Consonant and vowel gradation in the Proto-Germanic n-stems

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Consonant and vowel gradation in the Proto-Germanic *n*-stems

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Þá er þeir Borssynir gengu með sævar strǫndu, fundu þeir tré tvau ok tóku upp tréin ok skǫpuðu af menn: gaf hinn fyrsti ǫnd ok líf, annarr vit ok hræring, þriði ásjónu ok málit ok heyrn ok sjón.

Hár, Gylfaginning

The Leiden theory explains religion as a disease of language and predicts the existence of God and other such parasitic mental constructs as artefacts of language.

George van Driem, 2003

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Preface

The paradox of writing a dissertation is that the Ph.D. candidate usually has not acquired enough experience to overlook the problem that he is going to investigate, and that such experience can only be acquired by writing a dissertation. It would be pretentious, of course, to say such paradoxes are only faced by Ph.D. students, because it is, in fact, the essence of all learning processes. Still, I must admit that, when I started off at Leiden University, I did not at all plan to write a dissertation like the present one.

The aim of my Ph.D. scholarship was to tackle the problem of the substrate language that was supposed to have influenced the Germanic branch of the Proto-Indo-European family in pre-historic Europe. I planned to approach this matter from the perspective created by F.B.J Kuiper, R.S.P. Beekes and the late D. Boutkan. These Leiden Indo-Europeanists had defined a number of morphological criteria by which they attempted to isolate un-Indo-European elements from the Germanic lexicon. During this enterprise, however, I came to the conclusion that the suggested indicators of language contact were not distributed randomly in the vocabulary, as would be expected if they were due to language contact. Quite the opposite, one of the most important features, i.e. consonant alternations, seemed to be strongly centered around specific grammatical categories, namely the *n*-stems and the *n*-presents. The alternations, furthermore, turned out to be far from erratic, but, in fact, strikingly systematic in nature. When, additionally, the vowel alternations in the *n*-stems appeared to be systematic as well, I felt that I had to reconsider my initial research question.

At the end of the day, this dissertation has become a description of the consonant and vowel alternations that are so typical of the Germanic *n*-stems and a few other typologically related nouns. Historically, the frequent interchange of singulates and geminates in the *n*-stems must be explained as resulting from a Germanic innovation called Kluge's law, according to which a stop or a resonant was geminated by the assimilation of a following *n*. The vowel alternations that occur in dozens of *n*-stems, on the other hand, are anything but a Germanic novelty, and demonstrate the perpetuation of the Indo-European ablaut system. In the present monograph, I focus in on this ablaut system and distinguish several ablaut categories. I also try to show how the ablaut interacted with the consonant alternations, and how this interaction can be used as an epistemological tool at demonstrating the paradigmatic nature of this ablaut. I further propose that the ablaut system remained productive until the North-West Germanic period, when new kinds of vowel alternations were introduced analogically. This dissertation, in other words, is an attempt to close in on the very rise of Germanic morphophonology, and as such can be regarded a theory of Germanic glottogenesis.

During my research, I have profited enormously from the knowledge and encouragments of many. I am much indebted to Aad Quak, Harry Perridon and Sasha Lubotsky for teaching and guiding me during my studies of Nordic, Germanic and Indo-European historical linguistics. I am especially grateful to my fellow-linguists Alwin Kloekhorst, Michaël Peyrot, Tijmen Pronk and Lucien van Beek for all the conversations and discussions we have had on an

infinite number of linguistic topics. I also wish to thank Frederik Kortlandt, Rick Derksen and Michiel de Vaan for their helpful comments on the manuscript.

Not at least, my gratitude extends to my mother Ina and my brother Stijn, who have always supported me during the writing process, and anytime in my life. I must also thank Auke for pointing out the comic aspects of the occasionally tragic Ph.D. lifestyle.

List of abbreviations

Language abbreviations

Ang.	Anglian
Alb.	Albanian
Als.	Alsatian German
App.	Appenzell Swiss
Arm.	Armenian
Av.	Avestan
Bav.	Bavarian German
Bm.	Bokmål Norwegian
Brab.	Brabantian Dutch
Bret.	Breton
BRu.	Byelorussian
Bulg.	Bulgarian
Cimb.	Cimbrian German
Crn.	Carinthian German
Cz.	Czech
Da.	Danish
Dor.	Dorian Greek
Du.	Dutch
E	English
EDa.	Early (Modern) Danish
EDu.	Early (Modern) Dutch
EFri.	East Frisia Low German
EG	Early (Modern) German
Est.	Estonian
Far.	Faroese
Fi.	Finnish
FiSw.	Finland Swedish
Flem.	Flemish
Fr.	French
Fra.	Franconian
G	German
Gae.	Scottish Gaelic
Go.	Gothic
Gr.	Ancient Greek
Gutn.	Gutnish
Hess.	Hessian German
Hitt.	Hittite
Hom.	Homer
Hsch.	Hesychius
Icel.	Icelandic
Ir.	Irish
It.	Italian
Ja.	Jaun Swiss
Kil.	Kilianic Dutch (= EDu.)
Lat.	Latin
Latv.	Latvian
LG	Low German
Limb.	Limburgian Dutch
Lith.	Lithuanian
Lus.	Luserna Cimbrian
M	Middle
MDu.	Middle Dutch
ME	Middle English
MHG	Middle High German
MIr.	Middle Irish
MLat.	Middle Latin
MLG	Middle Low German
Mo.	Modern
MRhnl.	Middle Rhinelandish
MW	Middle Welsh
Myc.	Mycenaean Greek
NFri.	North Frisian
Nn.	Nynorsk
Nw.	Norwegian (Bm. and Nn.)
Nth.	Northumbrian
O	Old
OCS	Old Church Slavonic
ODa.	Old Danish
OE	Old English
OFr.	Old French
OFri.	Old Frisian
OGutn.	Old Gutnish
OHG	Old High German
OIr.	Old Irish

OLFra.	Old Low Franconian	SFri.	Saterlandic Frisian
ON	Old Norse	Skt.	Sanskrit
OPol.	Old Polish	Slov.	Slovene
OPru.	Old Prussian	Stw.	Stellingwerven Dutch
OS	Old Saxon	Sw.	Swedish
Osc.	Oscan	Swab.	Swabian German
OSw.	Old Swedish	Swi.	Swiss German
P	Proto-	Thur.	Thuringian German
Pal.	Palatinate German	Tyr.	Tyrolean German
PBSl.	Proto-Balto-Slavic	To.	Tocharian
PCelt.	Proto-Celtic	Ukr.	Ukrainian
Pers.	Persian	Val.	Valais / Wallis Swiss
PGm.	Proto-Germanic	Visp.	Visperterminen Swiss
PIE	Proto-Indo-European	W	Welsh
PNWGm.	Proto-North-West Germanic	Wall.	Walloon French
Rhnl.	Rhinelandish	Wdh.	Wiedingharde Frisian
Rhtl.	Rheintal Swiss	WFri.	West (Lauwer) Frisian
Ru.	Russian	WPhal.	West Phalian German
Sco.	Scottish	WS	West Saxon
SCr.	Serbian or Croatian		

Bibliographic abbreviations

EWA = Lloyd/Lühr/Springer: *Etymologisches Wörterbuch des Althochdeutschen*.
MED = McSparran (ed.): *Middle English Dictionary*.
NCL = Anonymus: *Neuestes Conversations-Lexicon*.
OEC = DiPaolo (ed.): *Dictionary of Old English corpus*.
OED = Simpson/Weiner (eds.): *Oxford English dictionary*.
PLAND = Brok/Kruijsen (e.a.): *Plantennamen in de Nederlandse dialecten*.
RLGA = Hoops (e.a.): *Reallexikon der germanischen Altertumskunde*.
SAOB = *Svenska akademiens ordbok*.
WBD = Weijnen (e.a.): *Woordenboek van de Brabantse dialecten*.
WLD = Weijnen/Goossens/Hagen: *Woordenboek van de Limburgse dialecten*.
WNT = Instituut voor Nederlandse Lexicologie: *Woordenboek der Nederlandsche taal*.
WTM = Schatz: *Wörterbuch der Tiroler Mundarten*.
WVD = Ryckeboer (e.a.): *Woordenboek van de Vlaamse dialekten*.

Linguistic abbreviations

acc	accusative
adj.	adjective
cf.	*confer*
c.	common
dat.	dative
dial.	dialectal
e.a.	*et alii*
e.g.	*exempli gratia*
f.	feminine
ff.	*foliae*
fn.	footnote
gen.	genitive
ibid.	*ibidem*
i.e.	*id est*
inf.	infinitive
ins.	instrumental
loc.	locative
l.c.	*loco citato*
m.	masculine
n.	neuter
nom.	nominative
obl.	oblique
obs.	obsolete
pl.	plural
poet.	poetical
pres.	present
pret.	preterit
ptc.	participle
s.v.	strong verb
s.v.	*sub voce*
sg.	singular
top.	toponym
v.	verb
viz.	*videlicet*
vs.	versus
w.v.	weak verb

In combination with sg. and pl., the case abbreviations are further shortened, e.g. nsg. = nom. sg., gsg. = gen. sg., etc.

Logical symbols

=	is
<	developed from
>	developed into
→	served as basis for
←	was derived from
↔	either → or ←
~	alternates with
:	contrasts wit

0. Preliminary Remarks

0.1 Germanic linguistic sources

The bulk of the evidence furnished in this dissertation is from the North-West Germanic languages and dialects, the role of Gothic being more modest. This is the result of the fact that the material generally is more extensive in the Middle Germanic languages or even in the modern dialects.

North Germanic

For etymological purposes, I made use of H.S. Falk & A. Torp, *Norwegisch-dänisches etymologisches Wörterbuch* (2nd ed., 1960), *Isländisches Etymologisches Wörterbuch* (1956) by A. Jóhannesson, J. de Vries' *Altnordisches etymologisches Wörterbuch* (1962) and R. Lühr's *Die Gedichte des Skalden Egil* (2000). The English translations of the Old Icelandic forms are often adopted from G.T. Zoëga's *Concise dictionary of Old Icelandic*.

For the Old Norse forms, I have mainly used the database of J. Fritzner's *Ordbog over det gamle norske sprog* (1886) at the website of Oslo University (www.edd.uio.no), and occasionally L. Heggstad's *Gamalnorsk ordbok* (1930). The Modern Icelandic material is drawn form *Íslensk orðabók fyrir skóla og skrifstofur* (2nd ed., 1983) by Árni Böðvarsson and Ásgeir Blöndal Magnússon (eds.). For Faroese, I used M.A. Jacobsen's and Chr. Matras' *Føroysk-dönsk orðabók* (1927-1928) and especially the new *Føroysk orðabók* (1998) by J.H.W. Poulsen (ed.).

The Old Swedish material is adopted from K.F. Söderwall's *Ordbok öfver svenska medeltids-språket* (1884), which is made available in database format by the University of Gothenburg (www.språkbanken.gu.se). For modern Swedish, I used *Svenska akademiens ordbok* (1997-2007), which has been digitalized by *Språkbanken* (spraakbanken.gu.se) from the same university, and E. Hellquist's *Svensk etymologisk ordbok* (1922). All forms from the Swedish dialects are adopted from J.E. Rietz's *Svenskt dialektlexikon* (1872 [1962]), except for the Gutnish material, which is taken from *Ordbok över Laumålet* by M. Klintberg and H. Gustavsson (1895-1986).

The Early Danish material comes from O. Kalkar's *Ordbog over det eldre danske sprog* (1881-1907). Modern Danish forms were checked by using the online version of *Ordbog over det danske sprog* (1919-1956) at ordnet.dk/ods.

The Norwegian evidence is almost exclusively adopted from *Dokumentasjons-prosjektet* (www.dokpro.uio.no), which has published *Bokmålsordboka* (2005), *Nynorskordboka* (2006) and *Grunnmanuskriptet* (1935) on the internet. I have tried to simplify the complex formal variation in and between the two standard languages by citing as much as possible those forms that are accepted in both Bokmål and Nynorsk. These forms I have simply called *Norwegian* (Nw.). Relevant variants that exclusively occur in Nynorsk, including the material furnished by A. Torp in his *Nynorsk etymologisk ordbok* (1919), are labeled accordingly. The highly valuable dialectal material is extracted from

Grunnmanuskriptet, which is the originally unpublished source manuscript of *Norsk Ordbok*. It contains a wealth of material that is not or no longer part of the Nynorsk standard language.

Anglo-Frisian

For Old English, I made use of Bosworth's and Toller's extensive *Anglo-Saxon dictionary* (1882-1972), F. Holthausen's *Altenglisches etymologisches Wörterbuch* (1934) and the *Dictionary of Old English Corpus* (1998), published at quod.lib.umich.edu/o/oec by the University of Toronto Center of Medieval Studies. For Middle English, I consulted the *Middle English Dictionary* by F. McSparran (ed.), which the same institute published online in 2001. Modern English forms as well as etymologies have been checked against the *Oxford English Dictionary* at dictionary.oed.com.

The Old Frisian material is collected from F. Holthausen's concise *Altfriesisches Wörterbuch* (1925), D. Boutkan's and S. Siebinga's *Old Frisian etymological dictionary* (2005) and the new *Altfriesisches Handwörterbuch* (2008) by D. Hofmann and A. Popkema. Modern West Frisian forms were checked in J.W. Zantema's *Frysk Wurdboek* (1984). I have occasionally adduced evidence from Saterlandic Frisian as presented by P. Kramer in his *Düütsk-Seeltersk* glossary (1995), and from the North Frisian Wiedingharde dialect as provided by P. Jensen in his *Wörterbuch der nordfriesischen Sprache der Wiedingharde* (1927).

Low German

Few Old Saxon, i.e. Old Low German forms have been taken up. For material from the Heliand, I have provisorically used the glossary of O. Behaghel's *Heliand* (1882). Old Saxon glosses were adopted from J.H. Gallée's *Vorstudien zu einem altniederdeutschen Wörterbuch* (1903), which despite its fallacies has proved to be a useful source. The evidence from Old Low Franconian does not play a role of any significance.

The Middle Low German data were subtracted from A. Lübben's & Chr. Walther's *Mittelniederdeutsches Wörterbuch* (1888 [1965]) and Schiller's and A. Lübben's *Mittelniederdeutsches Wörterbuch* (1875-1881). For Middle Dutch, I have used E. Verwijs and J. Verdam's *Middelnederlandsch handwoordenboek* (1973) as edited by C.H. Ebbinge Wubben. Cornelius Kilian's *Etymologicum Teutonicae Linguae* (1599) has provided essential information on Early Modern Dutch and its dialects.

I have made exhaustive use of the literature on Modern Dutch etymology and dialectology, so as to include material and insights that have remained unnoticed in Germanic studies. Material and etymologies were collected from *Woordenboek der Nederlandsche Taal* (1863-2001) as put online at www.wnt.inl.nl by the Instituut voor Nederlandse Lexicologie, N. van Wijk's *Franck's etymologisch woordenboek* (1912), J. Vercoullie's *Beknopt etymologisch woordenboek der Nederlandsche taal* (3rd ed., 1925), J. de Vries' and F. de Tollenaere's *Etymologisch woordenboek* (1983), and the new *Etymologisch woordenboek van het Nederlands* (2003-) by M. Philippa, F. de Brabandere and A. Quak (eds.), to which I have also contributed myself. For the Dutch dialects, I made use of a selection of sources, the most important of which are *Woordenboek van de Brabantse dialecten* (1967-2005), *Woordenboek van de Drentse dialecten* (1996-2000), *Woordenboek van de Limburgse dialecten* (1983-),

Woordenboek van de Vlaamse dialekten (1979-), *Woordenboek der Zeeuwse dialecten* (1964) and A.A. Weijnen's *Etymologisch dialectwoordenboek* (1996).

High German

The Old High German evidence is obtained from a variety of sources: E.G. Graff's antiquated, yet still useful *Sprachschatz oder Wörterbuch der althochdeutschen Sprache* (1834-1846), E. Siever's & E.E. Steinmeyer's *Die althochdeutschen Glossen* (1879-1923), R. Schützeichel's *Althochdeutsches Wörterbuch* (1969), T. Starck's and J.C. Well's *Althochdeutsches Glossenwörterbuch* (1972-1990), and *Etymologisches Wörterbuch des Althochdeutschen* by A. Lloyd, O. Springer and R. Lühr (1988-). Schützeichel's new *Althochdeutscher und Altsächsischer Glossenwortschatz* (2004) has only occasionally been available to me due to its absence in the Leiden University library.

For Middle High German, I have used M. Lexer's *Mittelhochdeutsches Handwörterbuch* (1872-1878) and, to a lesser extent, *Mittelhochdeutsches Wörterbuch* (1854-1866) by G.F. Benecke.

The most important source for the Modern High German material is *Deutsches Wörterbuch* (1854-1960) by J. and W. Grimm, which has been put online by the University of Trier. For etymological purposes, I have used *Etymologisches Wörterbuch* by F. Kluge and W. Mitzka (20th ed., 1967) and the most recent edition (24th ed., 2004) by E. Seebold. For the German dialects, I primarily made use of *Bayerisches Wörterbuch* (1872-1877) by J.A. Schmeller and K. Frommann, *Pfälzisches Wörterbuch* (1965-1997) by E. Christmann et al., *Rheinisches Wörterbuch* (1923-1971) by J. Franck and J. Müller (eds.), *Schwäbisches Handwörterbuch* (1999) by H. Fischer and H. Taigel, *Wörterbuch der Elsässischen Mundarten* (1899-1907) by E. Martin and H. Lienhart, *Wörterbuch des deutsch-lothringischen Mundarten* (1909) by M.F. Follmann. The Swiss German material is taken from a selection of the *Beiträge zur Schweizerdeutschen Grammatik* (1910-), and not from *Schweizerisches Idiotikon*, because the lexicon is often difficult to analyze without the help of the descriptive grammars in question. Finally, I have incorporated some valuable forms from Schmeller's and Bergmann's *Cimbrisches Wörterbuch* (1855) of the South Bavarian dialects in Italy and from *Wörterbuch der deutschen Sprachinselmundart von Zarz/Sorica und Deutschrut/Rut in Jugoslavien* (1983) by E. Kranzmayer and P. Lessiak.

0.2 Normalization and orthography

The orthographical representation of the material from the different languages has roughly been kept in accordance with the dominant conventions. This has the advantage that the legibility of the material is optimized, and the disadvantage that a certain amount of arbitrariness is imported. As a result, for instance, vowel length is marked by an acute in Old Norse, by doubling of the vowel in the Swiss dialects, and by a macron in most of the other languages, including Old English and the German dialects.

The spelling of the Old High German material is problematic, because the source dialects differ in their treatment of the Proto-Germanic stops. I have rather idiosyncratically normalized the Old High German forms according to the Low Alemannic *lautstand*, because

of the important role of this dialect group in the sources. Affricated *p*, *t* and *k* are represented as <pf> , <tz> and <ch>, the corresponding fricatives as <f>, <s> and <h> when short, and as <ff>, <sz> and <hh> when long. The continuants of PGm. **b*, *d* and *g* are represented as <b>, <t> and <g>, <d> being reserved for the voiced stop continuing PGm. **þ*. The geminated variants are spelled <pp>, <tt> and <cc>. The product of long **þ* shifts from <dd> to <tt> within the Old High German period, and is indicated accordingly.

0.3 Presentation of the evidence

Throughout this monograph, the reader will encounter paradigms that are reconstructed on the basis of large clusters of different formations from a variety of North, East and West Germanic dialects, ranging from Gutnish to Flemish, from Faroese to Cimbrian. In order to present the data as clearly as possible, the material is ordered in the following way. First, the reconstructed Proto-Germanic paradigm is given in bold. Then, the different sub-reconstructions on which the paradigm is based are given in indented lines, each different sub-reconstruction receiving a separate horizontal level. Formations that are derived from a sub-reconstruction are preceded by a → sign and appear in a smaller font size. They are only indented when the derivation did not take place in the same dialect, but at an earlier stage. Language-internal derivations are given in a smaller font size and between brackets. Loanwords are presented in the same way and put directly after the source language. To separate the sub-reconstructions pertaining to the proto-paradigm from more indirectly related cognates, a long, horizontal bar is sometimes inserted.

The order in which the involved languages are given is determined with the help of two criteria, i.e. 1) dialectal affiliation and 2) linguistic archaicity. By the first criterion, the dialects are positioned between their closest relatives, resulting in a dialectal chain Gothic, Nordic, Anglo-Frisian, Low German, High German. In accordance with the second criterion, the more archaic dialects override the less archaic dialects. This means that, when, for instance, no Old Saxon form is attested, an Old High German attestation precedes a Middle Low German. Similarly, any Icelandic evidence always precedes an Old English attestation, because Icelandic is comparable to Old Norse when it comes to archaicity.

In the described format, the reconstruction of the Proto-Germanic paradigm of the word for 'tooth', deriving from PIE $*h_3d$-*ónt*, gen. $*h_3d$-*nt-ós*, would appear as follows:

***tan*, *tundaz**

- **tan(þ)-*: ON *tǫnn*, pl. *teðr*, *tennr* f. 'id.', Icel. *tönn* f. ' id.', Far. *tonn* f. 'id.', OE *tōþ*, pl. *tēþ* m. 'id.', OFri. *tōth* m. 'id.', OHG *zan(t)* m. 'id.', MHG *zan(t)*, pl. *zende* m. 'id.', G *Zahn*, MLG, MDu. *tant* 'id.', Du. *tand* 'id.'
  - → **tanþjan-*: Icel. *tenna* 'to give teeth', OE *tǣðan* 'id.', MHG *zenden* 'id.'
- **tunþu-*: Go. *aihva·tunþus* 'thornbush'
  - → **tunska-*: OE *tux*, *tusc* m. 'tusk' , OFri. *tosk*, *tusk* m. 'tooth', WFri. *tosk* 'id.'

