- PIE state of affairs
 - Rise of the PIE declension of i- and u-stems
 - Extra-Germanic evidence
- Germanic evidence
 - Previous attempts at a solution
 - A (partly) new working theory: Relevant data and problems
- **Conclusion**
- References
- Questions and comments from the audience



Conclusion

	PIE	PGm.	Goth.	RN/ON	OE	OS	OHG
e-grade diphth.	-ei _̄	-ai	-ai	-ai > -e	-æ > -e		
	-eu _̄	-au	-au	-au/-o > -a	-a > -o/-u	-o/-u	-ō
	-ēi _̄	*-ei > -ī			-i	-i	-i
	-ēu _̄	*-eu > -iu		-iu > -e			-iu > -i
o-grade diphth.	-oi _̄	-aiC#	-ai	-ai/-e > e	-e	-æ	-ē
		-æ# ?	-a				-e
	-ou _̄	?					
	-ōi _̄	-ai	-ai	-e > -e	-æ > -e	-æ	-e
	-ōu _̄	-au	-au	-a	-a	-o	-o

Conclusion

- Advantages compared to the standard view(s)
 - Elimination of o-grade in the i- and u-stem suffixes
 - Explanation by phonological development rather than analogy (albeit with the exception of I-gen.sg. WGm. $*-\bar{i} > \text{OE } -i, \text{ OS } -i, \text{ OHG } -i$)
 - Parallel development of i- and u-diphthongs with front vowels
 - No need for positing unparallel developments for PIE $*-oi_{\tilde{}}\#$ and $*-ou_{\tilde{}}\#$ as by Boutkan (1995:255) (no examples of PIE $*-ou_{\tilde{}}\#$ seeing that U-voc.sg. Goth. $-au < \text{PIE } *-eu_{\tilde{}}$)

- Disadvantages compared to the standard view(s)
 - Problems... but they may be accounted for, cf. above
 - Seemingly different outcome of PIE $*-oi_{\tilde{}} > \text{PGm. } *-ai$ ($*-aiC\# / *-æ\#$?) and PIE $*-ei_{\tilde{}} > \text{PGm. } *-ai$ ($*-aiC\# / *-ai\#$?)
 - \rightarrow Shortening of PGm. $*-ai\#$ ($< \text{PIE } *-oi_{\tilde{}} > *-æ\#$ prior to development of PIE $*-ei > \text{PGm. } *-ai$???)



References

- Introduction
- PIE state of affairs
 - Rise of the PIE declension of i- and u-stems
 - Extra-Germanic evidence
- Germanic evidence
 - Previous attempts at a solution
 - A (partly) new working theory: Relevant data and problems
- Conclusion
- **References**
- Questions and comments from the audience



References

- Antonsen, Elmer H. (1975): *A Concise Grammar of the Older Runic Inscriptions*. Tübingen: Max Niemeyer Verlag
- Bammesberger, Alfred (1985): "Die Endung für Nom. Akk. Pl. bei altenglischen u-Stämmen". In: *Anglia*, Bd. 103, pp. 365-370.
- Bazell, Charles Ernest (1937): "IE Final Unaccented ē in Germanic". In: *The Journal of English and Germanic Philology*, vol. 36/1, pp. 1-9.
- Boutkan, Dirk (1995): *The Germanic 'Auslautgesetze'*. Amsterdam: Rodopi.
- Braune, Wilhelm & Ebbinghaus, Ernst A. (1973): *Gotische Grammatik*. 17. Aufl. Tübingen: Max Niemeyer Verlag
- Brugmann, Karl (1911): *Grundriss der vergleichenden Grammatik der indogermanischen Sprachen*, Bd. II/2. 2. Bearb. Strassburg: Karl J. Trübner
- Buck, Carl Darling (1904): *A Grammar of Oscan and Umbrian*. Boston: Ginn & Company.
- Kortlandt, Frederik (1990): "The Germanic third class of weak verbs" In: *North-Western European Language Evolution*, vol. 15, pp. 3-10.
- Krahe, Hans (1966): *Germanische Sprachwissenschaft*, Bd. I (= Sammlung Göschen Bd. 238). 6. Aufl. Berlin: Walter de Gruyter.
- Krahe, Hans (1967): *Germanische Sprachwissenschaft*, Bd. II (= Sammlung Göschen Bd. 780). 6. Aufl. Berlin: Walter de Gruyter.



References

- Meillet, Antoine (1922): *Caractères généraux des langues germaniques*. 2. éd., rev., corr. et augm. Paris: Librairie Hachette.
- Rasmussen, Jens Elmegård (1996): "Szemerényi's theory on Indo-European i- and u-stems" In: *Copenhagen Working Papers in Linguistics (CWPL)*, vol. 4, pp. 137-141.
- Stang, Chr. S. (1966): *Vergleichende Grammatik der baltischen Sprachen*. Oslo: Universitetsforlaget.
- Streitberg, Wilhelm (1896): *Urgermanische Grammatik. Einführung in das vergleichende Studium der altgermanischen Dialekte*. Heidelberg: C. Winter.
- Syrett, Martin (1994): *The Unaccented Vowels of Proto-Norse* (= NOWELE Supplement vol. 11). Odense: Odense University Press.
- Szemerényi, Oswald J.L. (1970): *Einführung in die vergleichende Sprachwissenschaft*. Darmstadt: Wissenschaftliche Buchgesellschaft.
- Thurneysen, Rudolf (1975): *A Grammar of Old Irish*. Rev. ed. Dublin: Dublin Institute for Advanced Studies.
- Wackernagel, Jacob (1929): *Altindische Grammatik*, Bd. III. Göttingen: Vandenhoeck & Ruprecht.



Questions and comments from the audience

- Introduction
- PIE state of affairs
 - Rise of the PIE declension of i- and u-stems
 - Extra-Germanic evidence
- Germanic evidence
 - Previous attempts at a solution
 - A (partly) new working theory: Relevant data and problems
- Conclusion
- References
- **Questions and comments from the audience**



Questions and comments from the audience