- **tinda-*: ON *tindr* m. 'peak', OE *tind* 'jag, nail', MHG *zint* 'jag, merlon'

1 Introduction

The *n*-stems are no doubt one of the more intriguing inflectional categories in Proto-Germanic morphology. Whereas other nouns, such as the *a*- and *ō*-stems, show great uniformity throughout the Germanic dialect area, the *n*-stems usually exhibit a whole range of dissimilar root forms. Typically, even within the North and West Germanic continuums, neighboring dialects exhibit different roots for one and the same *n*-stem. The most common type of variation consists of the root-final consonantism shifting between single and double stops. It is found in hundreds of both masculine and feminine *n*-stems. The following cases may exemplify this:

- Swi. Visp. *toxxa* f. 'doll' < **dukōn-* : ON *dokka* f. 'id.', OHG *tocha* f. 'id.' < **dukkōn-*
- Go. *fauho* f. 'vixen' < **fuhōn-* : OE *fogge* f. 'id.' < **fuggōn-*
- Icel. *hjari* m. 'hinge' < **heran-* : ON *hjarri* m. ' id.', OE *hearra* m. ' id.' < **herran-*
- OE *pohha* m. 'bag' < **puhhan-* : ON *poki* m. 'id.' < **pukan* : OE *pocca* m. 'id.' < **pukkan-*
- OE *piða* m. 'pith' < **piþan-* : Du. Kil. *pitte* '*medulla arboris*' < **pittan-*
- MDu. *rogen* mpl. 'supplies, rye', MHG *roge* m. 'rye'[1] < **rugan-* : MDu., MHG *rogge* m. 'id.'< **ruggan-*
- NFri. *nope* 'flock of wool' < **hnupōn-* : MLG, MDu. *noppe* f. 'id.' < **hnuppōn-* : MLG *nobbe* f. 'id.' < **hnubbōn-*
- G *Truhe* f. 'trough' < **þruhōn-* : Swi. *trukxa* f. 'box, trunk' < **þrukkōn-*
- OFri. *stera* m. 'star' < **steran-* : OE *steorra* m. 'id.' < **sterran-*

The second type of root alternation is of vocalic nature. These vocalic interchanges are much less frequent, but still the number of instances amounts to dozens, and many different types can be distinguished. Often, we find both vowel and consonant alternations. The combination of these two kinds of alternations may then result in a bewildering set of root variants:

- Du. dial. *tijg* 'tick' < **tīgan-* : E obs. *tyke* 'id.' < **tīkan-* : Du. *teek* 'id.', Swi. Visp. *zäxxo* m. 'id.' < **tikan-* : G *Zecke* f. 'id.' < **tikkōn-*
- G *Reihen* m. 'instep' < **wrīhan-* : MDu. *rijghe* 'id.' < **wrīgan-* : Du. obs. *wreeg* 'id.' < **wrigan-* : Du. dial. *wree* 'id.', Swi. Ja. *reəhə* m. 'id.' < **wrihan-*
- OHG *zuogo*, OS *tōgo* m. 'branch' < **tōgan-* : Du. dial. *toeke* 'id.' < **tōkan-* : MLG *tagge* 'id.' < **taggan-* : MLG *tack(e)*, MDu. *tac(ke)* 'id.' < **takkan-*

[1] Lexer 2, 240.

- Icel. *hró* ‘hillock’ < **hrŭha-* : ON *hrúga* f. ‘pile’ < **hrūgōn-* : Icel. *hrúka* f. ‘id.’ < **hrūkōn-*: MDu. *roc* m. ‘id.’ < **hrukka-* : ON *hroki* m. ‘id.’ < **hrukan-*
- MHG *krebe* m. ‘basket’, SFri. *krääf* m. ‘id.’ < **kreban-* : MHG *krebbe* f. ‘id.’ < **krebbōn-* : MHG *kruppe* f. ‘id.’ < **krubbōn-* : MHG *krupfe* f. < **kruppōn-* : MHG *korb(e)* < **kurba(n)-*
- G *Zimpe(n)* m. ‘tip, nozzle’ < **timban-* : MLG *timpe* m. ‘id.’ < **timpan-* : OHG *zumpo* m. ‘penis’ < **tumban-* : Du. dial. *tump(e)* ‘tip, corner’ < **tumpan-*

It is the aim of this dissertation to investigate the exact origins and functioning of the two types of alternations, which together constitute a rather characteristic part of Proto-Germanic morphophonology. This will be done from the Indo-European perspective: I will formulate an explanation for the given consonant and vowel alternations on the assumption that they evolved out of the Proto-Indo-European situation. A brief outline of the Proto-Indo-European and Proto-Germanic inflection of the *n*-stems is presented in chapter 2.

In chapter 3 to 6, I will discuss the geminates and consonant alternations that are displayed by the *n*-stems. I will also analyze the typologically similar alternations of the iterative verbs, which I take to be a continuation of the PIE *n*-presents. The origin of the geminates has been one of the most important issues in Germanic studies. The solution that I have elaborated on is the one that was first formulated by the Neogrammarians, in particular Hermann Osthoff, Hermann Paul and Friedrich Kluge. In contemporary Germanistics, it is no longer the generally accepted approach, but it surpasses alternative solutions in almost every respect. The Neogrammarian approach was revitalized by Rosemarie Lühr in her important monograph *Expressivität und Lautgesetz im Germanischen* (1988), and it is this book that forms the starting point for the present study.

In chapters 7 to 9, I will discuss the extensive vowel alternations that are found in a number of *n*-stems. Friedrich Kauffmann (1887) was the first person to express the idea that these alternations are a continuation of the Proto-Indo-European nominal ablaut. The idea, however, has never taken root in Germanistics either. This is probably the result of Kauffmann’s demonstrably erroneous interpretation of the consonant alternations displayed by the *n*-stems. Recently, the continuation of the ablaut of a couple of *n*-stems was observed by Stefan Schaffner, who encountered the phenomenon in his analysis of Verner’s law in *Das Vernersche Gesetz und der innerparadigmatische grammatische Wechsel des urgermanischen im Nominalbereich* (2001). I will try and demonstrate that the number of ablauting *n*-stems is substantial and runs in the dozens. Several different ablaut patterns can be distinguished, and although they may not necessarily have an Indo-European appearance, I will argue that they all evolved out of the ablaut system that was inherited from the parent language.

2 The declension of the *n*-stems

2.1 The Indo-European *n*-stems

Before moving to the consonant and vowel alternations of the *n*-stems, I will first give a short outline of the inflection of this category in the Indo-European and the Germanic proto-languages. In PIE, the *n*-stems, like other nouns, had paradigms in which the stressed full-grade shifted between the root, the suffix and the ending. The ablauting paradigms can be divided into two major inflectional types, i.e. 1) the hysterodynamic type and 2) the proterodynamic type.

2.1.1 The hysterodynamic type

In Proto-Indo-European, the common *n*-stems had a hysterodynamic inflection. It mainly differed from the neuter, proterodynamic inflection in that 1) the nominative was different from the accusative case, and 2) the genitive had a full-grade in the ending, rather than in the suffix. The ablaut of the root has usually disappeared in the daughter languages, but can still be retrieved from the paradigm of the Sanskrit *mn*-stem 'breath, soul', viz. *ātmā́*, gen. *tmánas,* loc. *tmán(i)*[2], acc. **ātmā́nam* 'breath, soul' < **h_1eh_1t-mē/ōn*, **h_1h_1t-mn-os*, **h_1h_1t-men(-i)*, **h_1eh_1t-mon-m*. The paradigms of the Sanskrit, Lithuanian and Germanic *n*-stems can further be used to reconstruct the ablaut of the suffix and the ending:

	PIE	**Skt.**	**Lith.**	**Go.**
nsg.	**CeC-(m)ōn*	*rā́jā* 'king'	*akmuõ* 'stone'	*guma* 'man'
gsg.	**CC -(m)n-os*	*rā́jñas*	*akmeñs*	*gumins*[3]
asg.	**CeC -(m)on-m*	*rā́jānaṃ*	*ãkmenį*	*guman*
lsg.	**CC-(m)en-i*	*rā́jan(i)*	*akmenyjè*	*gumin*
npl.	**CeC-(m)on-es*	*rā́jānas*	*ãkmenys*	*gumans*
gpl.	**CC-(m)n-om*[4]	*rā́jñām*	*akmenų̃*	*gumane*[5]
apl.	**CC-(m)n-ns*	*rā́jñas*	*ãkmenis*	*gumans*
lpl.	**CC-(m)n-mis*	-	*akmenìms*	*gumam*

The full ablaut pattern of the hysterodynamic types was lost in most languages, and split up in many different subtypes (Beekes 1985: 154ff, 1995: 193ff). In Sanskrit and Greek, two subtypes became dominant by leveling of the ablaut of the suffix throughout the paradigm.

[2] The genitive *tmánas*, which replaces expected ***tanás* < **h_1h_1t-m̥n-ós*, is based on the locative (cf. Schaffner 2001: 518).
[3] With *-ins* from **-en-os* instead of **-n-os*.
[4] It was demonstrated by Kortlandt (1978; 2007) that Lith. gpl. *-ų*, OCS *-ъ* and Skt. *asmā́kam* 'ours' point to a PIE gpl. ending **-om* rather than **-ōm*, the latter representing **-oHom* from the *o*-stems.
[5] The Gothic gpl. in *-e* is identical to the *i*-stem ending from **-ei-om* (Kortlandt 1978).

These are called 1) the amphidynamic type, which generalized the *o*-vocalism, and 2) – rather confusingly – the hysterodynamic type, which generalized the *e*-vocalism.

The amphidynamic type is characterized by a lengthened grade ending *-*ōn* in the nominative (cf. Skt. -*ā*, Gr. -ω(ν), Lat. -*ō*, Lith. -*uo*, OCS -*y*), -*n-ós* in the genitive, and *-*on-m* in the accusative. The nominative ending probably lost the nasal in PIE times already[6], as is clear from the endingless nominatives in Sanskrit and Latin, and the Greek transfer of certain *n*-stems into the *oi*-stems, e.g. ἀηδώ(ν) f. 'nighting-gale', εἰκώ(ν) f. 'image', etc.[7]

The amphidynamic type contains two sub-categories, viz. 1) primary nouns, cf. Gr. ἄκμων m. 'anvil', ἄξων m. 'axle', βλήχων f. 'mint', βραχίων m. 'lower arm', Lat. *carō*, *carnis* m. 'meat', Gr. κίων mf. 'pillar', μήκων f., OSw. *val·mōghe* m. 'poppy', Gr. πλεύμων, πνεύμων, Lat. *pulmō* 'lung', Gr. κύων, κυνός mf. 'dog, bitch', Skt. *śvā́*, *śúnaḥ* m. 'dog', and 2) individualizing nouns, either of deverbative or denominative origin, cf. Gr. δαίμων mf. 'demon', εἴρων mf. 'fakely ignorant', γείτων mf. 'neighbor', Lat. *Nāsō* 'the Nose', Go. *staua* m. 'judge', Gr. Στράβων 'the Blind one', τέκτων m., Skt. *tákṣan-* m. 'carpenter', Lat. *virgō*, -*inis* f. 'girl', Gr. φλέδων mf. 'chatterer', etc. The individualizing subtype was productive in many IE languages. The word for 'man' is a famous example, cf. Lat. *homō* (< OLat. *hemō*), Lith. *žmuõ* and Go. *guma* m. 'man'. This West Indo-European derivation from PIE *d^h*ég^h-m*, *d^h*ǵ^h-m-ós* 'land' is usually reconstructed as *d^h*eǵ^{h}m-ōn*, *d^h*ǵ^{h}m̥-n-ós*.[8]

The hysterodynamic type (in the narrower sense) is characterized by the fact that it had a nominative in *-*ḗn* (Skt. -*ā́*, Gr. -ήν, Lat. -*ēn*), a genitive in *-*n-ós* and an accusative in *-*én-m*. In Greek, the large majority of the hysterodynamic *n*-stems had zero-grade of the root throughout the paradigm.[9]

	PIE	**Skt.**	**Gr.**
nsg.	**CC-(m)ḗn*	*ukṣā́* 'bull'	πυθμήν 'bottom'
gsg.	**CC -(m)n-ós*	*ukṣṇás*	πυθμένος
asg.	**CC -(m)én-m*	*ukṣā́nam*	πυθμένα
lsg.	**CC-(m)én-i*	*ukṣan(i)*	πυθμένι
npl.	**CC-(m)én-es*	*ukṣánas*	πυθμένες
gpl.	**CC-(m)n-óm*	*ukṣnā́m*	πυθμένων
apl.	**CC-(m)n-ńs*	*ukṣnás*	πυθμένας
dpl.	**CC-(m)n-mis*	-	-

Compared to the amphidynamic *n*-stems, the hysterodynamic *n*-stems are a relatively small group. They predominantly consist of primary formations of the masculine gender, e.g. Gr.

[6] Melchert 1983: 10.
[7] Harðarson (2005: 220): "Dieser Metaplasmus setzt den Zusammenfall der *oi*- und *n*-Stämme wenigstens in einer Form voraus, und das kann nur der Nominativ gewesen sein".
[8] The full-grade of the root is by no means ascertained, however. The Latin as well as the Gothic form can be explained by the generalization of the vocalized **m* from the oblique *d^h*ǵ^{h}m̥-n-*. There is no need to invoke Lindemann's law in order to explain this vocalization.
[9] Cf. Rix 1976: 145.

ἀδήν mf. ‘gland’, ἀρήν m. ‘lamb’, ἀυχήν m. ‘neck’, Gr. ποιμήν m. ‘herd’, πυθμήν m. ‘bottom’, σπλήν m., Skt. *plīhán-* m., Lat. *liēn* m. ‘spleen’, Skt. *ukṣán-* m., Go. *auhsa* m. ‘bull’, Gr. ὑμήν m. ‘film’, Gr. ἄρσην, -ενος ‘masculine’, etc.[10]

2.1.2 The proterodynamic type

The proterodynamic type is mostly known from the neuter *mn*-stems, because most Indo-European languages have lost this category. In contrast, Germanic preserves a relatively large group of other neuter *n*-stems, e.g. Go. *augo* ‘eye’, *kaurno* ‘grain’ (cf. Nw. dial. *korna* n. ‘id.’), *barnilo* ‘child’, ON *hnoða* ‘clew’, *bjúga* ‘sausage’. A small number of neuter *n*-stems can be gleaned from Italo-Celtic, e.g. Lat. *gluten* ‘glue’, *inguen* ‘loin’ (cf. Gr. ἀδήν, -ένος m. ‘gland’), Lat. *pollen* ‘mill dust, fine flour’, *ungen* ‘fat’, OIr. *imb*, gen. *imbe* n. (= OHG *ancho* m.) ‘butter’, but there is no direct evidence for old root ablaut in these particular cases.[11] The ablaut pattern can nevertheless safely be reconstructed on the basis of the neuter *mn*-stems, which are abundant throughout the Indo-European dialects (but moribund in Germanic). The most prominent example with old ablaut is $*h_3néh_3$*-mn*, $*h_3nh_3$*-mén-s* ‘name’[12], which is nowhere attested as such, but is generally assumed on the basis of the opposition of e.g. Skt. *nā́man-* < $*h_3néh_3$*-mn* vs. Gr. ὄνομα, OCS *imę*, OIr. *ainm*, Go. *namo* < $*h_3nh_3$*-mén-*.[13]

	PIE	**Lat.**	**OIr.**	**Go.**
nasg.	**CéC-(m)n*	*nōmen*	*ainm*	*namo*
gsg.	**CC -(m)én-s*	*nōminis*	*anm(a)e*	*namins*
napl.	**CéC-(m)ōn*[14]	*nōmina*	*anman(n)*	*namna*
gpl.	**CC-(m)én-om*	*nōminum*	*anman(n)*	*namne*

The plural of the neuter proterodynamic stems was probably inflected as a collective of the type Hitt. *watar* sg. < **uod-r* : *widār* pl. < **ud-ōr* (= Gr. ὕδωρ), in early PIE.[15] This is supported by e.g. Skt. *nā́māni*, which may consist of the ending *-ōn plus $*-h_2$.[16] The laryngeal is also found in Lat. *nōmina* and Go. *namna*, but these forms have a different vowel grade in the suffic, i.e. $*h_3n(e)h_3$*-mn-(e)*h_2.[17]

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[10] Gr. Σειρήν f. ‘Siren’ has no etymology and χήν mf. ‘goose’ is a secondary *n*-stem from $*g^{h}éh_2nt$-.

[11] The only possible indication for vowel alternation in the root comes from ON *økkr* m. ‘tumor’ < $*eng^{w}$*-o-* (cf. Pokorny 319), which – as opposed to Gr. ἀδήν and probably also Lat. *inguen* has a full grade. Yet since the ablaut slot is conspicuously found at the beginning of the word, and the Greek form excludes the reconstruction of the root as $*h_1eng^{w}$-, the validity of this *økkr* remains questionable.

[12] Beekes 1995: 186.

[13] MHG *nüemen*, MLG *nōmen*, MDu. *noemen* < **nōmjan-* is also to be derived from the full grade in the root (cf. Uhlenbeck 1896: 109), but this full grade can be induced by the causative formation, quasi $*h_3noh_3m(n)$*-eie-*.

[14] The ending $-(m)n$*-eh*$_2$, which is found in Gothic is an innovation (cf. Beekes 1995: 187).

[15] Cf. Streitberg 1900: 258.

[16] Harðarson 1987a: 96; Beekes 1995: 187.

[17] Note that Go. *namna* must be an innovation anyway, because the proto-form $*h_3nh_3$*-mn-eh*$_2$ would have regularly yielded **numna*. The root **nam-* is either from the lsg. $*h_3n\underset{\circ}{h}_3$*-mén-i*, dpl. $*h_3n\underset{\circ}{h}_3$*-m*$\underset{\circ}{n}$*-mis* or from the plural $*h_3neh_3$*-mn-éh*$_2$ itself by pretonic shortening (cf. Petit 2004: 62).

2.2 The Proto-Germanic *n*-stems

2.2.1 The masculine *n*-stems

The Germanic masculine *n*-stems directly continue the PIE hysterodynamic type. Of all the Germanic dialects, Gothic and Old High German are most conservative. They clearly show ablaut of the suffix, preserving *e*-vocalism in the genitive and dative singular, *o*-vocalism in the other cases. The *o*-grade became intrusive in all Germanic dialects, especially Nordic and Anglo-Frisian, and spread to the oblique cases in both the singular and the plural. The difference between the nominatives ON *-i* and OHG *-o* seems to indicate that Germanic preserved both *-*ēn* and *-*ōn*.

	PGm.	**Gothic**	**ON**	**OHG**	**OE**
nsg.	*-*ōn*, *-*ēn*	*guma*	*gumi*	*gomo*	*guma*
gsg.	*-*enaz*	*gumins*	*guma*	*gomen*, *-in*	*guman*
dsg.	*-*ini*	*gumin*	*guma*	*gomen*, *-in*	*guman*
asg.	*-*anun*	*guman*	*guma*	*goman*	*guman*
npl.	*-*aniz*	*gumans*	*gum(n)ar*	*gomon*, *-un*	*guman*
gpl.	*-*anan*	*gumane*	*gum(n)a*	*gomōno*	*gumena*
dpl.	*-*ammuz*	*gumam*	*gum(n)um*	*gomōm*	*gumum*
apl.	*-*anuns*	*gumans*	*gum(n)a*	*gomon*, *-un*	*guman*

The invisibility of the zero-grade in the material presented here is in stark contrast with the extra-Germanic evidence. The Sanskrit amphidynamic and hysterodynamic paradigms have zero-grade in the weak cases. In Germanic, the gsg. *-*n-os* was replaced by *-*en-os*[18,19], the gpl. *-*n-om* by *-*on-om*.[20] The Old Norse plurals with optional *n*, e.g. *gumnar*, may have undergone syncope (cf. ON *himinn*, dat. *hifni* m. 'sky, heaven' < **heminaz*, **heminai*), and therefore do not necessarily attest to a zero-grade suffix. The apl. *-*n-ns* was similarly replaced by *-*on-ns*. The dpl. in *-*mis*[21], an ending that has no Sanskrit equivalent[22], probably had a zero-grade as well, viz. *-*n-mis*. Only Gothic has *-am*, which must be derived from an *o*-grade form *-*on-mis*. The other dialects with *-um* directly point to *-*ummiz* < *-*n̥-miz*.[23]

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[18] Cf. Prokosch 1939: 252.

[19] This ending can probably not be directly compared to the formally identical *n*-stem genitives Greek -ένος and Arm. *-in*, which are due to independent analogies (Matzinger 2002: 69-70).

[20] The discrepancy between Gothic *-e*, on the one hand, and ON, OE *-a*, OHG *-o* on the other is a result of the loss of the original ending *-*an* < PIE *-*om* in these languages, which induced the analogical spread of gpl. ending of other stem types. In Gothic, this was the gpl. *i*-stem ending *-e* < *-*ejan* < *-*ei-om* (Kortlandt 1978). ON *-a*, OHG *-o* is the thematic ending *-*ōan* < *-*oHom* / *-*eh$_2$-om*.

[21] I reconstruct *-*miz* < *-*mis* on the basis of ON *tveim(r)*, OE *twǣm* dpl. 'two' < **twaimiz*.

[22] But cf. Lith. ipl. *-imis*.

[23] The development of *-*nm*- to *-*mm*- is paralleled by OHG *hamma*, OE *ham* f. < **ḱonh$_2$-meh$_2$*- (cf. Gr. κνήμη 'shin') and OFri. *omma* m. 'breath' < **amman*- < **h$_2$en-mon*- (= OIr. *animm*, *anman* 'soul').

2.2.2 The feminine *n*-stems

As opposed to the masculine *n*-stems, the feminine *n*-stems have no ablaut of the suffix, showing *-*ōn*- in all case forms. The generalization of **ō*, though, does not reflect the original PGm. situation. Given the transfer of some old PIE h_2-stems to the feminine *n*-stems, e.g. Go. *qino* (cf. OCS *žena*, OIr. *ben* 'woman' < *g^wén-h_2, *g^wn-éh$_2$-s*) and *tuggo* 'tongue' (cf. Lat. *lingua* < *$d\underset{\circ}{n}ǵ^h$-ueh$_2$-), the loss of the ablaut can be ascribed to the Germanic amalgamation of the feminine *ōn*- and *eh*$_2$-stems. This amalgamation must have occurred at a relatively late stage, because even in synchronic Gothic there are feminines that vacillate between the *ō*- and *ōn*-stems, e.g. *bandwo*, dsg. *bandwai* f. 'sign', *daura·wardo*, dsg. *daura·wardai* f. 'gatekeeper'.[24] The merger of Pre-Gm. **ā* and **ō*, by which the PIE nominatives *-*ō* and *-*eh*$_2$ became identical, must be regarded as the *terminus post quem* of the development.[25]

Another indication that the *ōn*-stems were created by the addition of an *n* to the h_2-stems comes from the Germanic *īn*-stems, which have arisen by the addition of the same suffix to the PIE *ih*$_2$-stems.[26]

	PGm.	**Go. *ōn*-stems**	**PGm.**	**Go. *īn*-stems**
nsg.	*-*ōn*	*qino* 'woman'	*-*īn*	*bairandei* 'carrying'
gsg.	*-*ōnaz*	*qinons*	*-*īnaz*	*bairandeins*
dsg.	*-*ōni*	*qinon*	*-*īni*	*bairandein*
asg.	*-*ōnun*	*qinon*	*-*īnun*	*bairandein*
npl.	*-*ōniz*	*qinons*	*-*īniz*	*bairandeins*
gpl.	*-*ōnan*	*qinono*	*-*īnan*	*bairandeino*
dpl.	*-*ōmmiz*	*qinom*	*-*īmmiz*	*bairandeim*
apl.	*-*ōnuns*	*qinons*	*-*īnuna*	*bairandeins*

Since the *ōn*-stems are of recent coinage, it must be assumed that, before the merger with the **eh*$_2$-stems, the feminine *n*-stems were formally identical with the masculine stems in *-*ōn*, including the ablaut of the suffix.

2.2.3 The neuter *n*-stems

The neuter *n*-stems are relatively infrequent in Germanic, e.g. Go. *auga·dauro* 'window', *barnilo* 'child', *kaurno* 'grain', *þairko* 'hole', ON *bjúga* 'sausage', *hnoða* 'clew'. The category nevertheless takes a prominent position, because it is well represented in the names for body parts, e.g. Go. *augo*, *auso*, *hairto*, ON *auga*, *eyra*, *hjarta*, OHG *auga*, *ōra*, *herza*, *wanga*, etc. In Old Norse, this semantic class is still an open category; new body part

[24] Streitberg 1909: 111; Van Hamel 1923: 96.

[25] There is a parallel in Tocharian B, where some *ā*-stems (e.g. *kantwo* 'tongue' < *$dnǵ^h$-ueh$_2$-) shifted to the *ōn*-stems, a development that was likewise facilitated by the merger of the nominatives *-*ā* and *-*ōn* into ToB *-o* (cf. Hilmarsson 1988: 506).

[26] This extension may have taken place in the weak adjectives, where a weak ending had to be created to contrast with the strong endings. This probably happened according to the proportion *-*os* : *-*eh*$_2$ / *-*ih*$_2$ = *-*ēn* / *-*ōn* : x.

designations could be incorporated in it, as is proven by the variation of ON *strjúpa* n. besides *strjúpi* m. 'throat', Sw. *fot·bjälle* n. 'ankle' besides Icel. *bjalli* m. 'knoll, hill', Sw. *tumme* n. besides m. 'thumb'.[27] Still, the seed from which this category could grow must have lain in the Indo-European proto-language itself, cf. Skt. *ákṣi*, gen. *akṣnás*, loc. *akṣán* n. 'eye' < *$h_3ek^w(-n)$-, Lat. *inguen* n. 'loin' < *$h_1(e)ng^w$-$n̥$, etc.

Formally, the Germanic neuters differ from the masculine *n*-stems only in the nominative and accusative: in the singular, the original ending *-*un* < *-$n̥$ was replaced by *-*ōn* (≠ PGm. *-*ō* < PIE *-*ōn*)[28, 29]; in the plural, the oldest ending *-*ōn* was supplanted by *$ōn$-eh_2 (cf. Skt. -*āṇi* < *-$ŏn+h_2$), giving Go. -*ona*.

	PGm.	**Gothic**	**ON**	**OHG**	**OE**
nasg.	*-*ōn*	*augo*	*auga*	*ōga*	*ēage*
gsg.	*-*enaz*	*augins*	*augu*	*ōgen*, *-in*	*ēagan*
dsg.	*-*eni*	*augin*	*augu*	*ōgen*, *-in*	*ēagan*
napl.	*-*ōnō*	*augona*	*augu*	*ōgun*, *-on*	*ēagan*
gpl.	*-*anan*	*augane*	*augna*	*ōgōno*	*ēagena*
dpl.	*-*a(m)miz*	*augam*	*augum*	*ōgōm*	*ēagum*

The identicality of the neuter and the masculine genitive is relatively recent, and results from the replacement of gsg. *-*n-os* by *-*en-os* in the amphidynamic type. In the neuters, the ending *-*en-os* is the regular proterodynamic ending.

The occurrence of the zero-grade suffix in Go. npl. *namna*, gpl. *namne*, dpl. *namnam* has a different reason. These forms can be explained on the basis of the original singular *$h_3nh̥_3$-$mn̥$ (cf. ON *nafn*), or they may be due to the influx of static heteroclitics into the neuter *n*-stems, cf. Go. *wato*, dpl. *watnam*, ON *vatn* n. 'water' < PIE *uód-r, gen. *uéd-n-s*.

2.3 The origins of the inflectional types

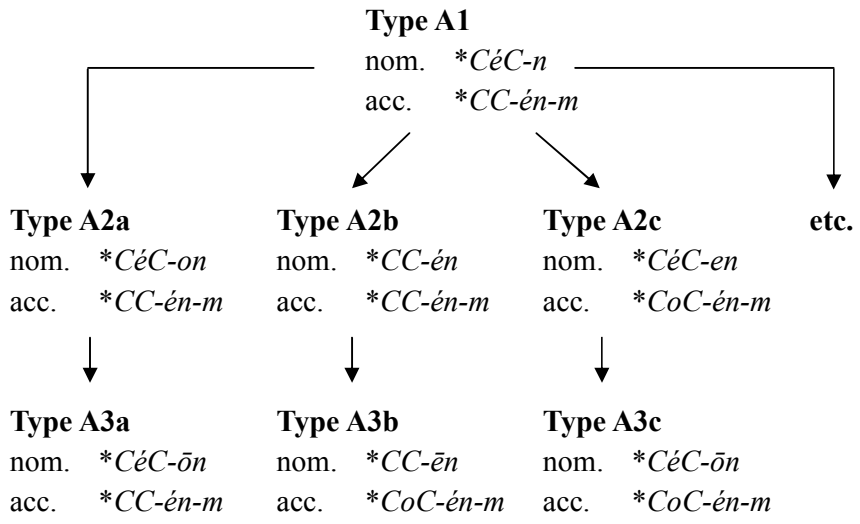
The historical relation between the ablaut of the different inflectional ablaut types was clarified by Beekes in *The origins of the Proto-Indo-European nominal inflection* (1985). Beekes' explanation revolves around the observation that the Proto-Indo-European *e* and *o* grades are at least partially in complementary distribution: while *e* occurs under the stress more often than not, *o* is frequently found in unstressed position, cf. Gr. πατέρα : εὐ-πάτορα. To account for this morphophonemic distribution, Beekes argued that *o* had developed out of unstressed *e* at some point in Pre-Proto-Indo-European. This explanation requires three different stages. In the oldest stage (A1), the full-grade and the accent still coincided: when a syllable was stressed, it automatically received an *e*-grade. In the second stage (A2), the full-grade analogically spread to unstressed syllables. Under those circumstances, it surfaced as or

[27] Hellquist 1026.
[28] Boutkan 1995: 285.
[29] PGm. *-*ōn* has been identified as the collective ending PIE *-*ōn*, comparable to e.g Gr. -ωρ in ὕδωρ n. 'water' (Harðarson 2005: 217 fn.), but the retention of the final nasal into Proto-Germanic is a serious complication.

developed into *o*. In the final stage (A3), the *e*-grade again spread to unstressed syllables, but was no longer modified into *o*.

Beekes' diachronic analysis of the PIE vocalism put the correlation between the amphidynamic and hysterodynamic inflectional types in a different light. In the oldest Indo-European dialects, the two types were distinguished from each other in such a way that the amphidynamic type had unstressed **ŏ*, the hysterodynamic type stressed **ḗ*, cf. Skt. *rā́jā*, *rā́jānam* < **Hrḗǵ-ōn*, **Hrḗǵ-on-m* vs. *ukṣā́* : *ukṣáṇam* < **uks-ḗn*, **uks-én-m*.[30] Within the framework created by Beekes, this contrast receives a natural explanation if one starts from a more primitive paradigm **CéC-n*, acc. **CC-én-m*. The hysterodynamic type may have arisen by the generalization of the full-grade of the suffix as early as in stage A1. It resulted into a paradigm **CC-én*, **CC-én-m*. The amphidynamic type, on the other hand, must have come about no later than in stage A2, when unstressed *e* became *o*. Apparently, the amphidynamic type generalized unstressed *o* of the suffix, viz. *CéC-on*, **CéC-on-m*. At a final stage, the vowels of the word-final nominative endings **-en* and **-on* were lengthened. This changed them into the attested forms **-ēn* and **-ōn*.

It is vital to realize that the amphidynamic and hysterodynamic types are only two of the possible modifications of the original paradigm **CéC-n*, **CC-én-m*. Several other types may have arisen at various stages.[31] A variant **CéC-ōn*, **CoC-én-m*, for instance, can theoretically have arisen by the introduction of an unstressed *e* in the root of the accusative.



The contrast between the hysterodynamic and the neuter, proterodynamic inflection is much older than the opposition of the amphidynamic and hysterodynamic type (in the narrower sense). In the hysterodynamic paradigm, the suffix of the genitive **-n-ós* has a zero-grade, while in the neuters it has a full-grade (**-én-s*). Notably, at least in the proterodynamic paradigm, the stress and the full-grade still coincide. This is a clear indication that the difference between the neuter and common paradigms dates back to stage A1.

[30] Cf. Schindler 1976; Beekes 1985; Schaffner 2001:516f.
[31] See Beekes (1985: 161) for a schematic overview.

3 The Proto-Germanic geminates

3.1 Kluge's law

A key problem concerning the differences between the typology of the PIE and the PGm. *n*-stems are the salient consonant alternations in the latter language. The alternations, as described in the introduction, are unparalleled in the Indo-European languages, and therefore require an explanation. The problem is part of one of the oldest and most debated issues in Germanic studies, viz. the rise of the Proto-Germanic geminates themselves.

It is vital to realize that Proto-Indo-European did not have geminates. It had a threeway opposition between e.g. **t*, **d* and **d^h*, but there are no indications whatsoever that it also had an opposition between long and short obstruents. On the contrary, when two identical PIE consonants collided alongside a morpheme boundary, the result seems to have been a single stop. A well-known example of this is the second person of the verb 'to be'. Morphologically the PIE form must be analyzed as **h$_1$es-si*, with the root **h$_1$es-* and the ending **-si*. Yet as Skt. *ási* and Gr. εἶ show, the *s* was shortened in the proto-language already, since otherwise we would expect Skt. ***ássi* and Gr. ***ἐσσί*. The conclusion therefore must be that consonantal length was not phonological in the Indo-European parent language.

In Germanic, on the other hand, geminates can occur anywhere, in nouns, adjectives, prepositions, but the *n*-stems as well as the second class weak verbs are the real hotspots:

- **skatta-*: Go. *skatts* m. 'money'
- **mannan-*: Go. *manna* m. 'man'
- **smakkan-*: Go. *smakka* m. 'fig'
- **snittōn-*: MHG *snitzen* 'to chop'
- **hlakkōn-*: OFri. *hlakkia* 'to laugh'
- **wikkōn-*: OE *wiccian* 'to work magic'
- **kwerru-*: Go. *qairrus* 'mild'
- **uppai*: ON *uppi*, OE *uppe* 'up'
- **ferrai*: Go. *fairra*, ON *fjarri* 'far'

In the 19th century, the Neogrammarians, among whom H. Paul and H. Osthoff, applied the comparative method to the problem of the Proto-Germanic geminates, and it was F. Kluge who in 1884, eight years after the discovery of Verner's law, published the article *Die germanische Consonantendehnung*. In this article, Kluge surveyed the abundant occurrence of geminates in Proto-Germanic, and suggested a similar origin for them as for the long resonants. Resonant geminates had already been explained by assimilation of a following nasal, cf. PGm. **fullaz* 'full' < **pl̥h$_1$-nó-s* = Skt. *pūrṇá-*.[32] The following examples of this development can be mentioned here:

- Go. *wulla*, ON *ull* f. 'wool' < **wullō-* < **HulH-neh$_2$-* ~ Skt. *ū́rṇā-* 'id.'

[32] Kluge 1884: 168.

- Go. *fairra*, ON *fjarri* 'far' < **perH-noi* ~ Lit. *pérnai* 'last year'
- OE *hyl* 'hill' < **hulli-* < **kl(H)-ni-* ~ Lat. *collis* 'id.' < **kolH-ni-* / **kl-ni-*
- Go. *þrut·fill* n. 'leprosy' < **fella-* < **pel-no-* ~ Lat. *pellis* 'id.' < **pel-ni-*
- OHG *wella* f. 'wave' < **uel-neh$_2$-* ~ Ru. *volná* f. 'id.' < **ul-neh$_2$-*
- Go. *alls* 'all' ~ Osc. *allo* f. 'all, entire' < **h$_2$el-nó-*

By comparing the Germanic evidence for geminates with the material from other Indo-European languages, it became clear to Kluge that a Germanic long stop occasionally occurs where in Indo-European an original nasal suffix can be expected. Although the examples are not very numerous, they represent material of unambiguous Indo-European origin, so that the reliablitiy of the evidence does not suffer much from this disadvantage. Consider the following examples in support of the link between Proto-Germanic geminates and Indo-European *n*-suffixes[33]:

- OE *botm* m. 'bottom' < **butt-* ~ Skt. *budhná-*, Lat. *fundus* < **b^{h}ud^h-no-*[34]
- Go. *diups* 'deep' < **deup^{p}a-* ~ OIr. *domain*, W *dwfn* 'deep' < **d^{h}ub^h-no-*
- OE *friccea* m. 'herald' < **frekkjan-* ~ Go. *fraihnan* 'to announce' (Skt. *praśnín-* 'herald' < **preḱ-n-*[35])
- OE *liccian* < **likkōn-* ~ Gr. λιχνέυω, Lat. *lingō* 'to lick' < **liǵ^h-n-*
- Du. *mikken* 'to aim' (assumably from older "to peer") ~ Ru. *mignut'* 'to blink, wink' < **mig^h-néh$_2$-*
- MHG *rocken*, *rucken* 'to drag, jerk' ~ Lat. *runcō* 'to weed' < **Hruk-néh$_2$-*
- OE *stoppian* 'to stop, close' ~ Skt. *stubhnā́ti* 'to stop, stupefy, to expel' < **stub^h-néh$_2$-*
- MHG *stutzen* 'to bump' < **stuttōn-* < **(s)tud-n-* ~ Lat. *tundō*
- OE *þaccian* 'to pat' < **þakkōn-* ~ Lat. *tango* 'to touch' < **th$_2$g-n-*, Gr. Hom. τέταγων 'seizing'
- Du. *wit* < PGm. **hwitta-* ~ Skt. *śvítna-* 'white' < **ḱuit-no-*[36]

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[33] Examples from Kluge (1884), Brugmann (1897: 383-4), Fick/Falk/Torp (1909); Lühr (1988: 197), Franck/Van Wijk.

[34] The form **buttma-* is a conflation of the PGm. nom. **budmēn* < **b^{h}ud^h-mḗn* (Gr. πυθμήν) and the gen. **buttaz* < **b^{h}ud^h-n-ós* (Skt. *budhná-*). See section 4.1.2 for a more detailed analysis.

[35] An objection to the connection with *abhi-praśnín-* 'inquisitive person' is the productivity of the Sanskrit suffix *-in-* as an agent marker. Like Seebold (1989: 153), I therefore think that the direct etymological link is untenable. It is more probable that *friccea* was derived from a verbal stem **frekk-* with the suffix **-jan-* as in Go. *fiskja* m. 'fisherman', *timrja* m. 'carpenter'. This stem **frekk-* must be a further non-attested allomorph of **freh-* as in Go. *fraihnan*. To assume derivation from PIE **preḱ-nó-* > Skt. *praśná-* m. 'question' (Schaffner 2001: 398) is less attractive. The connection with Lat. *praeco* 'announcer', as suggested by Seebold (l.c.), is unlikely because this word can be reconstructed as **prai-dikō* (De Vaan 2008: 169).

[36] Seebold (1989: 153) rejects this reconstruction in view of Go. *hveits* 'white' < **hwīta-*: "Nun ist Ablaut hochgradig unwahrscheinlich [...]; dagegen kommt eine Kürzung vor der Geminate sehr wohl in Betracht. Nur ist es keine Geminate aus *n*-Assimilation, sondern der Fortsetzer der alten neutralen NASg-Form (Heliand *huuitt*)." Still, this explanation does not explain why the root of Go. *hveits* 'white' < **hwīta-* has a *-t-* in the first place (see section 3.2).

On the basis of examples like the ones given above and the parallelism with the process of lengthening of the resonants, Kluge suggested that a PIE *n* was assimilated by any preceding stop, ultimately resulting in a PGm. voiceless geminate.

3.2 Shortening in over-long syllables

The problem of the Proto-Germanic geminates is complicated by the fact that after the operation of Kluge's law, geminates were shortened in over-long syllables, i.e. in syllables with long vowels and diphthongs. Under these circumstances, any Proto-Germanic geminate lost its length. There are numerous examples of this shortening, and even though correspondences with prehistoric *n*-suffixes are not always at hand, intra- and extra-Germanic cognates often forces us to reconstruct a geminate anyway because they preserve the original consonantism[37]:

Attestations	**PGm.**	**Cognates**
Go. *hʉeits* 'white'	**hwīt^{t}a-*	Skt. *śvetá-*, *śvítna-* 'white'
OE *tǣcan* 'to show'[38]	**taik^{k}jan-*	Gr. δείκνῡμι 'to show'[39]
OE *dīc* 'dam, pool'	**dīk^{k}a-*	Gr. τείχος 'wall'
ON *gróp* f. 'ditch'	**grōp^{p}ō-*	OCS *grobъ* m. 'grave'
Go. *diups* 'deep'	**deup^{p}a-*	OIr. *domain*, W *dwfn* 'deep'
OE *scǣp* 'sheep'	**skēp^{p}a-*	Go. *skaban* 'to shear'[40]
OE *huntian* 'to hunt'	**hunt^{t}ōn-*	Go. *fra·hinþan* 'to capture'[41]
ON *vǫttr* 'mitten'	**want^{t}u-*	PGm. **windan-* 'to wind'[42]
ON *knútr* 'knot'	**knūt^{t}a-*	OHG *chnodo* 'id.' < **knuþan-*

The shortening of geminates was an essential change in Germanic phonology, as it reduced the array of possible syllable structures, leaving short syllables CV̆(C)-, long syllables CV̄(C)-, CVRC-, but no over-long syllables CV̄CC- or CVRCC-. The fact that shortened geminates were not affected by Grimm's law is an indication that this process was posterior to this law. It thus seems to have formed the final step in the evolution towards Proto-Germanic phonology as we know it.[43]

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[37] In order to avoid any confusion between old singulates and shortened geminates at the reconstruction of Proto-Germanic – a distinction that often appears to be critical in Germanic etymology – the latter will henceforth be given in superscript.

[38] Unlike OE *tǣcan*, Swi. Visp. *zeixu* 'to show' has no **jan*-suffix, because then we would expect the form to have been ***zeikku* (cf. *reykku* 'to smoke' < **raukjan-*). Thus, *zeixu* directly points to PGm. **taik^{k}ōn-* from PIE **doiḱ-néh$_2$-*.

[39] Lühr (1988: 340): "Da [...] eine Wurzelform **deiĝ-* nur aufgrund des Germanischen angenommen werden müßte, empfiehlt sich eine innergermanische Herleitung des *k*-Lautes."

[40] Woods 1919: 207.

[41] Lühr 1988: 270.

[42] Lühr l.c.

[43] Beekes has defined the syllabic interchange of CV̆CC- ~ CV̄C- as a substrate marker (cf. 1999: 15), but it is actually the result of the root structure of Germanic itself.

3.3 Exceptions to Kluge's law

Kluge's law did not operate under all circumstances. We now and then find forms that have resisted the law, and in many cases, these forms must have originally had root stress. In this way, the material seems to indicate that either 1) Kluge's law only operated pretonically, or 2) Kluge's law only affected the PGm. voiced obstruents. The first explanation was given by Kluge himself, the second was furnished by Lühr (1988: 195).[44] The following instances are in support of the proposed conditioning:

- Go. *auhns*, OHG *ovan* m. 'oven' < **ufna-* < **úp-no-*
- Go. *aþn(s)* m./n. 'year' < **aþna-* < **h₂ét-no-* (cf. Lat. *annus*)
- ON *svefn*, OE *swef(e)n* m. 'sleep' < **swefna-* < **suép-no-* (cf. Skt. *svápna-*)
- ON *tafn* n. 'sacrifice, meal' < **tafna-* < **dh₂p-no-* (cf. Lat. *damnum*, Gr. δαπάνη)

Additionally, there are counter-examples that have voiced obstruents rather than voiceless fricatives. They potentially disprove Kluge's law because they are in conflict with both Kluge's and Lühr's formulation of its conditioning. However, it was demonstrated by Lühr (1988: 330ff) that many of these counter-examples must have arisen secondarily. A number of cases consist of ostensible *na*-stems that are likely to be post-Proto-Germanic thematizations to older *n*-stems with suffix ablaut. As a result, they cannot be used as evidence against Kluge's law:

- ON *hrafn*, OHG *raban* m. 'raven' < **hrabna-* to OHG *rabo* < **hraban-*
- ON *hrogn* n., OHG *rogan* m. 'fish roe' < **hrugna-* to OHG *rogo* < **hrugan-*
- MLG *brāgen* 'brain' < **brag(a)na-* to MLG *brēgen* < **bragina-* (cf. Gr. βρεχμός 'forehead, skull'[45]

Other supposed counter-examples can be explained away by assuming that the *n*-suffix was added to the root in late Proto-Germanic, i.e. after the great sound shifts including Kluge's law. The *na*-suffix appears to have been reasonably productive. I think the following instances must be analyzed as having a productive *n*-suffix:

- ON *gaupn* f. 'palm' < **gaupnō-* to OE *gēopan* 'to pick up' < **geupan-*
- ON *teikn*, OHG *zeihhan* n. 'sign' < **taik-na-* to OE *tǣcan* < **taikᵏjan-*
- G *trocken* 'dry' < **druk(k)na-* to G Bav. *trikken* 'to dry'[46] < **drukkjan-*[47]

Much of the remaining evidence against Kluge's law can be tackled by assuming that Kluge was right about his accentual conditioning, and that the assimilation of *n* was blocked by root

[44] Lühr (1988: 192) consequently also differed from Kluge in that she rejected the accentual conditioning of the law: "[es] erscheint ratsam, den Akzent bei der Beschreibung der *n*-Gemination außer Betracht zu lassen, auch wenn sich mit Hilfe des Akzentes eine Reihe von Gegenbeispielen leichter erklären ließe."
[45] The suffix ablaut presupposes an old *n*-stem (Lühr 1988: 332).
[46] Form taken from Bachmann (2000: 185).
[47] In view of Du. *droog* and OE *drȳge* 'dry', the original root-final consonant must have been **k* or **gʰ-*. For this reason, *trikken* must be derived from **drukkjan-* with a geminate.

stress. This explanation is particularly attractive in those cases that have a full-grade of the root. Barytonesis must at any rate be assumed for words that originally had a static inflection in Proto-Indo-European, as the root of static nouns had a stressed full-grade throughout the paradigm. The word for 'water', for instance, may have had a static paradigm **uód-r*, gen. **ué̯d-n-s*.[48] In such nouns, the absence of geminates is expected in view of the original accentuation. Consider the following instances with full-grade roots:

- Go. *rign* n., OHG *regan* m. 'rain' < **regna-* < **Hrégʰ-no-*?
- ON *vagn*, OHG *wagan* m. 'wagon' < **wagna-* < **uógʰ-no-*
- ON *vatn*, Go. *wato*, dpl. *watne* n. 'water' < **watōr*, **watn-* < **uód-(ō)r*, **ué̯d-n-s*

Another important exception to Kluge's law consists of **s* not being affected. This is evidenced by a number of cases that show the effects of Verner's law, but not of Kluge's law:

- Go. *razn* n. 'house' < **razna-* < **Hros-nó-*
- OHG *zwirn* m. 'double thread' < **twizna-* < **duis-nó-*
- OE *lirnian* 'to learn' < **liznan-* < **lis-néh₂-* (middle, see section 6.4)
- ON *ǫnn* f. 'work' < **aznō-* < **h₂es-néh₂-*

The fact that **s* was not affected by Kluge's law has a bearing on the identification of the exact phonetic process that gave rise to the Proto-Germanic geminates. Probably, the phonetic motivation for this exception was that sibilants could not assimilate a following *n*, not even when they were voiced by Verner's law. As PGm. **f*, **þ* and **h* remained untouched as well, the conclusion may be that Kluge's law did not affect fricatives. This again implies that PGm. **b*, **d* and **g*, which traditionally are reconstructed as the voiced fricatives **ƀ*, **đ* and **ǥ*, were, in fact, not fricatives at all, but voiced plosives. For the possible consequences of this hypothesis, see the next section.

3.4 Different configurations of Kluge's law

There are roughly three different variants of Kluge's law. The differences between these variants are centered around two issues. The first issue consists of the question of how exactly Kluge's law is to be interpreted phonetically: were the Proto-Germanic geminates caused by assimilation of the *n*-suffix, or did the nasal simply double a preceding obstruent before it was lost? The second issue is about chronology. Traditionally, Kluge's law is thought to have operated more or less between Grimm's law and Verner's law. However, it has been argued by Kortlandt some years ago, that Verner's law must have been anterior to Grimm's law. Accordingly, Kortlandt proposed to reconsider the position of Kluge's law in this new configuration.

[48] Cf. Beekes 1995: 188.

3.4.1 F. Kluge

When he formulated his law, Kluge assumed that the process of Proto-Germanic gemination came about by the assimilation of a following *n*. On the basis of such exceptions as **swefna-* 'sleep, **ufna-* 'oven' and **aþna-* 'year', which show no signs of the operation of Verner's law, Kluge further argued that this process only took place pretonically. The case of **swefna-* is particularly strong, because its original barytonesis is supported by extra-Germanic evidence, viz. Skt. *svápna-*, Gr. ὕπνος and Alb. *gjumë*.

What Kluge basically observed was the concurrence of *n*-assimilation with Verner's law. This had an important chronological implication. Since both PIE voiceless and voiced aspirated stops merged into a PGm. voiceless geminate, Kluge supposed that Verner's law preceded the assimilation of *n*. He further situated this assimilation between the first and the second phase of Grimm's law, i.e. the lenition of the PIE plain stops to voiceless fricatives and the devoicing of the PIE voiced unaspirated stops respectively. Thus, Kluge arrived at the following chronology:

	Du. *wit*	E *bottom*	MHG *stutzen*
PIE	**ḱuit-nó-*	**b^{h}ud^h-nó-*	**stud-néh$_2$-*
Lenition			
	**hwiþ-ná-*	**þuđ-ná-*	**stud-nṓ-*
Verner's law			
	**hwiđ-ná-*	**þuđ-ná-*	**stud-nṓ-*
Assimilation			
	**hwiđđa-*	**þuđđa-*	**studdō-*
Occlusivation			
	**hwidda-*	**þudda-*	**studdō-*
Devoicing			
PGm.	**hwitta-*	**butta-*	**stuttō-*

A possible objection to Kluge's chronology would be that it requires an additional occlusion rule for the change from **-đđ-* to **-dd-*. A more critical difficulty is the phonetic improbability of a voiced fricative **đ* becoming a long voiced fricative **đđ* by nasal *assimilation*. This scenario implies an intermediate stage with a nasalized voiced fricative **đ̃* that would hardly result in consonantal length. Kluge's chronology can, of course, be bolstered against such criticism by assuming that the occlusivization occurred exactly by the nasalization of **đ*.

3.4.2 R. Lühr: assimilation or lengthening?

Kluge's law has been formulated somewhat differently by Lühr in her important book *Expressivität und Lautgesetz*. Lühr accepts Kluge's chronology, but instead of nasal assimilation she assumes lengthening proper (i.e. gemination in the simplest sense) before a nasal that was subsequently lost: **-đn-* > **-dn-* > **-ddn-* > **-dd-*. Although this alternative is chronologically unproblematic, it raises a phonetic objection. If lengthening did take place

before *n*, the question arises why this lengthening did not occur before **m* as well. A further objection against pure lengthening consists of the fact that *s* and *z* were not affected by Kluge's law. This is perfectly understandable within the assimilation framework: PGm. **b*, **d*, **g* must have been occlusive prior to their assimilation of *n*, but since there is no way of occlusifying **z*, the *n* could not be assimilated. Such a solution is unavailable if we assume that *n* simply triggered lengthening of the preceding obstruent.

Another problem facing Lühr's modification of Kluge's law is that it remains difficult to explain why the voiced fricatives **ƀ*, **đ* and **ǥ* were doubled, while the voiceless fricatives **f*, **þ* and **h* were not. Lühr (1988: 195) solved this problem by supposing that, in Germanic, the voiced fricatives had greater "consonantal strength" than the voiceless fricatives, thus being more susceptible to gemination.[49] The problem with this solution, however, is that it cannot account for the fact that **z* just as much as **s* remained unaffected by Kluge's law, even though it clearly must have been a voiced fricative.

3.4.3 F. Kortlandt

A radically different chronology was proposed by Kortlandt (1991). Kortlandt had already advocated in 1981 that Verner's law preceded Grimm's law. He pointed at the improbability that the PIE voiced aspirates ever yielded voiced fricatives in Proto-Germanic (PIE $*b^h$, d^h, g^h = OHG *b̥, d̥, g̊*), at the evidence for glottalization in English, dialectal Danish (*vestjysk stød*) and at the wide distribution of preaspiration in Nordic (cf. Far. *eta* 'to eat' = [e͡a:ʰta]). In view of the supposed seniority of the plosives over the voiced fricatives in the Germanic dialects, Kortlandt argued that Verner's law preceded Grimm's law, postulating that PIE plain stops and the voiced aspirates merged into voiced stops at an early stage. The product of this merger remained distinct from the PIE voiced stops, because the latter were preglottalized. In 1991, Kortlandt reconfigured Kluge's law according to this chronology:

> "On the one hand, the rise of the new geminates was posterior to Verner's law because it affected the voiced reflexes of the PIE. voiceless plosives in the same way as the original aspirates. On the other hand, the devoicing of the geminates suggests that it was anterior to Grimm's law, or at least to the 'Medienverschiebung', as Kluge pointed out already. The logical conclusion is that Verner's law preceded Grimm's law[...]" (Kortlandt 1991: 3)

Although Kortlandt's configuration hinges on the acceptance of the glottal stops for Proto-Germanic, it provides an elegant alternative to the traditional model, explaining the material by a minimum of sound laws:

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[49] "Vergleicht man [...] die Lautverhältnisse bei der westgermanischen Konsonantengemination, so sind gegenüber den Beispielen mit der Verdoppelung von ursprünglich stimmhaften Reibelauten nur ganz wenige mit stimmlosem Frikativ vorhanden. Das spricht für die Annahme, daß im Germanischen eine sprachspezifische Stärkerelation mit "voiced fricatives stronger than voiceless fricatives" geherrscht hat. Trifft dies zu, so sind die stimmhaften Reibelaute **g ƀ đ* zunächst verdoppelt und dann wie die durch die westgermanische Konsonantengemination verursachten oberdeutschen Kontinuanten der verdoppelten stimmhaften Reibelauten zu stimmlosen Verschlußlauten geworden [...]" (1988: 195)

PIE	**ḱuit-nó-*	**bud-ná-*	**stuˀd-néh₂-*
Verner's law			
	**kwid-ná-*	**bud-ná-*	**stuˀd-nṓ-*
Assimilation			
	**kwidda-*	**budda-*	**stuˀddō-*
Grimm's law			
PGm.	**hwiˀtta-*	**buˀtta-*	**stuˀttō-*

What can be inferred against Kortlandt's chronology is that the glottalic articulation of the geminates, which Kortlandt identifies with e.g. the *vestjysk stød* and Icelandic preaspiration in e.g. *botn* [b̥ɔʰ(t)n̥] 'bottom' < **buttma-*, must be secondary in those cases where no PIE glottalized stop is involved. A strong argument in favor of Kortlandt's chronology, however, consists of the different susceptibility of the voiceless fricatives and the voices obstruents to *n*-assimilation. Since PGm. **b*, **d* and **g* were affected by Kluge's law, whereas the fricatives **s*, **z*, **f*, **þ* and **h* were not (see section 3.3 and 3.4.2), it is likely that **b*, **d* and **g* had a plosive articulation. This is very much in accordance with Kortlandt's reconstruction of Proto-Germanic phonology.

4 Kluge's law and the *n*-stems

In the preceding chapter, it has been argued that there is a limited number of cases in which Proto-Germanic geminates correspond to nasal suffixes in other Indo-European languages. Still, even though the corpus of such correspondences is small, this is sufficiently compensated by the reliability of examples such as PGm. **butt-* ~ Skt. *budhná-*, Lat. *fundus* 'bottom', etc. The critics of Kluge's law have nevertheless always latched onto the scarcity of the extra-Germanic evidence to reject the sound law altogether (see section 6.2). These critics always fail to recognize the *internal* evidence for Kluge's law in Germanic, however. Indeed the strongest proof, so it happens, comes from the Proto-Germanic *n*-stems themselves and their characteristic consonantal interchanges, as Kluge already pointed out himself in 1884:

> "Was die theorie des in der gemination untergegangenen *n* zur gewissheit macht, ist die oben unter III B behandelte erscheinung wonach geminata in schwach flektierenden nominalstämmen besonders häufig auftritt." (1884: 169).[50]

Kluge also pointed at the rise of root allomorphy in the *n*-stems; while the cases with full-grade suffixes remained unaffected by Kluge's law, the suffixal nasal was assimilated in cases with a zero-grade of the suffix and a stressed ending. This brought about a paradigm in which some cases received a geminate, and others did not:

> "Wenn neben ahd. *chnoto* (*chnodo*) das ags. *cnotta* steht, so lässt sich unschwer erkennen, dass das ags. wort das *a* der schw. declination vom nominativ **cnoða* (acc. **cnoðan*) bezogen hatt, da germ. *knudn-* in der schwächsten stammform der schw. declination (got. *aúhsnê*, *abnê*) zu einem cons.stam *knutt-* hätte führen müssen." (1884: 169)

Lühr (1988: 191) further pointed to the fact that *n*-stems with roots in both stops and resonants were affected in the same way and in the same morphological environments, cf. OHG *chnodo* : OE *cnotta* m. 'knot' < **ǵnút-ōn*, **ǵnut-n-ós*, OFri. *stera* : OE *steorra* m. 'star' < **$h_2$stérōn*, **h_2st(e)r-n-ós*.[51] This parallelism confirms Kluge's view that the gemination of stops is the result of the same process as the doubling of resonants, cf. **fulla-* 'full' < **plh_1-nó-*, **wullō-* 'wool' < **HulH-nó-*. As a result of this mechanism, which translated the old PIE suffixal ablaut into a kind of *grammatischer Wechsel* between roots with and without geminates, the consonant alternations as described in the introduction receive a logical explanation.

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[50] Accepted: Lühr (1988: 191), Kortlandt (1991: 1).

[51] "*n*-Stämme mit **ll* < **l-n*, **nn* < **n-n* verhalten sich morphologisch wie die *n*-Stämme mit Doppeltenuis."

4.1 Gemination in the paradigm

In order to fully understand the allomorphy caused by Kluge's law, it is important to exactly determine which cases of the Proto-Germanic *n*-stem paradigm did, and which cases did not receive a geminate under Kluge's law. The first condition for the operation of this law, of course, was that the *n* was in direct contact with the final obstruent of the root. In other words, it had to have a zero-grade. On the basis of the Indo-European situation (see the preceding chapter), geminates can be expected in the genitive singular in **-n-ós*, the genitive plural in **-n-óm* and the accusative plural in **-n-ńs*. The zero grade was also found in the dative plural in **-n-miz*, but because of the vocalization of the *n*, by which this ending developed into PGm. **-ummiz*, Kluge's law could not operate.

For determining the exact location of the geminates, however, we do not have to rely on the Proto-Indo-European reconstruction only. Germanic, too, offers some clues on where in the original paradigm we may expect a long stop, though it must be said that the evidence does not grow on trees. Most of the Pre-Germanic zero-grade suffixes were, of course, assimilated precisely by Kluge's law, and subsequently replaced by analogical full-grades from other cases. Since the law wiped away its own traces in this way, it is difficult to determine on the basis of the Germanic material exactly where it operated. Nevertheless, relevant information can be obtained from two sources. The first source consists of formations that split off from the original paradigm, thereby preserving the original stem form of a particular case. The second source consists of *n*-stems that for phonetic reasons responded to Kluge's law in a special way. With these pieces of information, we can obtain valuable data as to where exactly in the paradigm a geminate can be expected.

4.1.1 Paradigmatic split-offs

A survey of the *n*-stems in the different Germanic dialects reveals that *n*-stems are often accompanied by other formations with the same meaning, such as *a*- or *u*-stems. The best way to deal with this variation is to assume that the *n*-stem paradigm gave rise to a number of off-shoots, the stem of each particular off-shoot depending on the case from which it sprouted. As we may expect, there also appears to be a correlation between the different stem variants and the presence or absence of gemination in the root. The result of this double correlation is that these derivations provide essential intra-Germanic information on the consonantal allomorphy of the original *n*-stem paradigm. Since the outcome is generally in keeping with our expectations on the basis of the Proto-Indo-European situation, the reconstruction of the Pre-Germanic *n*-stem paradigm becomes methodologically sound.

The possibility of using the *n*-stem split-offs at the reconstruction of the *n*-stems was already suspected by Neogrammarians such as Osthoff and Van Helten, but a systematic analysis was for the first time performed by Lühr in *Expressivität und Lautgesetz* (1988). Lühr discussed most of the correlations in section *Übertritt in andere Flexionsklassen* (C, III), and the configuration presented in the following sections to a large extent concur with this treatment.

4.1.1.1 Genitive split-offs

The most prevalent *n*-stems off-shoots are doubtlessly the *a*-stems. This may be demonstrated by the following cases, which all attest of a clear correlation between the *n*- and *a*-stems:

- MHG *swirre* m. 'post' → OE *swe(o)r* m. 'pillar'
- ON *hrími* m. 'rime' → *hrím* n. 'id.'
- OHG *scorro* m. 'rock' → MHG *schor* m. 'id.'
- Far. *snípi* m. 'pointy nose' → *snippur* m. 'tip'
- OE *twiga* m. 'twig'→ *twig* n. 'id.'
- Far. *knúki* m. 'steep rock' → *knúkur* m. 'id.'
- MDu. *kratte* m. 'crate' → OE *cræt* n. 'cart'
- Far. *labbi* m. 'paw' → Nw. dial. *labb* m. 'id.'
- MLG *tagge* 'twig' → OSw. *tagger* m. 'spike'
- ON *hroki* m. 'pile' → ON *hrokr* m. 'id.'
- MHG *klotze* m. 'id.' → MHG *kloz* m. 'lump'
- MDu. *knoppe* m. 'id.' → OHG *chnopf* m. 'knot'
- ON *koddi* m. 'pillow' → OE *cod* m. 'bag', etc.

Because of the frequent occurrence of geminates in this kind of doublets, it was already suggested by Osthoff (1882: 300fn) that the transfer from the weak to the strong declension was made in the genitive singular. This case is indeed perfectly understandable as the locus for such a cross-over, because it originally had an ending **-n-ós*, which in Proto-Germanic gave rise to a geminated root ending in **-az*. The motivation for the subsequent thematization is obvious: the geminated genitive no longer had the appearance of an *n*-stem form, but rather looked like the nominative of an *a*-stem.[52]

The gpl. may also have served as a source for secondary *a*-stems. It was demonstrated by Kortlandt (1978; 2007) that Lith. gpl. *-ų*, OCS *-ъ* and Skt. *asmā́kam* 'ours' point to a PIE gpl. ending **-om* rather than **-ōm*, which represents **-oHom* from the *o*-stems. This ending **-om* developed into **-an* in Proto-Germanic. After it was lost in the separate daughter languages, the ending was replaced by *-e* < **-ei-om* in Gothic, and by **-ōan* from **-oHom* / **-eh₂-om* in North-West Germanic.[53] Accordingly, the original *n*-stem gpl. must be reconstructed as **-n-óm*, giving rise to a PGm. ending **-an* preceded by a geminated root.

[52] Lühr does not discuss this particular source for thematizations, because, in accordance with Schindler's ideas on PIE morphology, she reconstructs the genitive ending as **-es* > PGm. **-iz*. For the same reason, Schaffner (2001: 549, 553, 565), too, expects a genitive **-CC-iz*, and not **-CC-az*. There are two reasons, however, why the reconstruction of the ending **-az* must be preferred over **-iz*. First, if the genitival *n*-stem ending have been **-iz*, we should see more *i*-stem derivations with *i*-mutation. This is not the case, however. To the contrary, there is strong evidence for *a*-mutation in many degenitival thematizations, e.g. OE *swe(o)r* m. 'pillar' < **swirra-* beside MHG *swirre* 'post', G *Zweck(e)* m. 'twig' < **twikka(n)-* vs. OE *twig* n. 'twig' < **twigga-*. Second, the difference between the OHG genitive *hanen* and the dative *henin* must continue the opposition between the PGm. genitive **-enaz* and the dative **-ini* (Prokosch 1939: 252-253; Kortlandt 1993: 20; Boutkan 1995: 282-4).
[53] Cf. Boutkan 1995:140.

Just like the singular, this plural genitive is bound to have been a source for many thematic split-offs.[54]

An important characteristic of the *a*-stem split-offs is that they tend to vacillate between the masculine and neuter gender. With this tendency, the *n*-stem split-offs are in stark contrast with the primary *a*-stems, that only rarely change their gender.

- MDu. *kratte* m. → ON *kartr* m. ~ OE *cræt* n.
- Da. *tvige* 'twig' → G *Zwick* m. ~ OE *twig* n.
- OHG *rogo* m. 'roe' → ON *hrogn* n.
- OHG *rabo* m. 'raven' → ON *hrafn*, OE *hræmn*, OHG *raban* m., etc.

It is perhaps conceivable that the gender difference may have been called forth by the inflectional difference between the gsg. in **-az*, which looks like a masculine nominative, and the gpl. in **-an*, which is identical to the neuter nasg. The apparently arbitrary difference between ON *kartr* m. and OE *cræt* n. can be explained in such a way. Certainly, not all neuter split-offs would have to be derived from the gpl. Different factors may have played a role at the determination of choice between the masculine and neuter gender. The gender may also have been selected on semantic grounds. This has happened, for instance, in the case of ON *hrafn* m. 'raven', for which the neuter gender is unsuitable.

4.1.1.2 Accusative split-offs

A different derivational link is the frequent occurrence of *u*-stems besides *n*-stems, as was recognized by Van Helten (1905: 225; also Lühr 1988: 200). Skt. *ukṣán-* 'ox', for instance, reappears as a *u*-stem in the Gothic dative and accusative *auhsau*. According to Van Helten, the occasional transfer to the *u*-stems was triggered by the dative and accusative plural. This is evinced by certain *nu*-stems in Old Norse, e.g. *bjǫrn* m. 'bear' < **bernu-*, *ǫrn* m. 'eagle' < **arnu-* besides OE *bera* m. < **beran-* and ON *ari* m. < **aran-*, which Van Helten derived from old *n*-stem accusatives in **-nuns* or **-nunz* < **-n-ns*, viz. **b^{h}ér-n-ns* and **h$_2$ér-n-ns*.

There are a number of formations that seem to contradict Van Helten's scenario. These are *u*-stems that clearly show the operation of Kluge's law, e.g. ON *bǫlkr* 'beam' < **balk^{k}u-*, ON *gǫltr* 'boar' < **galt^{t}u-*, ON *hǫttr* 'hat' < **hattu-*, ON *knǫttr* 'ball' < **knattu-* and *svǫppr* 'mushroom' < **swamp^{p}u-*. As Lühr rightly contends in *Expressivität und Lautgesetz* (1988: 200), these formations, too, must have sprouted from the accusative plural. The only difference with forms like **bernu-* appears to be the oxytone accentuation. Since this pre-Germanic case ending **-n-ṇ́s* happens to be in perfect keeping with Skt. the acc.pl. *ukṣṇás* 'oxen', it is likely to be old.

Whether the ungeminated forms point to a parallel barytone accentual pattern is uncertain. The full-grade root of **bernu-* certainly cannot have originated in the accusative

[54] According to Osthoff (1882: 301), the *a*-stem ON *knútr* 'knot', which coexists with the *n*-stems OHG *chnodo* and OE *cnotta*, was created to the original gpl. *knúta* < **knūt-n-ṓn*, which resembles the thematic gpl., e.g. *daga*. Since, however, the original ending must have been **-an*, this type of analogy can no longer be maintained.

plural case, and with the limitation of similar formations to North Germanic, the reconstruction of a barytone accusative plural remains doubtful. The problem is that the *bernu*-type, unlike *u*-stems with gemination, may have arisen after the operation of Kluge's law, which increases the chance that they are analogical creations.

4.1.1.3 Dative split-offs

There is marginal evidence for split-offs from the dsg. case in **-ini* < loc. **-én-i*. A relatively certain instance is ON *heðinn*, OE *heden* m. 'hood, chasuble' < **hadina-*. It is likely that this formation, with its combination of the **-in-* suffix and the operation of Verner's law, continues a dative **hadini* < **kHt-én-i* of an *n*-stem **haþan-* (cf. ON *hǫttr* m. 'hat' ← apl. **hattuns*). Another example of such a dative-born formation is Go. *himins*, ON *himinn* 'heaven', which is based on the dative **hemini* < **h₂ḱem-éni-* of the lost *mn*-stem **ahman-*, akin to Skt. *áśman-* m. 'stone, sky'. The pre-existence of this *mn*-stem is confirmed by the formation OE *he(o)fon*, OS *heƀan* 'id.' < **hemna-*, which appears to have developed out of a genitive **hemnaz* (see p. 142).

Van Helten (1905: 225) pointed out that the dpl. served as a potential source of *u*-stem derivatives, reconstructing the ending as **-ummiz* <**-n̥-mis*.[55] The vocalization of the *n* and its subsequent assimilation by the following *m* in this ending gave rise to a case form that no longer had the appearance of an *n*-stem. This is likely to have been the trigger for the transfer to the *u*-stems. It is plausible, as Van Helten argued, that Go. *auhsau*, the oblique form of *auhsa* 'ox', is to be understood in such a way. Note that the actual ending **-ummiz* can be retrieved from OE dpl. *oxum*, which occurs besides the more regular, and therefore more recent form *oxnum*.[56]

Other possible examples are ON *stjǫlr* 'tail' < **stelu-* besides OE *ste(o)la* m. 'stalk' < **stelan-* and perhaps ON *spjǫr-* 'spear' < **speru-* besides ON *sparri*, OHG *sparro* 'beam' < **sparran-*. An additional case may be represented by the cluster of stems as obtained from ON *límí* m. 'twig' < **līman-*, ON *limr* (apl. *-i*, *-u*) m. 'limb, twig' < **limu-*, ON *lim* nf. 'twig', Icel. *lim* n. 'foliage', OE *lim* n. 'limb, twig'. The different formations presuppose an old *mn*-stem **līmō*, gsg. **limenaz,* dpl. **limummiz*.

4.1.2 Special cases

Although the Germanic evidence of the zero-grade is scarce, some clues can be collected from a number of special *n*-stems. These *n*-stems have somehow escaped the removal of the zero-grade, and thus provide information on its location in the original paradigm. The evidence consists of 1) the old hysterodynamic word for 'ox', where Kluge's law did not operate because of the root-final **s*, 2) a number of *mn*-stems which inspite of their *m* show the effects of Kluge's law, and 3) a *jan*-stem with clear signs of suffix ablaut, including a

[55] The reconstruction of the PGm. dpl. ending as **-muz* (cf. Beekes 1995) is not based on the Germanic evidence, but on mechanical extrapolation from PIE **-mus*. ON *tveim(r)* and OE *twǣm* '2 (dpl.)' (with *ǣ* from **ai* by front mutation) prove that the ending must have been **-miz*.

[56] Van Helten also mentions Go. *auhsum*, but this was amended to *auhsnuns* by Ebbinghaus (1972: 10).

zero-grade. With these pieces of evidence, we can gain valuable information on where exactly in the paradigm a geminate is to be expected.

4.1.2.1 PGm. **uhsan-* 'ox'

The pre-existence of zero-grade endings in Germanic does not only have to be extrapolated on the basis of the Proto-Indo-European state of reconstruction, but also follows from the paradigm of PGm. **uhsan-* 'ox', a notorious hysterodynamic *n*-stem (in the narrower sense). The inflection of this etymon appears to have formed a sub-type of its own, something that is particularly clear in Gothic, Nordic and Anglo-Saxon. It completely generalized the zero-grade of the suffix in the plural. This has nothing to do with the fact that **uhsan-* was of the hysterodynamic type. The generalization of the zero-grade suffix must rather be the consequence of Kluge's law: since this law did not affect sibilants, the zero-grade suffix was regularly preserved in the weak cases. As a result, its inflection became radically different from the "normal" *n*-stems.

	PGm.	**Gothic**	**ON**	**OE**
nsg.	**-ēn*	-	*uxi*, *oxi*	*oxa*
gsg.	**-naz*	-	*uxa*, *-a*	*oxan*
dsg.	**-(e)ni*	*auhsau*[57]	*uxa*, *-a*	*oxan*
asg.	**-(a)nu^n*	*auhsau*	*uxa*, *-a*	*oxan*
npl.	**-niz*	-	*yxn*, *øxn*, *uxar*	*œxen*, *exen*, *oxan*
gpl.	**-na^n*	*auhsne*	*yxna*	*ox(e)na*
dpl.	**-ummiz*	-	*oxnum*	*ox(n)um*
apl.	**-nuns*	*auhsnuns*	*yxn*, *øxn*, *uxa*	*oxan*

In Gothic, the paradigm is incomplete, but the gpl. points to **-n-eiom* << **-n-om* and the apl. to **-nuns* < **-n-n̥s*. The zero-grade gpl. ending **-nan* < **-n-om* can also be reconstructed for Old Norse and Old English, although the ON forms may also have arisen from a full-grade ending by syncope. In view of Go. *auhsne*, though, this seems unlikely. The npl. can be reconstructed on the basis of umlauted forms in ON and OE, which point to **-niz* < **-n-es* (= Go. ***auhns*). This ending apparently replaced the usual ending **-aniz* or **-eniz*, for that matter (cf. Skt. *ukṣáṇas*). The Gothic dasg. form *auhsau* has an *u*-stem ending. It must have been introduced analogically on the basis of the original dpl. **uhsummiz* < **uks-n̥-mis*, which may be extant as OE *oxum*.[58]

All together, the paradigm of 'ox', unique as it may be, indicates that the gpl. in **-nan* < **-n-om*, the dpl. in **-ummiz* < **-n-mis* and the apl. in **-nuns* < **-n-ns* originally had a zero-

[57] Technically, Go. adsg. *auhsau* is an *u*-stem form. The transfer from the *n*-stems to the *u*-stems probably happened in the dpl. **uhsummiz* < **uks-n̥-miz* (Lühr 1988: 200).
[58] Hellquist 1905: 225; Lühr 1988: 200.

grade of the suffix. As a result, we can expect Kluge's law to have operated in the same cases in the paradigms of other *n*-stems.

4.1.2.2 An old *jan*-stem

It is conceivable that the suffix ablaut of the *n*-stems also applied to the *jan*-stems. This would have yielded paradigms with a suffix alternating between **-jō* < **-iōn* in the nominative, **-inaz* < **-in-ós* in the genitive and **-jini* < **-ién-i* in the dative. Beekes (1985: 48-51) explicitly claimed that PIE did not have such a *ion*-suffix, because the evidence in the Indo-European languages is scant. However, the stem variation of the West Germanic word for 'juror' is probably best explained by reconstructing such a *ion*-stem with ablaut:

- ***skapjō*, **skapinaz*, **skapjini***
    - **skapjan-*: MHG *schepfe* m. 'juror'[59]
    - **skapina(n)-*: OHG *scaffin*, *sceffin(o)* '*scabinus*, *iudex*', MHG *scheffene* m. 'id.', G *Schöffe*[60], OLFra. *skepeno* '*iudex*', MLG, MDu. *schepen(e)* m. 'juror'[61] (= OFri. *skep(p)ena*), Du. *schepen*[62]
    - **skapjina(n)-*: OHG *scepfin(o)* '*concionator*, *scabinius*'[63], MHG *schepfen(e)* m. 'id.'

The word is derived from the verb **skap(j)an-*, cf. G *schaffen*, *schöpfen* 'to create'. The vacillation between geminated and non-geminated forms in High German is in accordance with West Germanic gemination, which presumably operated in the nominative **skapjō*, but not in the genitive **skapinaz*. The forms that point to a suffix *-(j)inan-*, i.e. OHG *scepfino*, MHG *scheffene*, are contaminations of the nominative and the weak cases; they added **-ō* to the oblique stems **skap(j)in-*.

4.1.2.3 *Mn*-stems with geminates

There are at least three Proto-Germanic *mn*-stems that show the effects of Kluge's law in the genitive, as if they were plain masculine *n*-stems. In all of these instances, the zero-grade suffix **-mn-* was reduced to **-n-* in the weak cases, probably due to dissimilation against labial elements in the root. The resulting nasal was assimilated under Kluge's law[64], and thus gave rise to a geminate. The consequential allomorphy seems to have been resolved by the leveling of either the geminated or the non-geminated root.

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[59] Lexer 2, 679.
[60] Kluge/Seebold 822: "Das Wort gehört wohl zu *schaffen*, *schöpfen* und könnte »der Andordnende« bedeuten; die morphologischen und semantischen Einzelheiten sind aber unklar."
[61] Lübben 325; Verdam 517.
[62] Franck/Van Wijk 582.
[63] Graff 6, 453-4.
[64] Kroonen 2006.

• ***budmēn*, **buttaz* 'bottom'**

• **budma-*: OE *bodan* m. 'id.', OFri. *bodem* m. 'id.'[65]

• **buttma-*: ON *botn* m. 'id', OE *botm* m. 'id.'

• **buþma-*: OHG *bodam* m. 'id.'

Kluge suggested that the consonantal interchange of OFri. *bodem* < **budma-* with ON *botn*, OE *botm* < **bottma-* resulted from contamination of the *mn*-stem **b^{h}ud^h-mḗn* > Gr. πυθμήν with the *no*-stem **b^{h}ud^h-nó-* > Skt. *budhná-*, Lat. *fundus*. This contamination is nevertheless best understood by assuming that both forms once belonged to the same paradigm, i.e. **budmēn*, **buttaz* **b^{h}ud^h-mḗn*, **b^{h}ud^h-(m)n-ós*. In the genitive of this paradigm, the *m* was lost in the Proto-Indo-European stage; this explains the **tt* of OE *botm* as well as the Latin and Sanskrit thematizations.

Incidentally, it has been suggested that support for the chronology 1) Verner, 2) Kluge, 3) Grimm can be subtracted from the variant OHG *bodam* 'bottom' < **buþma-*, which with its **þ* cannot be the regular outcome of the **d^h* of PIE **b^{h}ud^h-men-*. Since the variant OE *botm* < **buttma-* must be a conflation of the PGm. nominative **budmēn* < **b^{h}ud^h-mēn* and the genitive **buttaz* < *b^{h}ud^h-(m)nó-s*, it can similarly be hypothesized that **buþma-* developed out of an earlier conflation **b^{h}utma-* by Grimm's law.[66] A difficulty facing this interpretation of **buþma-* is that the **þ* of OHG *bodam* can also be of Proto-West Germanic rather than Proto-Germanic date, as it is comparable to the instances of **f* < **ƀ* in e.g. OHG *weval* : MHG *webel* n. 'weft' < **webla-* and *scūfla*, *scūvala* : *scūbla*, G *Schaufel* < **skūblō-*.[67] This development, however, is impossible in Kortlandt's framework, in which PGm. **b*, *d*, *g* never were fricative.

• ***hrīfmēn*, **hrīp^{p}az* 'rime'**

• **hrīma(n)-*: ON *hrím* n., *hrími* m. 'id.'[68], OE *hrīm* m. 'id.', MDu. *rijm* m. 'id.'[69], Du. *rijm* 'id.'[70], G Cimb. *raim* m. 'id.'[71]

• **hrīp^{p}an-*: OHG *rīffo* m. 'id.', G *Reif* 'id.'[72], Cimb. *raifo* m. 'id.'[73], OS *hrīpo* m. 'id.', MDu. *rīp(e)* mn. 'id.'[74], Du. *rijp* 'id.'

The original inflection of the Germanic word for 'rime' was similar to the one of 'bottom'. It, too, has a range of variants in the Germanic dialects, e.g. ON *hrími* m. rime' < **hrīman-* vs.

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[65] Holthausen 1925: 10.
[66] Kroonen 2002; Kortlandt 2007.
[67] Kluge 1883: 98; Bahder 1903: 258-265; Schaffner 2001: 263-4
[68] De Vries 1962: 256.
[69] Verdam 495.
[70] Franck/Van Wijk 548.
[71] Schmeller/Bergmann 221.
[72] Kluge/Seebold 754.
[73] Schmeller/Bergmann l.c.
[74] Verdam 496.

OHG *rīffo* m. 'id.' < **hrīpan-*. The easiest way to explain this variation is to reconstruct a single paradigm for both formations, i.e. either a hysterodynamic **hrībmēn*, **hrīpᵖaz* < **kriHp-mḗn*, **kriHp-n-ós* or an amphidynamic **hrīfmō*, **hrīpᵖaz* < **kréiHp-mōn*, **kr(e)ip-(m)n-ós*. At any rate, the *m* must have been lost in the weak cases, so as to give rise to a form in which Kluge's law could operate.

• ***piþmēn**, ***pittaz* 'pith, root'**

- **piþman-* (and **pittman-*?): Du. dial. *pessem*, *pettem* 'root, field horsetail'[75], Du. *peem* 'root (of grasses)'[76]
- **piþan-*: OE *piða* m. 'pith'[77], Kil. *pee* '*radix edulis*', *peën* '*agrostis*, *gramen nodosum*', Du. *peen* 'carrot'[78]

  → **piþaka-*: MLG *ped(d)ik* m. 'pith'[79], WFri. *pich*, *piid*, *piik* 'pith, stone'[80]
- **pitta(n)-*: MLG *pit(te)* 'pith, core, strength'[81], MDu. *pit(te)* mf., *pit* n. 'pith, kernel', Kil. *pit(te)*, *pette* '*medulla arboris*, *nucleus*', Du. *pit* 'pip, spunk'[82], ?G Fra. *pfitze* f. 'pimple'[83]

The co-existence of OE *piða* and MLG, MDu. *pitte* is suggestive of an *n*-stem **piþō*, **pittaz*. Furthermore, in view of Du. dial. *pessem*, *pettem*, Du. *peem*, it is conceivable that this hypothetical *n*-stem sprouted from an even older hysterodynamic *mn*-stem with zero-grade of the root throughout the paradigm. If this is correct, the *m* must have been dissimilated in the cases with zero-grade of the suffix, like in the paradigms of of **budmēn*, **buttaz* and **hrīpmēn*, **hrīpᵖaz*. The variation of Du. *pessem* and *pettem* points to a form **piþþman-* with West Germanic gemination before *m*. It does so, because *-þþ-* developed into both *-ss-* and *-tt-* in Dutch, depending on the dialect (cf. Du. *adem*, dial. *asem* 'breath' < **ēþma-*, Du. *klis*, *klit* 'tangle' < **kliþþōn-* (see p. 76). The variant *pettem*, on the other hand, can also have adopted the geminate of the oblique, just like OE *botm* must be a contamination of the nom. **budmēn* with the gen. **buttaz*. The reality of the root **pitt-* indeed seems to be corroborated by the Middle Franconian form *pfitze*, but only if its meaning 'pimple' actually developed out of the more general denotation 'core'. Mark that Kil. *pee* 'root', Du. *peen* 'carrot' (with *-n* from the plural), the origin of which is generally assumed to be obscure[84], is actually formally identical to OE *piða*.

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[75] Vercoullie 261; Weijnen 154; WLD I, 5, 121-2.
[76] Vercoullie 259.
[77] Bosworth/Toller 774.
[78] Franck/Van Wijk 494.
[79] Lübben 129.
[80] Zantema 1, 747.
[81] Lübben 276.
[82] Franck/Van Wijk 504: "Wsch. met *tt* uit idg. *tn*."
[83] Schunk 212.
[84] Cf. Franck/Van Wijk 494: "Oorsprong onzeker."; Philippa/De Brabandere/Quak 518-9.

• ***heuhmō*, **hukkaz* 'pile'?**

• **heuhman-*: Go. *hiuhma* m. 'pile'

• **hukka-*, *-ōn-*: MLG *hocke* f. 'sheaf, pile of hay'[85], Tyr. *hock* m. 'sheaf'[86]

PGm. **hukka-* is derived from **kug-nó-* by Fick/Falk/Torp (p. 91), who connect it with Lith. *kū́gis* 'pile of hay' and Lat. *cumulus* 'pile' (< **kug-*). Alternatively, it can be linked with Go. *hiuhma*, which e.g. Feist (1923: 191-2) compares to *huhjan* 'to collect' and *hauhs* 'high'. By assuming an original paradigm **kéuk-mōn*, **kuk-(m)n-ós*, both formations can be analyzed as off-shoots from one single etymon; again, the loss of the *m* in cases with the zero-grade of the suffix may have triggered Kluge's law, thus giving rise to a paradigm with a consonant alternation. Although there is no direct proof of the paradigmatic appurtenance of *hiuhma* and *hock*, the existence of similar paradigms obliges us to consider this option.

4.1.3 Summary

To sum up, the Germanic evidence, too, points to the genitive (singular and plural) and the accusative plural as the cases in which Kluge's law operated. In this respect, I do not differ from Lühr (1988: 199), who arrived at the same conclusion in her analysis of the *n*-stem split-offs. I only differ from Lühr on some minor details regarding the Proto-Germanic endings. I do not adhere to the mora theory, which differentiates between bimoraic and trimoraic vowels in absolute auslaut: in the nominative, the material simply points to **-ō* (OHG *-o*) besides **-ē(n)* (ON *-i*). In view of the root noun genitives such as ON *bækr*, OE *bēc* 'book' < **bōkiz*, I assume that final **-es* (gen.sg./nom.pl.) became PGm. **-iz*.[87] Likewise, the locative ending **-eni* seems to have been fronted to **-ini* in Proto-Germanic. More importantly, the genitive ending of the *n*-stems must have been **-az* < **-os* (not **-iz*) in the singular and **-an* < **-om* in the plural, as I have argued above. Since it is further difficult to determine whether the accusative plural was **-uns* or **-unz*, I have provisionally adopted the variant **-uns*.

	Lühr	**Kroonen**	**PIE**
nsg.	CVC-ē̆/ŏn, -ō̆	CVC-ēn, -ōn	**-ḗn*, *-ō*
gsg.	CVCC-(e/a)ne/az	CVCC-az	**-n-ós*
dsg.	CVC-e/ani	CVC-ini	**-én-i*
asg.	CVC-anun	CVC-anun	**-é/ón-m*
npl.	CVC-anez	CVC-aniz	**-é/ón-es*
gpl.	CVCC-(a)nõn	CVCC-an	**-n-óm*
dpl.	CVC-u/a(n)mi/az	CVC-ummiz	**-n̥-mis*
apl.	CVCC-(a)nunz	CVCC-uns	**-n-ń̥s*

[85] Lübben 146.
[86] Schöpf/Hofer 270.
[87] Boutkan 1995: 260.

4.2 Paradigmatic analogy

As I have argued in the preceding chapter, the *n*-stems were affected by Kluge's law in such a manner, that they regularly developed a paradigmatic alternation of singulates and geminates. The genitive singular and plural as well as the accusative plural received a voiceless long stop, the other cases preserved a singulate. With this paradigmatic alternation, we can account for consonantal interchanges like the ones presented in the introduction:

- Swi. Visp. *toxxa* : OHG *tocha* f. 'doll' < **dukō*, **dukkaz*
- Icel. *hjari* : ON *hjarri* m. 'hinge' < **herō*, **herraz*
- MLG *strote* : *strotte* f. 'throat' < **strutō*, **struttaz*
- G *Truhe* : Swi. *trukxa* f. 'trough' < **þruhō*, **þrukkaz*
- Sw. dial. *råga* : MDu. *roc* m. '(hay)stack' < **hrugō*, **hrukkaz*
- OE *piða* m. : MLG, MDu. *pitte* mn. 'kernel, core' < **piþō*, **pittan-*, etc.

However, since Kluge's law only produced voiceless geminates, we have not yet been able to clarifiy the frequent fricative and voiced geminates in the *n*-stems. The material contains a plethora of *n*-stems with such long fricatives and voiced stops. Consider the following instances:

- MHG *krebe* m. : *kreppe* f. 'basket' < **kreban-*, **krebban-*
- OHG *chratto* : *chratzo* m. 'id.' < **kradan-*, **kraddan-*
- Go. *fauho* : OE *fogge* f. 'vixen' < **fuhōn-*, **fuggōn-*
- MHG *made* m. 'maggot' : *matte* f. 'moth' < **maþan-*, **maþþōn-*
- Icel. *rjúp·keri*[88] : *·karri* m. 'male ptarmigan' < **kazan-*, **kazzan-*[89]

The picture gets even more complicated when we take into account the *n*-stems that have more than two root variants. It is not uncommon, however, that as many as four different roots must be reconstructed for what seems to have been one single etymon:

- OHG *chnabo*, OE *cnafa* m. : MHG *knappe* m. : *knapfe* m. : OFri. *knapa*, OE *cnapa*, MLG, MDu. *knape* m. 'boy'< **knab(b)an-*, **knap(p)an-*
- Du. *knaak* : dial. *knaag* : *knag* 'knob, big coin < **knakan-*, **knag(g)an-*
- MHG *lade* m. 'plank' : *lat(t)e* f. 'lath' : MLG *late* f. 'sprout', OHG *latza* f. 'plank, twig' < **laþan-*, **laþþōn-*, **ladōn-*, **lat(t)ōn-*, etc.

As Kluge's law only accounts for voiceless geminates, the question is how the singulates in **knapan-*, **latōn-*, **knakan-* and the geminates in **knabban-*, **laþþan-*, **knaggan-* must be explained.

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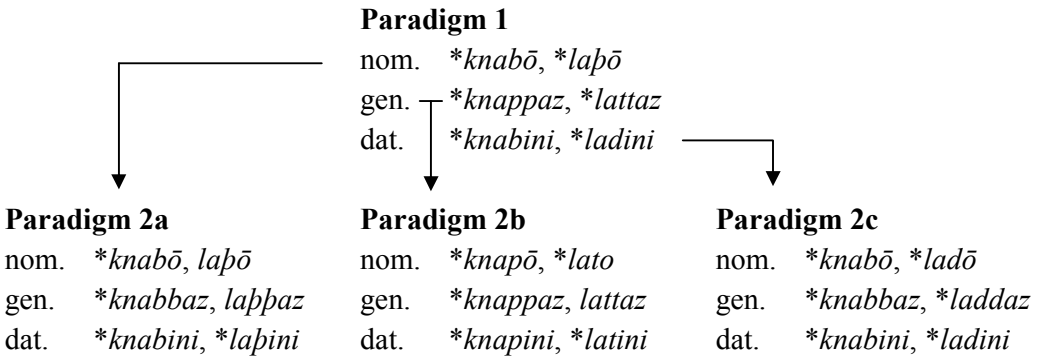
[88] With *z*-fronting in the singulate forms.
[89] Böðvarsson 484, 491.

4.2.1 Kluge's "associationen"

A solution to the question of the wild root variation of the *n*-stems was first formulated by Kluge himself. Kluge (1884: 176) proposed to explain the irregular singulates and geminates by assuming that the regular root allomorphs contaminated each other in the original paradigm:

> "Dass neben ahd. *chnabo* eine form *knapp-* (aus *knabn-*) denkbar ist, ergibt sich aus dem bisherigen. Diese doppelformen führten durch association zu zwei neuen formenpaaren: man bildete zu *knaþo* eine neue geminationsform *knabba* oder zu der geminierten form *knapp-* im anschluss aus *knaþo* eine form mit einfacher consonant *knapa*: jenes ist MHG *knappe*, dies das ags. *cnapa*." (1884: 176)

Kluge's solution, which with its combination of sound law and analogy is a showcase of the comparative method, turned out to be capable of predicting the complete amount of root variants. It nevertheless met with strong criticism from his colleages, who rejected either one or both of the paradigmatic analogies (see section 4.2.4). The introduction of the irregular singulates and geminates is fully understandable if we assume that it was a process by which the original paradigm was split up into two new paradigms. One paradigm generalized the nominatival consonantism by doubling it in the weak cases, the other generalized the genitival consontantism by shortening it in the nominative. When the paradigm contained a *grammatischer wechsel* due to Verner's law, this facilitated the rise of even an third paradigmatic split-off:



Paradoxically, the attempts to diminish the root allomorphy by leveling the articulation of the consonant resulted in an overal increase of the amount of potential root variants. Of course, it is unnecessary to assume that all of the possible analogical forms existed beside each other in every dialect. On the contrary, the fact that different contaminations are found in separate dialects means that the original allomorphy was largely leveled out by the different dialects independently, i.e. after the disintegration of Proto-Germanic.

4.2.2 From allomorphy to consonant gradation

Although Kluge's analogies for a large part seem to have taken place after the Proto-Germanic stage, the motivation behind the paradigmatic splitting is to be found in the proto-language itself. It must be regarded as an attempt to resolve the asymmetry in the different types of consonant alternation in the *n*-stems.

The original allomorphy theoretically consisted of three different sub-types, i.e. a long voiceless stop (*CC) opposing 1) a voiced stop (*G), 2) a voiceless fricative (*H) and 3) a voiceless stop (*C). The two former types (*G:CC, *H:CC) constituted a complex opposition, consisting of more than one articulatory feature, the third type (*C:CC), on the other hand, was a simple opposition of length only. Kluge's analogies basically entail the spread of the third type at the expense of the former two types. The reduction of the allomorphic complexity again induced the further grammaticalization of a paradigmatic length opposition in the *n*-stems. The strengthening of the length opposition was the logical result of this opposition being the least complex one.

Another reason why the feature "length" was more suitable for grammaticalization than voice or frication, is that it was the most universal opposition; it occurred in roots in stops and resonants alike. *N*-stems with roots in resonants form a large category, e.g. Icel. *hjari* : ON *hjarri* m. 'hinge' < **herō*, **herraz*, OFri. *throt·bol(l)a* m. 'Adam's apple' < **bulō*, **bullaz*, etc. Since resonants did not have any voiceless or fricative alternants to form an opposition with, they could only increase the functional load of the length opposition. The universal applicability must therefore, too, be regarded as a factor favoring the grammaticalization of morphological gemination.

The result of Kluge's "associationen", i.e. the grammaticalization of length in the *n*-stems, is comparable to the paradigmatic consonant alternations in Finnish, e.g. *tukki* : gen. *tukin* 'beam, log', *oppi* : gen. *opin* 'doctrine', *nukun* 'am sleeping' : *nukkuu* 'is sleeping'. These alternations are generally defined as *consonant gradation*, because the consonant phonemes, depending on the Proto-Finno-Ugric syllabifications, appear in different gradations of strength or length. Although the phenomenon is more wide-spread and systematic in Finnish, where it operates in all parts of morphology, the length opposition in the *n*-stems in Germanic is indeed best referred to with the same term, because in both cases, the alternations have a morphological function.[90]

4.2.3 Dating of consonant gradation

While it is obvious that a morphological opposition of length already existed in the proto-language, i.e. in *n*-stems with roots ending in resonants (*R:RR) and voiceless stops (*C:CC), the evolution towards full-fledged consonant gradation must be situated in the North-West Germanic period. This is clear from the complete absence of long fricatives and voiced stops in the Gothic *n*-stems, as opposed to an abundance of cases in the North and West Germanic

[90] I do not think that the Finnish and Germanic consonant gradation are directly *related*. Still, the fact that consonantal strength alternations occur in Finno-Ugric, Germanic and Celtic, does not have to be entirely coincidental: it may perhaps be defined as a *Sprachbund* feature.

dialects. In a number of cases, these analogical geminates can actually be reconstructed for North-West Germanic, as was alread noticed by Van Helten (1905: 215-6), cf. ON *toddi* 'tuft', Du. *tod(de)* 'rag', Nw. dial. *kodde*, MDu. *codde* 'testicle', ON *krabbi*, OE *crabba* 'crab', etc. Examples with secondary *-zz-* may especially be mentioned, e.g. Icel. *rjúp·keri*[91] : *·karri* m. 'male ptarmigan' < **kazō*, **kazzaz*, Far. *knasi* m. 'gnarl, bump' : Nw. dial. *knarre* 'stub', ME *knarre* 'gnarl' < **knasō*, **knazzaz*, because they violate Kluge's law, which did not affect **s* (see section 3.3). Their occurrence in both North and West Germanic proves that the productivity of consonant gradation must be dated back to at least the Proto-North West Germanic stage.

The dating of the consonant gradation to the North-West Germanic stage is also confirmed by the lack of analogically shortened geminates, such as the already mentioned **knapan-*, **latōn-*, **knakan-*, in Gothic. An interesting North-West Germanic case of analogical shortening is represented by the opposition of **hamō(n)-* > ON *hǫm*, OHG *hama*, MLG *hame* with **hammōn-* > OHG *hamma*, MHG *hamme* f. 'ham'. The etymon is usually reconstructed as **konh₂-meh₂-* (cf. Gr. κνήμη f. 'shin', OIr. *cnáim* 'leg' < **knh₂-m-*), showing the regular development of **-mn-* to **-mm-*. Since it is etymologically unsatisfactory to separate the non-geminated stem **hamō(n)-* from this formation, the best way to deal with the singulate *m* is to ascribe it to analogical degemination in a secondary paradigm **hamō*, **hammaz*. Likewise, the singulate of Nw. dial. *hjare* m. 'brain' cannot be directly explained from the formation **hersō*, **herznaz* < **ḱérh₂s-ōn*, **ḱerh₂s-n-ós*, which regularly developed into e.g. ON *hjarsi*, *hjassi* m. 'crown' and *hjarni* m. 'brain'; it should probably be regarded as an analogical alternant to Nw. dial. *hjarre* m. 'brain' < **herzan-*.

4.2.4 Reception of Kluge's "associationen"

At first, Kluge's theory became broadly accepted, and it was included in many handbooks. It can, for instance, be found in its original form in e.g. Streitberg's *Urgermanische Grammatik* (1900: §127A), Wright's *Old English Grammar* (1925: §256)[92] and *A comparative Germanic grammar* by E. Prokosch (1939: §22). However, already soon after the publication of Kluge's article *Die germanische consonantendehnung* in 1884, strong criticism started to appear in the literature.

4.2.4.1 Kauffmann

One of the strongest opponents of Kluge was Friedrich Kauffmann. As early as 1887, he launched a strongly worded attack on Kluge's "associationen". In the article *Zur Geschichte des germanischen Consonantismus*, Kauffmann acknowledged that the assimilation of *n* gave

[91] With *z*-fronting of *a* to *e* in the singulate forms.

[92] "Doubling of consonants by the assimilation of post-consonantal n to the preceding consonant also regularly took place in the weak declension of nouns, as sing. nom. *lapõ̃, *lappet*, acc. *lapan(un), beside gen.pl. *lapnõ̃(n) > *lappõ̃(n) [...]. This interchange between the single and double consonants gave rise to levelling in a twofold direction, so that one or other of the forms was extended to all cases".

rise to Proto-Germanic voiceless geminates, and that, as a result, the *n*-stem paradigms became highly allomorphic. The analogical rise of long voiced and fricative obstruents, on the other hand, he deemed "psychologically untenable"[93]:

> "Eine derartige formschöpfung halte ich für nicht vereinbar mit den allgemeinen anschauungen, die sich für die associationsbildungen der lebenden sprachen festgesetzt haben" (p. 509).

Instead of analogy, Kauffmann argued, these secondary geminates, too, were to be explained by regular sound change, and the sound law he had in mind was the much later West Germanic consonant gemination before *r*, *l*, and – allegedly – before *n* (1887: 531). In the same way as West Germanic gemination changed the PGm. paradigm **akraz*, **akresa* 'field' into PWGm. **akr̥*, **akkres* (cf. E *acre* : G *Acker*), it should have caused gemination in the *n*-stems. Kauffmann argued that in the original paradigm **knabō*, **knappaz*, **knabanun*, the zero-grade of the suffix was restored. This gave rise to a secondary genitive **knabnesa*, which allegedly regularly developed into PWGm. **knabbnes* by West Germanic gemination. The doubling of voiceless fricatives, such as in OE *moþþe* 'moth' < **muþþan-*, Kauffmann ascribed to the same process.

Kauffmann's alternative to Kluge's contaminations was accepted by some linguists, for example by W. Braune, who adopted it in his *Althochdeutsche grammatik* (1891: §96b). Soon, though, it became clear that Kauffmann's hypothesis contained critical fallacies. It was demonstrated by Van Helten (1905: 215-6) that 1) the West Germanic gemination before *n* is disproved by forms as OE *regn* ~ OHG *regan* 'rain', OE *wægn* ~ OHG *wagan* 'wagon', ON *hrafn* ~ OE *hræfn* 'raven' and that 2) there are many examples of voiced geminates with a North-West Germanic distribution, cf. ON *toddi* 'tuft' ~ Du. *tod(de)* 'rag', Nw. dial. *kodde* ~ MDu. *codde* 'testicle', ON *krabbi* ~ OE *crabba* 'crab', etc. Consequently, Kauffmann's hypothesis was and must be rejected (thus Hellquist 1905: 33; Luick 1964: 825; Lühr 1988: 197).[94] It seems that Kauffmann, in his attempt to defend regularity against analogy, ended up destroying it by pushing it beyond its limits.

4.2.4.2 Lühr

In *Expressivität und Lautgesetz*, which is basically a defense of Kluge's law, Lühr (1988: 206-8) argued against an analogical origin of the voiced and voiceless long fricatives (= PGm. **ƀƀ*, **đđ*, **ǥǥ* and **ff*, **hh*, **þþ*). The analogical introduction of a secondary singulate (e.g. *knabō*, **knappaz* >> **knapō*, **knappaz*) is accepted by Lühr, because the co-existence of the alternations 1) **CVC-ō* : **CVCC-az*, 2) **CVG-ō* : **CVCC-az*; and 3) **CVH-ō* : **CVCC-az*

[93] Note that within Kortlandt's interpretation, in which **b*, **d* and **g* were plosives, the paradigmatic contaminations that led to analogical singulates and geminates make more sense.

[94] Kauffmann's account for the analogical singulates is even more fantastic. In order to account for the *degeminates* of ON *knapi* and OE *cnapa*, he assumed that contamination took place between the weak nominative **knabō* and hypothetical, strong by-form **knappaz*, which supposedly developed into **knapz* with regular shortening of the geminate (1887: 532).

provided a model for such analogies. The replacement of 1) **CVG-ō* : **CVCC-az* by **CVG-ō* : **CVGG-az* and 2) **CVHōn* : **CVCC-az* by **CVH-ōn* : **CVHH-az*, on the other hand, is rejected by Lühr in absence of the required model. As a consequence, Lühr has to infer that "bei diesen Lautungen nach einer nicht mit der *n*-Gemination in Zusammenhang stehenden Erklärung gesucht werden muß" (p. 208). In practice, this means that the long fricative of OE *pohha* m. 'bag' < **puhhan-* has to be explained as onomatopoetic (1988: 270), while the geminates of ME *latthe* 'lath', OE *moþþe* f. 'moth' < **muþþan-* and MDu. *clisse* f. 'burdock' < **kliþþōn-* are assumed to continue a PGm. cluster *-hþ-* (p. 252, 255).[95]

What can be brought against Lühr, however, is that it is more economical to assume that consonant gradation in the *n*-stems gave rise to double fricatives than to isolate the roots with fricatives from the variants with singulates. The alternation of OHG *chleda* < **kliþōn-* and Du. *klisse* < **kliþþōn-*, for instance, is completely parallel to the length opposition that exists in the other *n*-stems. So, even though a *sprachwirklich* model for the introduction of fricatives appears to have been lacking, the morphological pressure exerted by the principle of consonant gradation will have sufficed to give rise to these irregular geminates.

4.2.4.3 Van Helten – Rasmussen

Although dissatisfied with Kauffmann's hypothesis on the secondary geminates, Van Helten (1905) agreed with the latter's criticism of Kluge's contaminations. In view of the different articulations of **ƀ* and **pp* in e.g. **knaƀō*, **knappaz*, Kauffmann (1887: 508) judged it unlikely that they could form a proportion according to which the analogical paradigms **knaƀō*, **knaƀƀaz* (> **knabbaz*) and 2) **knapō*, **knappaz* could have been created. So, whereas Kluge assumed that the *n-ste*m **knaƀō*, **knappaz* 'boy' gave rise to analogical paradigms **knaƀō*, **knaƀƀaz* > **knabbaz* and **knapō*, **knappaz* through relatively recent paradigmatic leveling, Van Helten proposed to push the chain of analogies further back into a pre-Proto-Germanic stage.

According to Van Helten, the contaminations leading to PGm. **knabban-* took place between the occlusivation of **-ƀƀ-* and the devoicing of PIE **b* > PGm. **p*: the original paradigm **knaƀō*, **knappaz* regularly developed out of **knaƀō*, **knabbaz* (> OFri. *knappa*), while MHG *knappe*, on the other hand, should follow from an analogical paradigm **knaƀō*, **knaƀƀaz* that was created posterior to the occlusivation of old **-ƀƀ-*, but anterior to the regular devoicing under Grimm's law. Conversely, Van Helten explained OE *cnapa* as resulting from a paradigm in which the fricative **ƀ* of the nominative **knaƀō* was analogically replaced by an occlusive **b* from the regular genitive **knabbaz* > PGm. **knappaz*.

[95] The view is adopted by Schaffner in *Das Vernersche Gesetz* (2001). While accepting Kluge's assimilation of the *n* in cases with the zero-grade of the suffix (p. 534), Schaffner rejects the analogical doubling of voiceless fricatives. As a result, he has to resort to the reconstruction of an independent formation **hridjan-* in order to account for MHG *ritte* 'fever' < **hriþþan-* / **hriddan-*, even though it is morphologically close to OHG *rido* 'id.' < **hriþan-* (p. 549-552).

	nominative	**genitive**
PIE	**gnob^h-ō*	**gnob^h-n-ós*
Lenition		
	**gnaþō*	**gnaþnás*
Verner's law		
	**gnaþō*	**gnaþnaz*
Assimilation		
	**gnaþō*	**gnaþþaz*
Occlusivation 1		
Cross-contamination		
	**gnaþō ~ *gnabō*	**gnabbaz ~ *gnaþþaz*
Devoicing		
	**knaþō ~ *knapō*	**knappaz ~ *knaþþaz*
Occlusivation 2		
PGm.	**knaþō ~ *knapō*	**knappaz ~ *knabbaz*

Although Van Helten's hypothesis has the disadvantage that it requires two different waves of Proto-Germanic occlusivation of **-þb-*, and even a third one for High German, in which – after all – PGm. **þ* is represented as *ḅ*, it is theoretically capable of accounting for the whole set of allomorphs that must be reconstructed for the *n*-stems. Consequently, Van Helten's modification of Kluge's configuration was largely accepted by, among others, Hellquist, author of the Swedish etymological dictionary, in his treatment of the *Nordiska verb med mediageminata* (1908). Hellquist, however, rejected Van Helten's view that the long voiceless fricatives, such as OHG *chletto* 'burdock' < **kliþþan-* and OHG *ritto* 'fever' < **hriþþan-*, arose by analogy in the *n*-stems, explaining them as deverbative from **kliþþōn-* 'to stick' (hypothetical) and OE *hriðian* 'to have a fever' (1908: 44).

Another, much later proponent of Van Helten's approach is Rasmussen, who discusses Kluge's law and its effect on the *n*-stems in two 1989 articles. In the second article, Rasmussen proposes the same kind of cross-contaminations as proposed by Van Helten. Since Rasmussen makes no reference to Van Helten's article, it is difficult to say whether he simply adopted Van Helten's solution, or arrived at it independently:

> "In der germanischen Entwicklung wurde das urspünglich nur nach Schwundstufensequenzen reguläre Suffixallomorph /-n-/ des Instr. verallgemeinert, so daß sich zunächst die normalisierte Flexion **d^{h}rúb^h-ōn*, Gsg. **d^{h}rub^h-n-ós* (→ **-és*) ergab, woraus dann durch Lautwandel **δrúβōn*/**δrußnés* > **δrúβōn*/**δrubnéz*, weiterhin durch einen neuen Ausgleich **δrúbōn*/**δrubnéz* und neuen Lautwandel **δrubōn*/**drubbiz*, das schließlich mit der Lautverschiebung zu urgerm. **drupōn*/**druppiz* wurde[...]." (1989b: 253)

An important objection to Van Helten's modification is the relatively great time depth that it requires. If the paradigmatic contaminations really took place before the final phase of Grimm's law, i.e. the devoicing of the PIE voiced stops, the resulting leveling of the original paradigms had to be anterior to the rise of Proto-Germanic phonology as we know it. However, if this were correct, the Germanic dialects would not be expected to display the rich root variation that is actually found, because many of the root variants should already have been removed before the disintegration of Proto-Germanic. Since Kluge's contaminations evidently took place in the Proto-North-West Germanic stage, Kluge's configuration must be preferred to the modifications thereof as proposed by Van Helten and Rasmussen.

4.2.5 Morphological gemination of **n*

In the context of Kluge's law, the rise of roots with double **n* poses a problem. Double **n* is found in a small number of *n*-stems and heteroclitics:

- ON *kona*, gpl. *kvinna* f. 'woman' < **kwenō*, gpl. **kwinnan* (cf. OIr. *ben*, gsg. *mná* f. 'woman' < **g^{w}én-h$_2$*, **g^{w}n-éh$_2$-s*)
- Go. *sauil* n., *sunno* f., dsg. *sunnin* mn., ON *sól*, *sunna* f., OE *sunna* m., *sunne* f. 'sun' < **sōel*, dsg. *sunnini* (cf. Gr. Dor. ἀέλιος, Av. *huuarə̄*, gen. *x^{v}ə̄ṇg* < **seh$_2$uḷ*, **sh$_2$uéns* / *sh$_2$unós*)
- Go., OE *brunna*, OHG *brunno* m. 'spring' (cf. Gr. φρέᾱρ, φρέᾱτος < **b^{h}réh$_2$uṛ*, **b^{h}rh$_2$un(t)ós*)

In the literature, these geminates are usually explained as resulting from generalization of the oblique stem, to which a secondary nasal suffix was added in the oblique, viz. **kwenō*, **kwin-n-an* (with raising of **e* to **i* before a covered nasal), **sunō*, **sun-n-az*[96], **brunō*, **brun-n-az*.[97] This solution clearly contains a paradox. On the one hand, the creation of the sequence **-n-n-* cannot have happened before Kluge's law, as it would have been simplified before that time limit. However, it is not plausible either that the *-n-* was added after Kluge's law, because exactly by this law the zero-grade suffix had become restricted to typologically rare *n*-stems such as **uhsēn*, **uhsnaz* 'ox'.

The best way around the paradox is to ascribe the gemination of the *n* in the given instances to early (Proto-Germanic) consonant gradation, i.e. morphological gemination that was introduced after the model of other *n*-stems. Obviously, this analogy can only have occurred after the operation of Kluge's law, which caused the rise of morphological length in the first place. In the cases of the neuter heteroclitics, the lengthening may have been triggered by the merger of the masculine and neuter genitives due to the intrusion of the proterodynamic ending **-en-az* in the masculine paradigm. This development, in turn, was, too, provoked by Kluge's law, because this law had reduced the hysterodynamic ending **-n-ós* to **-az*.

[96] Brugmann 1906: 303; Feist 1939: 347.
[97] Cf. Franck/Van Wijk 94.

It is unnecessary, within the proposed framework of morphological gemination, to assume that the heteroclitics first generalized the oblique stem. This is unlikely in the first place, because the material shows no traces of the projected singulate forms ****sunō*** and *****brunō***. On the contrary, the heteroclisy of at least ****sōel***, ****sunnaz*** was actually preserved until after the breaking-up of Proto-Germanic, only to be abondoned in synchronic Gothic, where the old *sauil* and new nominative *sunno* occur side by side. In all likelihood, the genitive simply received a long *n* on the basis of the grammaticalization of gemination in that case.

I conclude that the introduction of the geminates of ****kwinnan***, ****sunnaz*** and ****brunnaz*** took place in the period after the operation of Kluge's law and before the raising of ****-enC-*** to ****-inC-***. This process proves that gemination was grammaticalized in the originally weak cases of the Proto-Germanic *n*-stem paradigm.

4.3 Hypocorisms and geminates

The opposition of consonantal length became productive in the earliest stages of Proto-Germanic, only to be leveled out again in the separate Germanic daughter languages. By that time, however, gemination had assumed a more derivational role in the Germanic hypocorisms or pet names.

Of old, Germanic hypocorisms have been derived from an official name by creating a usually geminated *n*-stem to the official name, e.g. OHG *Sigmar* → *Sicko*, G *Friedrich* → *Fritz* and *Ludwig* → *Lutz*. The mechanism has died out in most modern languages, but is still productive in Icelandic, e.g. *Guðrún* → *Gunna*, *Jón* → *Nonni*, *Margrét* → *Magga*, *Sólrún* → *Solla*, *Stefán* → *Stebbi*. It can even be applied to ordinary nouns, e.g. *Morgunblaðið* 'the Morning Paper' → *Mogga-n*, *lög·regla* 'police' → *lögga* 'cop'.[98]

In spite of the recent coinage of most hypocorisms, the system as a whole, in fact, is part of an old Indo-European tradition, as becomes clear from the strong parallels in Latin and Greek, e.g. *Cato*, *Varro*, *Nero*, Στράβων, Πλάτων, etc. It is only logical, for this reason, to link the geminates of the Germanic hypocorisms to Kluge's law, which operated in the weak cases of the *n*-stem paradigm. I assume that gemination was later grammaticalized as a derivational feature, because it made the resulting hypocorism conspicuously different from its derivational basis.

As mentioned in the above, hypocorisms were not restricted to nomenclature. Compare, for instance, ON *dokka* f. 'windlass', OE *ēar·wigga* m. 'earwig', *frogga* m. 'frog', Nn. *gorre* m. 'boy' (← Icel. *gaur* m. 'pole, gangling fellow'), MLG *mudde* '*Mutterschwein*', OE *scucca* m. 'demon', *stagga* m. 'stagg', *sugga* m. 'water wagtail', *tadde* f. 'toad' (← *tādige* 'id.'). In many cases, it is not easy to distinguish between hypocoristic and agentive *n*-stems. The OHG verb *chresan* 'to crawl', for instance, surely gave rise to the rather agentive *chresso* 'groundling'[99], which is neither a hypocorism to an existing noun, nor a purely agentive

[98] Also compare Sw. *socialist* → *sosse* < *****sussan-***, *nasist* → *nasse* < *****nassan-***.
[99] Kuryłowicz 1957: 136.

formation (cf. OHG *bodo* m. ‘messenger’, *gebo* m. ‘giver’). Both functions, however, are understandable from the fact that the oldest function of the *n*-stems was to create individualizing nouns.

5 Verbal consonant gradation

5.1 A hypothesis by Osthoff

The consonant alternations that are displayed by the *n*-stems are not restricted to this morphological category. They also abundantly occur in the second class of the weak verbs, though not in all verbs belonging to this conjugation. There is a clear bifurcation between the originally denominal and the truly verbal weak verbs. Geminates are completely absent from the former sub-group, which is generally assumed to have arisen by the addition of the thematic suffix *-*ie/o*- to the *h_2-stems. It has a strong base in the West Indo-European languages, cf. Gr. -άω, Lat. -*āre*, OCS -*ajǫ*, Lith. -*óti*, and became a very productive type in Germanic, cf. Go. *salba* f. 'salve'[100] → Go. *salbon* 'to enoint', OHG *ahta* f. 'heed' < **ahtō*- → OHG *ahtōn* 'to heed ' < **ahtōjan*-[101], etc. The truly verbal *ōn*-verbs, on the other hand, distinguish themselves by their iterative or frequentative semantics and, particularly, by a high incidence of geminates, e.g. OFri. *hlakkia* 'to laugh' < **hlakkōn*-, Du. obs. *jakken* 'to rush' < **jakkōn*-, ON *glotta* 'to grin' < **gluttōn*-, OHG *ritzōn* 'to carve', MHG *snitzen* 'to cuttle', etc. For this formal reason, it was suggested by Hermann Osthoff (1882: 298) that the verbal sub-type should be equated with the PIE *neh*$_2$-presents, cf. Skt. 3sg. *gr̥bhṇā́ti*, 3pl. *gr̥bhṇánti* 'to seize' < **g^{h}rb^h-néh$_2$-ti*, **g^{h}rb^h-n̥h$_2$-énti*. Osthoff assumed that, in the singular of this paradigm, the nasal suffix would bear the accent, and thus trigger Kluge's law. The second part of the suffix explains the Germanic **ō*-vocalism.

Although Osthoff's hypothesis has never become generally accepted (see chapter 6), I am convinced that it must be correct. There are numerous arguments for the connection with the *neh*$_2$-presents, as I will explain below. They encompass both internal and external evidence.

5.1.1 Direct correspondences

An important part of the external evidence comes from those Germanic iteratives that directly correspond to *n*-presents in other IE languages. The corpus, though relatively small, strongly confirms Osthoff's hypothesis, and furthermore provides important evidence for the reality of Kluge's law. The following instances can be adduced:

- Kil. *lappen* ~ Lat. *lambō* 'to lick' < **lHb^h-néh$_2$-*
- OE *liccian* 'to lick' ~ Lat. *lingō* < **liǵ^h-néh$_2$-*
- OE *þaccian* 'to pat' ~ Lat. *tangō* 'to touch' < **th$_2$g-néh$_2$-*
- OE *stoppian* 'to stop, close' ~ Skt. *stubhnā́ti* 'to stop, to expel' < **stub^h-néh$_2$-*
- OE *roccian* 'to rock', MHG *rocken*, *rucken* 'to drag, jerk' ~ Lat. *runcō* 'to weed' < **Hruk-néh$_2$-*

[100] From PIE **solp-éh$_2$-*, cf. Alb. *gjalpë*, To. B *ṣalype* 'butter' .
[101] Cowgill 1959.

- Du. *mikken* ‘to aim’ (from older ‘to peer’) ~ Lith. *mìgti* (*mingù*) ‘to fall asleep’, Ru. *mignut’* ‘to blink, wink’ < *$m(e)ig^h$-$néh_2$-[102]

5.1.2 The origin of the zero-grade

The derivation of the iteratives from the *n*-presents furthermore explains why so many Germanic iteratives have zero-grade of the root. This follows from the fact that in the PIE nasal presents, the stressed full-grade shifted between the suffix in the singular and the ending in the plural, while the root received the zero-grade, cf. the Skt. *nā*-verbs, e.g. *badhnā́ti* ‘to bind, tie, fix, fasten’ < *b^hnd^h-$néh_2$-ti*, *gr̥bhṇā́ti* ‘to seize’ < *$g^hr̥b^h$-neh_2-ti*, *skabhnā́ti* ‘to prop, support, fix’ < *$skmb^h$-$néh_2$-ti*, etc. As a result, the zero-grade of the Germanic iteratives can, too, be regarded as a feature that was inherited from the proto-language.

5.1.3 Internal reconstruction

The most important confirmation that the iteratives must be derived from the neh_2-presents is probably not furnished by the aforementioned outer-Germanic correspondences, but by the internal evidence. Osthoff based his hypothesis on iteratives with voiceless geminates only, but the consonant alternations in the *ōn*-verbs bear a great resemblance to the consonant gradation of the *n*-stems, and thus seems to point to a similar allomorphic paradigm with geminated and non-geminated roots. Since the neh_2-presents, with their ablaut between the suffix and the ending (cf. Skt. 3sg. *gr̥bhṇā́ti*, 3pl. *gr̥bhṇánti*), offer the exact preconditions that must be assumed for the rise of such a paradigm, the link with the Germanic iteratives seems attractive. I therefore assume that, under Kluge’s law, the inherited paradigm of the neh_2-presents received a geminated root in the singular, where the suffix had the full-grade (*-$néh_2$-), and a singulate in the plural, where the nasal of the zero-grade suffix was vocalized (*-$n̥h_2$-). Once more, the resulting verbal allomorphy is remarkably similar to the allomorphy of the *n*-stems. It only differed in one respect, which is that the non-geminated roots were always affected by Verner’s law, because the root was never stressed. Compare the Indo-European and the Proto-Germanic paradigms:

	PIE		**PGm.**	
	sg.	**pl.**	**sg.**	**pl.**
1p	*CVC-$néh_2$-mi*	*CVC-$n̥h_2$-mé*	*CVCC-ōmi*	*CVG-umme*
2p	*CVC-$néh_2$-si*	*CVC-$n̥h_2$-th_1é*	*CVCC-ōsi*	*CVG-unde*
3p	*CVC-$néh_2$-ti*	*CVC-$n̥h_2$-énti*	*CVCC-ōþi*	*CVG-unanþi*

Again, the allomorphy was obliterated by the same paradigmatic analogies that affected the *n*-stems, the only difference being that the verbal paradigm contained no voiceless fricatives (because of Verner’s law). As a result, the root variation of the iteratives is comparable to *n*-stems with roots in voiced stops, cf. Nw. *tave* m. ‘piece of cloth’ < **taban*-, ME *tabbe* ‘strap’

[102] Franck/Van Wijk 430: “**mikk*- uit idg. **mig-n*-of **migh-n*-”.

< *tabban-, OE *tæppa* m. 'strip' < *tappan- and OE *tæpan* m.pl. 'tapes'.[103] This can be observed relatively clearly in the cluster of iteratives that belong to PGm. *teuhan- 'to pull' < PIE *deuk-, i.e. ON *toga*, OHG *zogōn* 'to drag' < *tugōn-, ME *toggen* 'to tug' < *tuggōn-, OHG *zochōn* 'to jerk', MDu. *tocken* 'to strike' < *tukkōn-, MDu. *token* 'to push' < *tukōn-. The different root variants are all perfectly understandable from the usual Kluge analogies[104]:

Paradigm 1

3sg.	*tukkōþi
3pl.	*tugunanþi

Paradigm 2a

3sg.	*tukkōþi
3pl.	*tukunanþi

Paradigm 2b

3sg.	*tuggōþi
3pl.	*tugunanþi

There is a plethora of other iterative verbs in the North-West Germanic dialects for which the same scenario must be supposed. The below verbs all exhibit the kind of consonant alternations that can be expected from an *neh_2-present with suffix ablaut:

- Nw. *duppe* ~ Nw. *dubbe* 'to bob, nod' ~ MDu. *dobben* 'to dunk, drown' < *duppōþi, *dubunanþi
- E *gloat* ~ ON *glotta* 'to grin' < *gluttōþi, *glutunanþi
- MLG, Du. *grabben* ~ LG *grappen* ~ MDu. *grapen* 'to grab' < *grappōþi, *grabunanþi
- OHG *jagōn*, Du. *jagen* ~ Du. *jakken* 'to rush, hunt' < *jakkōþi, *jagunanþi
- Kil. *labben* ~ *lappen*, OE *lapian* ~ Kil. *lapen* 'to lick' < *lappōþi, *labunanþi
- Nw. dial. *rige* ~ *rigge* 'to totter', MLG *wriggen* 'to wag' ~ Du. *wrikken* 'to pry' < *wrikkōþi, *wrigunanþi
- ON *rugga*, ME *ruggen* ~ OE *roccian*, MHG *rocken*, *rucken* ~ *ruchen* 'to rock, jerk' < *rukkōþi, *rugunanþi
- Kil. *schobben* ~ *schoppen*, OSw. *skoppa* ~ ON *skopa* 'to mock' < *skuppōþi, *skubunanþi
- ON *slafa-st* 'to slacken' ~ Icel. *slabba* 'to loaf around' ~ Icel. *slapa* 'to dangle' < *slappōþi, *slabunanþi[105]
- MHG *snaben* 'to sniff' ~ Kil. *snabben* ~ Du. *snappen* ~ ON *snapa* 'to grab' < *snappōþi, *snabunanþi

Note that the pattern displayed by the mentioned verbs is fully parallel to the interchange of e.g. OHG *storrēn* 'to jut out' vs. *stornēn* 'to be rigid', which, although *ēn*-verbs, presuppose an original paradigm *sturrōþi, *sturunanþi.

[103] Van Helten (1905: 231): "Lange stimmlose spirans kam den -*nā*-bildungen ihrer ursprünglichen accentuierung gemäss von rechtswegen nicht zu".
[104] Also Van Helten (1905: 229-232), but with a different chronological setting of the contaminations (see section 4.2.4.3).
[105] Cf. Lith. *slãbnas* 'limp'

5.1.4 The iterative aspect

A final argument in favor of the link between the Germanic iteratives and the *n*-presents is of semantic nature. Verbs like MDu. *dobben* 'to dunk', LG *grappen* 'to grab', Kil. *labben* 'to lick', Nw. dial. *rigge* 'to totter', OE *roccian* 'to rock' have in common that they denote an action consisting of repeated sub-actions. For this reason, they are commonly referred to as frequentative, intensive of iterative verbs.

It has become clear to me that the iterative aspect is not at all limited to Germanic. It can, as a matter of fact, be retrieved from many other *n*-presents throughout the Indo-European language family. Excellent non-Germanic examples of *n*-presents with an iterative aspect can be obtained from Sanskrit and Italo-Celtic. For example:

- OIr. *benaid* 'to hit',
- Skt. *bhanákti* 'to break'
- Skt. *bhinátti*, Lat. *findō* 'to split'
- Skt. *tundáte*, Lat. *tundō* 'to hit'
- Skt. *mr̥ṇā́ti* 'to grind'
- Lat. *fingō* 'to knead'
- Skt. *limpáti* 'to smear', etc.

To my mind, this tendency cannot be separated from the common view that the nasal presents were coined to original aorists. Indeed, the meanings of the Sanskrit *nā*-presents seem to range between an iterative and an aoristic aspect:

- *aśnā́ti* 'to eat, consume'
- *badhnā́ti* 'to bind, tie, fix, fasten'
- *grathnā́ti* 'to fasten, tie or string together'
- *gr̥bhṇā́ti* 'to seize'
- *mathnā́ti* (*mánthati*) 'to stir or whirl round, to produce fire'
- *lunā́ti* 'to cut, sever, divide, pluck, reap'
- *sinā́ti* (*sinoti*) 'to bind, tie, fetter'
- *skabhnā́ti* (*skabhnóti*) 'to prop, support, fix'
- *stabhnā́ti* (*stabhnóti*) 'to fix firmly, support, sustain, prop'
- *str̥ṇā́ti* 'to spread out, strew'
- *stubhnā́ti* (*stubhnoti*) 'to stop, stupefy; expel'
- *śr̥ṇā́ti* 'to break, crush'

Obviously, not all of such verbs convey an exclusively iterative meaning, cf. 'to hit', 'to break' or 'to tie', but even when they do not, their meanings denote actions that often must have been iterative. Hitting, breaking and tying, for instance, are actions that typically have to be repeated in order to require the result wished for. I now think that the iterative aspect of the Germanic *ōn*-verbs is a reflection of this.

The debate on the original aspect of the PIE *n*-presents is very old, and several different attempts have been made to define it. The aspect has been called "terminative" by

Delbrück[106], which means that "eine Handlung vor sich geht, doch so, daß ein Terminus in's Auge gefaßt wirdt, sei dieser nun der Ausgangs- oder Endpunkt, z.B. *ṛṇóti ὄρνυμι* in Bewegung setzen, *ἄγνυμι* zerbrechen" (p. 15). K. Strunk (1979: 244) has analyzed it as *infective-terminative*, and G. Meiser (1993: 295) adopts the concept "semantically transitive" from P. Hopper and S. Thompson (1980), i.e. "Proto-typische Nasalpräsentien sind demnach kurz gesagt transitive Handlungsverben, die ein – im Vergleich zur anders- oder uncharakterisierten Aktionsart – starkes Betroffensein des Objekts durch das intentional agierende Subjekt zum Ausdruck bringen." Still, the description that, to my mind, describes the semantic function most accurately, was given by N. van Wijk (1929: 255) in an article on the verbal aspect in Slavic:

> "En général, on peu dire que les verbes déterminés désignent des actions peu compliquées, menant directement à un but, tandis que les verbes indéterminés sont employés pour des actions se composant de plusieurs actes ou pour des actions prolongées ou répétées."

In this analysis, Van Wijk was, of course, principally referring to the Slavic aspect, and not to the Germanic second class weak verbs. It nevertheless provides a good description of the Germanic, Sanskrit and Italo-Celtic aspect, too.[107] It is therefore my conviction that the semantic aspect of the Germanic iteratives directly follows from the Indo-European situation: when a nasal present was created to an aorist verb, the aorist aspect was given a durative twist.

5.1.5 An alternative hypothesis by Lühr

A different explanation of the Germanic iteratives was offered by Lühr (1988: 345-77). Lühr, as a proponent of Kluge's law, argued that these verbs, with their characteristic geminates, continue adjectives in **-nó-*, which, in accordance with the Hittite factitives in *-aḫ-* < **-eh₂-* (cf. *newaḫmi* 'to make new' < **neu-eh₂-mi*), developed into the Germanic *ōn*-verbs of the second weak class.[108] Within this framework, G *locken* 'to entice' < **lukkōn-*, MDu. *bocken* 'to bend over' < **bukkōn-* and Nw. *duppe* 'to dip' < **duppōn-* can be directly connected with Lith. *lùgnas* 'pliable', Skt. *bhugná-* 'bent' and OIr. *domain* 'deep' < **dʰubʰ-nó-*, respectively. In spite of these outer-Germanic connections, however, Lühr's hypothesis seems difficult to maintain, as it cannot account for the consonant alternations displayed by the iteratives. In practice, the derivation from the **nó*-adjectives is indeed capable of clarifying iteratives with regular voiceless geminates, e.g. Du. *wrikken* 'to pry', G *zucken* 'to jerk', but not for alternants with different consonantisms, e.g. Nw. dial. *rig(g)e* 'to stagger', ME *toggen* 'to tug', of MDu. *token* 'to push'. The consonant variation, which is highly reminiscent of the allomorphy in the *n*-stems, can only be understood by supposing a paradigm with a regular

[106] Vergleichende Syntax, II, 40.
[107] Cf. Kuiper (1937: 204): "Vergleichen wir nun den Inhalt des Begriffs "determinativ" (action déterminée) mit dem von Delbrück als "terminativ" bezeichneten, so ergibt sich, daß beide Bezeichnungen sich nahezu decken."
[108] Accepted by Kortlandt (1991: 2).

alternation of singulates and geminates, and the subsequent rise of contamination forms with voiceless singulates and voiced geminates.

5.2 The iterative system

The Germanic iteratives are often in direct opposition to a non-iterative verb, usually of the strong conjugation. The pattern that emerges from these verbs is so pervasive, that the underlying mechanism seems to be more a matter of grammar than of word formation. The opposition of plain and iterative verbs can therefore be best understood from within the context of the Proto-Germanic aspectual verbal system, which comprises the morphologically productive pathways between 1) the statives in *-*ējan*-, 2) the causatives in *-*jan*-, and 3) the factitive/inchoatives in *-*nan*-, cf. ON *vaka* 'to be awake', *vekja* 'to (make) wake up' and *vakna* 'to wake up (intr.)'.

Below, I give a number of cases that demonstrate the iterative system. Each case consists of a strong verb that is in contrast with one or more related iteratives. The iterative formations usually have a geminated root, although they usually display the kind of consonant gradation that can be expected from the original *-*neh*$_2$-conjugation. For that reason, they often have root variants with (analogical) singulates.

- Go. *sneiþan* 'to cut' : G *snitzen* 'to cuttle'
- MHG *fliegen* : *flocken* 'to fly'
- ON *fljóta*, OE *flēotan* 'to flow' : MDu. *vlot(t)en* 'to flow, float' ~ OE *flotian* 'to float', ON *flota* 'id.'
- Go. *liugan* 'to lie' : OHG *lochōn* ~ *lohhōn* 'to entice'
- ON *rjúfa*, OE *rēofan* 'to break' : MHG *ropfen* 'to pluck' ~ Icel. *rubba* 'to scrape'
- Go. *tiuhan* : OHG *zogōn* 'to drag' ~ ME *toggen* 'to tug' ~ MDu. *tocken* 'to strike' ~ MDu. *token* 'to push'
- Go. *skiuban* 'to shove' : MHG *schopfen* ~ *schoppen* 'to stuff'
- OE *dūfan* 'to duck, sink' : Kil. fland. *doppen* '*intingere*' ~ Nw. dial. *dubba* 'to bob'
- MHG *snūfen* 'to sniff' : MLG *snoppen* 'to blow your nose'
- ON *stinga*, OE *stingan* 'to stick, sting' ~ OHG *stunchōn* 'to stuff'
- Go. *gawigan* 'to move' : MHG *wagen* ~ *wacken* 'to stagger'
- ON *steka*, OHG *stehhan* 'to stab' : OHG *stehhōn* ~ *stechōn* 'to stick'
- Go. *tekan*, ON *taka* 'to take' : Kil. *tacken* '*apprehendere*' ~ MDu. *taken* 'to grasp'[109]
- Go. *hlahjan* 'to laugh' : OFri. *hlakkia* 'id.'[110]
- OE *sceacan* 'to shake' : MHG *schocken* 'id.'
- Du. *stuiten* 'to stop, bump' : OHG *stotzōn* 'to tremble'[111]

[109] The initial *t* is due to restoration of the reduplication when the present stem **te-th*$_2$*g*- (Gr. τεταγών) developed into **tedg*- by assimilation (Kortlandt 2000).
[110] Van Helten 231: **klok-néh*$_2$-.

Some cases are likely to indicate that the iterativation mechanism remained productive after the Germanic sound shifts. The iterative verbs in question have simply adopted the root-final voiced stop of the strong verb, and doubled it. In this respect, the grammaticalization of gemination in the iteratives resembles the function of the geminates in the hypocorisms (see section 4.3). Obviously, no old *neh_2-formations can be stipulated on the basis of these secondary iteratives.

- OE *rēodan* 'to kill' : G *aus·rotten* 'to exterminate'
- OE *scūdan* 'to rush' : G *schotten* 'to shake'[112]
- OHG *tretan* 'to tread' : OHG *trettōn* 'to trample'

Additional evidence for the continuous productivity of the iteratives is furnished by those cases that have an analogical zero-grade. Some of these verbs are of the so-called *tudáti*-type, that originally had a zero-grade root in the present. This characteristic led to the situation that the iterative, which usually has the zero-grade too, was only distinguished from the strong verb by its geminate. The ablaut opposition between the strong verb and the iterative was then "restored" by the introduction of the productive zero-grade marker **u*.

- Go. *graban* 'to dig' : E *grub* 'id.', MDu. *grobben* 'to scrape'[113] : MLG *gropen* 'to hollow out'[114]
- ON *skaka*, OE *sceacan* 'to shake' : MHG *schocken* 'id.'
- OHG *stehhan* 'to stick, sting' : MHG *stocken* 'to coagulate': G *stochen* 'to poke'

The creation of MHG *stocken* < **stukkōn*- to OHG *stehhan* < **stekan*- presents an especially elucidating case. The strong verb is clearly related to Lat. *instīgo* 'to urge, incite' and must be reconstructed as a zero-grade present **stikan*-.[115] Formally, it is parallel to other strong *tudáti*-verbs, such as Go. *digan* 'to knead' (pret. *daig*) < **d^{h}iǵ^{h}*-, OHG *redan* 'to sieve' < **hriþan*- (cf. Gr. κρῖνω 'to separate') and ON *vega* 'to fence, fight, kill' < **wigan*- (cf. Lat. *vinco* 'to conquer'). The creation of the secondary iterative **stukkōn*- probably took place after the transfer of the verb into the fourth (OHG *stehhan*) and fifth (ON *steka*) class. This, in turn, was triggered by the lowering of *i* to *e* by *a*-mutation in North-West Germanic. The original iterative is preserved as OE *stician*, MLG *sticken* 'to stick' < **stik(k)ōn*-. Note that the variation of the consonantism and vocalism in nouns suchs as Go. *stiks* m. 'sting', OE *stecca* m. 'stick', ON *stjaki* m. 'id.', ON *stokkr* m. 'post' is due to their derivation from the verbal complex at different moments in time.

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[111] For a discussion of most of these iteratives, I refer to Wissmann 1932: Chapt. 6. *ō*-Verba mit Geminata.
[112] Grimm 15, 1612.
[113] Verdam 230.
[114] Lübben 130; Franck/Van Wijk (p. 213): "De secundaire basis met *p* kan haar uitgangspunt gehad hebben in klankwettige vormen met *pp* uit idg. *bhn*."
[115] Cf. Prokosch §54c.

5.3 Evidence for de-iterativation

Importantly, there is compelling evidence in support of a reverse derivational process from the iteratives to the strong verbs, i.e. what I would like to call *de-iterativation*. Such a mechanism is evinced by the fact that a large number of strong verbs demonstrably adopted their root final consonantism from an iterative geminate. The evidence consists of strong verbs with roots in **-p-*, **-t-* and **-k-* corresponding to intra-Germanic or extra-Germanic cognates that point to a PIE final plain stop or voiced aspirate instead. Since such correspondences can only be maintained by assuming that this **p*, **t* or **k* resulted from a shortened geminate, they are likely to be formed on the basis of an iterative.

- MLG *knīpen* 'to pinch' : Du. *knippen* 'to cut' (cf. ON *knífr* 'knife' < **gni(H)b^h-*)
- OE *snīcan* 'to creep' : G *schnecken* 'id.' (cf. MLG *snigge* 'snail')
- Go. *dis·hniupan*, OE *hnēopan* 'to tear (off)' : OE *hnoppian* 'to pluck off' < **knup-* (cf. MLG *nobbe* f. 'tuft')
- ON *drjúpa* 'to drip, droop with the head' : Nw. *drubba* 'to walk with a stoop, fall over', Du. dial. *drubben* 'to hang one's head, be downcast'[116] ~ MLG, MDu. *drupen*, *druppen* 'to sag, drip'< **d^{h}rub^h-*[117]
- ON *hrjóta* 'to snore', OHG *riozan* 'to cry' : G *rotzen* 'to cry, lament' (cf. ON *hroði* m. '(lump of) spit')
- ON *krjúpa* 'to crawl' : Cimb. *kruppen* 'id.' < **grub^h-*
- ON *strjúka* 'to stroke' : OE *stroccian* 'id.' ~ Kil. *stroocken* 'id.' < **strug^h-* (cf. OCS *strъgati* 'to shave, shere')
- OE *sūpan* 'to sip' : OE *soppian*, Du. *soppen* 'to sop, dunk' (cf. Skt. *sū́pa-* m. 'broth')
- OFri. *stapa* 'to go' : OHG *stapfōn* 'to tramp' (cf. OCS *stopa* 'footstep')
- Go. **mimpan-* → Go. *bi·mampjan* 'to mock' (cf. Gr. μέμφομαι 'to disapprove' < **memb^h-*)
- OHG *laffan* (pret. *luaf*) 'to lick' : Kil. *labben* ~ *lappen* ~ OE *lapian* 'id.' < **lab^h-*
- Go. *slepan* 'to sleep' : Icel. *slafa-st* 'to slacken' ~ *slabba* 'to hang' ~ *slapa* 'to slack' < **slob^h-*
- ON *sópa* 'to sweep' : E *swab* ~ *swap* 'id.' < **suHb^h-*?

The spread of geminates from the iteratives to the strong verbs was suggested by Lühr (1988: 351ff) in a discussion of the doublet ON *rífa*, OFri. *rīva* 'to tear' : OE *rīpa* 'to harvest'. According to Lühr, the latter verb adapted its consonantism to the iterative ON *rippa* 'to rip up', which she analyzed as a derivative from the past participle in **-no-* (see section 5.1.5). I agree with the derivation of the consonantism from the iterative, but in view of the cognates

[116] Boekenoogen 109.

[117] The consonant variation of ON *dropi*, OHG *tropfo*, *troffo* m. 'drop' < **drup(p)an-* does not have to be due to its inflection as an *n*-stem (Rasmussen 1989b: 253), but is more likely to be a reflection of the verbal alternations (cf. **sti/ek(k)ōn-* → *sti/ek(k)an-* 'stick'). Nw. *drubba* proves that the original root was **d^{h}reub^h-* rather than **d^{h}reub-*.

Nw. dial. *ripa* ‘to tear off’, MLG *repen* ‘to scutch flax’, MDu. *repen* ‘to tear’ < **ripōn-*, Kil. *reppen* ‘*rapere*, *capere*’ < **rippōn-*, G obs. *ribben* ‘*cortices lini decutere*’[118] and ON *rifa* ‘to sew up’ < **ribōn-*, it seems preferable to me to start from an allomorphic paradigm **rippōþi*, **ribunanþi* < **Hrip-néh$_2$-ti*, **Hrip-nh$_2$-énti*.

As to **rīpan-*, it is probably better to assume that this verb did not merely adopt the consonantism from the iterative, but that it was, in fact, *derived* from the iterative. What speaks for such a derivation is the semantic difference between OFri. *rīva* ‘to tear’ and OE *rīpan* ‘to harvest’. The latter meaning is best analyzed as a continuing act of repeated reaping or tearing. OE *rīpan*, in other words, represents a *durative* formation derived from the *iterative* formation **rippōþi*, **ribunanþi*, which was in turn created to the semantical primitive OFri. *rīva* < **rīfan-* < PIE **Hréip-on-*.

The productivity of the de-iteratives accounts for many other doublets in the Germanic dialects. It is less likely that these doublets arose independently from geminated **nu*-presents such as OE *bannan* ‘to order’ < **b^h(e)h$_2$-néu-ti*, **b^h(e)h$_2$-nu-énti*[119], Go. *winnan* ‘to suffer’ (cf. Skt. *vanóti* ‘to want, win’) < **uen-néu-ti*, **uen-nu-énti*, because many of these doublets are indeed accompanied by an iterative formation. The following examples can be mentioned:

- ON *vífandi* ‘arriving as by chance’ ~ MHG *wīfen* ‘to sway’ : OHG *wipfōn* ‘to lose one’s way’
- OE *smēocan*, MDu. *smieken*, *smuken* ‘to smoke’ ~ SFri. *smugen* ‘to be misty, drizzle’ : Du. obs. *smokken* ‘to snuff, put out’
- OE *smūgan* ‘to sneak’ ~ MLG *smūken* ‘id.’ : MHG *smucken* ‘to slip into’ (cf. OCS *smučati* ‘to crawl’)
- OE *sūgan* ~ *sūcan* ‘to suck’ : OE *socian* ‘to suck up’ ~ Nw. *sukke* ‘to inhale’ ~ Swi. App. *sukkə* ~ *sugə* ‘to suck’[120]
- G *zaufen* ‘to pull back’ : G *zupfen*, obs. *zopfen* ‘to pluck, pick’ ~ G dial. *zobeln* ‘to pull someone’s hair, tousle’[121]
- MHG *schreven* ~ OE *screpan* ‘to scratch’ : MDu. *schraven* ~ *schrabben* ~ *schrappen* ~ *schrapen* ‘id.’
- Sw. dial. *dimba* ‘to fog’ ~ MHG *dimpfen* ‘to smoke’ : MLG *dumpen* ‘to choke, extinguish’, Kil. *dompen* ‘id.’
- OE *slingan* ‘to wind, slink’ : *slincan* ‘to crawl, slink’
- MHG *klimpfen* ~ OHG *chlimban* ‘to climb’
- OHG *bahhan* ‘to bake’, Swab. *bache^n* ‘id.’[122] ~ *backan* ‘id.’ : OHG *bachōn* ‘id.’ (cf. Gr. φώγω)

The impact of this reversed mechanism should not be underestimated. It probably forms the answer to the question why the strong verbs with roots in **-p-*, **-t-* or **-k-* have such a high

[118] Grimm 14, 1033 (= Schottel).
[119] Cf. Fick/Falk/Torp 256.
[120] Vetsch 159.
[121] Cf. Grimm 31, 397: “z. *liegt dem intensivum* zuppen zoppen *zurückgehn, zurückziehen und* zupfen, *nd.* tuppen *zerren, ruckweise reiszen zu grunde* [...].”
[122] Fischer/Taigel 55.

representation in Proto-Germanic, even though in Proto-Indo-European the voiced stops occurred much less frequently than the other stops, the phoneme **b* even being absent. Lühr (1988: 352) mentions Go. *sliupan*, *greipan*, *slepan*, *weipan*, *raupjan* and *hniupan* as possible formations with shortened **-pp-*, so as to proof that Kluge's law also affected Gothic, i.e. is of Proto-Germanic origin. Shortened geminates are probably also extant in the following verbs:

- Go. *greipan* 'to seize' : MHG *gripfen* 'to grab' ~ G Als. *grippen* 'to steal'
- Go. *dis·skreitan* 'to tear apart' : G Bav. *schritzen* 'to tear'
- Go. *ga·smeitan* 'to smear' : OE *smittian* 'to befile'
- ON *ríta* 'to carve, write' : OHG *retzōn*, *ritzōn* 'to scratch'
- ON *fjúka* 'to blow' : MDu. *vocken* 'id.' ~ MHG *fochen* 'id.'
- OHG *riuhhan* 'to smoke' : Cimb. *rucken* 'id.'
- MHG *spriezen*, OFri. *sprūta* 'to sprout' : Kil. *sprotten* 'id.'
- MHG *striefen* 'to strip' : MHG *strupfen* 'id.'
- OE *scēotan* 'to shoot' : G *schutzen* 'to swing, rock'[123]
- MDu. *hūken* 'to cry' : G Cimb. *hocken* 'id.'[124]
- MLG *hūken* 'to squat' : G *hocken* 'id.' ~ ON *hoka* 'id.'
- MLG, MDu. *dūken* 'to duck, dive' : MDu. *docken*, *ducken* 'to duck'
- MHG *slūchen* 'to swallow' : G *schlucken* 'id.', Du. *slokken* 'id.'
- Go. *ana-trimpan* 'to press upon' : MHG *trumpfen* 'to walk, toddle off'
- OFri. *stapa* 'to step' : OHG *stapfōn* 'id.' ~ Nw. dial. *stabba* 'to stumble'[125]

It furthermore seems evident to me that the derivation of strong verbs from iteratives offers an explanation for the abundance of second class strong verbs wit **ū*, cf. OE *sūcan* < **sūk^{k}an-*, MHG *slūchen* < **slūk^{k}an-*, G *zaufen* < **tūp^{p}an-*, etc. The iterativation mechanism created a highly dynamic derivational process between strong verbs and iteratives. Within such a system, it is likely that the opposition of **ī* vs. **i* (e.g. Go. *skreitan* : G *schritzen*, etc.) triggered the analogical introduction of **ū* vs. **u* next to regular **eu* vs. **u*.

[123] Grimm 15, 2128.
[124] Schmeller/Bergmann 193.
[125] Lühr (1988: 360): "Die aus dem Stamm **stapp-* des Iterativ-Durativs. hervorgegangene Lautung **stap-* bildet auch die Grundlage für nominale Ableitungen wie ahd. *stafel*".

6 The Expressivity Theory

6.1 Rise and reception of "expressivity"

The idea that the morphology of the Germanic weak nouns and iteratives directly evolved out of the PIE *n*-stems and verbs in *-*neh*$_2$- by the operation of Kluge's law, was initially accepted, and adopted by Streitberg in *Urgermanische Grammatik* (1900: §127A), J. and E.M. Wright, who adopted it in their *Old English Grammar* (1925: §256) and Prokosch in his *Comparative Germanic Grammar* (1939: §22), as I have stated earlier. Still, however succesful in accounting for the actual data, this Neogrammarian approach has been seriously challenged throughout the 20th century, and nowadays even borders on the uncanonical in both Indo-European and Germanic linguistics. Initially, only the analogical mechanisms as proposed by Kluge were criticized by Kauffmann, Van Helten and Hellquist (1905), who regarded the paradigmatic cross-contaminations as "psychologically impossible" (see section 4.2.4.3). Later on, however, the discussion came to be increasingly focused around the existence of Kluge's law itself.

The most important criticism of Kluge's law and its effects was raised by the proponents of the expressivity theory, or variants thereof. This theory revolves about the idea that in Germanic, consonantal length, in both the nominal and verbal domain of the lexicon, was somehow connected with the charged semantics of the word concerned. This idea, which basically stems from the time before the rise of the Neogrammarian doctrine of *Ausnahmslosigkeit der Lautgesetze*, was formulated by Gerland in his 1869 monograph *Intensiva und Iterativa und ihr Verhältnis zu einander*. According to Gerland, the frequently occurring geminates in Germanic served as a way of indicating the shortness and intensity of the act signified by a root. One of the most frequently mentioned and generally accepted examples of such "psychological" gemination that was given by Gerland is the German verb *placken* 'to tease', which appears to belong to the more current *plagen* with the same meaning. Geminates, in other words, would not function as semantically empty language phones, but rather as extra-linguistic instruments that enable the mind to adjust the meaning of lexemes randomly.[126]

Gerland's idea became redundant after the formulation of the more falsifiable theory of *n*-assimilation by the Neogrammarians, but was reanimated by Trautmann, a fierce opponent of Kluge's law. According to Trautmann (1906: 66), iteratives such as OHG *zochōn* and *lechōn* should not to be compared to the 9th class verbs in Sanskrit, but the lengthening of the root-final consonants would be rather due to their "intensive" meaning. Similarly, Wissmann (1932) stressed that there are no correspondences of Germanic iteratives with *n*-presents in other Indo-European branches [127], and accordingly denied any link between this

[126] In contemporary scientific terminology, this comes down to a breach of Martinet's *double articulation*. According to this principle, independent phones are meaningless, and can only become meaningful by being strung together with other phones. Onomatopoeias are a clear exception to this principle.

[127] According to Wissmann "gibt es [...] keinen Fall, in dem ein germ. Verbum mit geminiertem Verschlußlaut einem *n*-Präsens einer andern idg. Sprache entspräche" (p. 160), but this is a misconception (see section 3.1 and 5.1.1).

class and the PIE *neh₂*-type. In Wissmann's view, a verb such as *hüpfen* 'to hop' denotes "eine wiederholte kurze (und oft energische) Handlung: *hüpfen* is nicht einfach 'sich wiederholt im Gelenk biegen (und springen)', sondern, wie es das *Deutsches Wörterbuch* 4, 2, 1954 umschreibt, 'sich in kurzen weiten Sprüngen bewegen" (1932: 172-3), and in order to convey this intensivity, the verb was given an expressive geminate.

When the expressivity theory was accepted by Martinet (1937), Meillet (1908-9: 355-7[128], 1928: 166ff., 1937) and Pokorny, who frequently applied it in his *Indogermanisches etymologisches Wörterbuch*, it became a dominant opinion. Basically, this repositioning entailed a restoration of the pre-Neogrammarian order. So, while Kluge's law is applied as often as 94 times by Fick/Falk/Torp in *Wortschatz der germanischen Spracheinheit*, the same geminates are as a rule labeled as "intensive" by Pokorny. Pokorny claims, for instance, that MHG *zecke* 'tick' (p. 187-8) has "Intensivschärfung", while Fick/Falk/Torp propose "germ. kk aus ǵhn-́". Similarly, Pokorny (p. 227) calls OE *tæppa* 'tip' a "*mot populaire* mit intensiver Konsonantenschärfung", thus referring to Meillet's distinction between the phonetically regular *mots savants* and the supposedly expressive *mots populaires*.[129] Somewhat differently, ON *klǫpp* 'bridge' is derived from **klampō-* by Fick/Falk/Torp (p. 57), whereas Pokorny (p. 356-64) explicitly ascribes the geminate to "intensive Konsonantenschärfung".

Ever since its incorporation into Pokorny's dictionary, the expressivity theory has remained a persistent axioma. It is frequently encountered in Seebold's *Vergleichendes etymologisches Wörterbuch der germanischen starken Verben* (1970) and *Etymologisches Wörterbuch der deutschen Sprache* (2002), and on the whole has gained a strong position in Germanic philology. More recently, the expressivity theory has been advocated by J. Hopper (1989), S. Fagan (1989) and D. Ringe (2006).

6.2 No evidence for Kluge's law?

The most important reason for Trautmann and his followers seems to have been the scarcity of extra-Germanic material with *n*-suffixes corresponding to Germanic geminates. Trautmann himself accepted only two pieces of evidence for Kluge's law, i.e. only OFri. *hwit* 'white' ~ Skt. *śvitná-* (sic) and ON *lokkr* 'lock' ~ Lith. *lùgnas* 'lithe'[130], and adduced a much larger collection of forms that according to him sufficiently falsified the the law, e.g. ON *botn* 'bottom', ON *logn* n. 'calm', *hrogn* n. 'roe', Go. *rign* n. 'rain', OE *swefn* n. 'sleep', etc. In view of these instances, Trautmann considered it a proven fact that "die heutzutage geltende

[128] "Le type intensif à consonne géminée intérieure, dont lat. *lippus*, delph. λεκχω, etc., fournissent des exemples, a certainement tenu beaucoup de place en indo-européen, et il est largement représenté en germanique [...]. L'arm. *lakem* 'je lèche' repose sur **lakk-*, tandis que le *k* simple de lit. *lakù* 'je lèche' [...]; le germanique a de même la géminée dans le synonyme v. h. a. *lecchōn*; cf. aussi v. irl. *sluccim* 'j'avale', v. h. a. *slucko* 'glouton' [...]."

[129] Meillet 1937: *Introduction*.

[130] The original meaning of PGm. **lukka-* must have been 'pluck' (cf. Cimb. *lock* 'flock of wool, snow flake' (Schmeller/Bergmann 205)), and seems to be derived from an iterative **lukkōn-* 'to pluck'. The pre-existence of this unattested iterative is supposed by the shortened geminate of **leukᵏan-* ~ **lūkᵏan-* 'to pull, pluck', cf. OE *lūkan*, OFri. *lūka*, OHG *liohhan*. The link with Lith. *lùgnas* can hardly be maintained.

und blindgläubig angenommene theorie einer *n*-assimilation überhaupt falsch und daher aufzugeben ist" (p. 63).

A survey of the literature shows that this argument has been repeated over and over again. According to Wissmann, "gibt es [...] keinen Fall, in dem ein germ. Verbum mit geminiertem Verschlußlaut einem *n*-Präsens einer andern idg. Sprache entspräche" (p. 160). Kuryłowicz in his article *Morphological gemination in Keltic and Germanic* (1957), writes that "[t]here are [...] quite a number of Germanic verbs with *-nō*-suffix corresponding to the *-nā*-verbs of other IE languages. But no Germanic verb with final geminated stop corresponds to a *-nā*-verb of another language" (p. 133 fn.). In 1989, S. Fagan states that "the only possible evidence for assimilation of *n* to a preceding stop is ON *lokkr* 'lock of hair' : Lit. *lugnas* 'flexible', where the IE accent can be inferred, and OHG *lechōn* 'lick' : Gr. λιχνός" (p. 38). In the same year, P.J. Hopper started an agitation against Kluge's law in particularly strong wordings in a reaction to J. Rasmussen:

> "There is virtually no evidence from within or outside Germanic for an {n-} suffix in any of the geminated forms, nor is there any indication that the progressive assimilation -dn- > -dd- ever occurred. [...] The whole unbelievable complex sequence, whose only empirical stage is the final one (viz. -tt-), is to my mind an artefact of the obsession with preserving the Germanic sound shift theory – the very theory for which this bizarre and purely hypothetical train of events is now adduced as evidence." (1989: 247)

Even more recently, the same argument was repeated by D. Ringe (2006) in his monograph *From Proto-Indo-European to Proto-Germanic*:

> "The problem with Kluge's suggestion is simply that the etymologies are unconvincing in detail: the best examples are assembled at Brugmann 1897: 383-4, and not one *must* reflect a form with *-n-. On the other hand, perusal of the numerous examples scattered throughout Seebold 1970 strongly suggest that they have been generated by some sort of sound symbolism ('Intensiv-Gemination'), and that is still perhaps the most widely accepted explanation." (2006: 115)

Still, inspite of this argument being rehearsed time and again over more than a century, the statement that Kluge's law is not sufficiently supported by extra-Germanic cognates with *n*-suffixes is simply incorrect. It is, in fact, an audacity in view of relatively reliable examples such as OE *botm* with **butt-* = Skt. *budhná-*, Du. *wit* ~ Skt. *svítna-* 'white' < **ḱuit-n-*, Kil. *lappen* 'to lick' ~ Lat. *lambō* < **lab^h-n-*, ~ Gr. λιχνέυω, Lat. *lingō* 'to lick' < **liǵ^h-n-*, MHG *stutzen* 'to bump' ~ Lat. *tundō* < **(s)tud-n-*, OE *þaccian* 'to pat' ~ Lat. *tangō* < **tag-n-*, etc. More importantly, the rejection of Kluge's law always seems to be coupled with the failure to recognize the *internal* evidence for Kluge's law in Germanic, which is implied by the strong representation of the geminates in the *n*-stems, as Kluge already pointed out himself in 1884:

> "Was die theorie des in der gemination untergegangenen *n* zur gewissheit macht, ist die oben unter III B behandelte erscheinung wonach geminata in schwach flektierenden nominalstämmen besonders häufig auftritt" (1884: 169).

That fact that it is the internal evidence that decides the issue was also acknowledged by Lühr, who put it as follows: "Die Doppelobstruenten treten vor allem in *n*-Stämmen auf, was in der Flexion dieser Stämme begründet ist" (1988: 191).[131] Lühr (1988: 191) further contended that many *n*-stems with consonant gradation have meanings that cannot possible be labeled expressive: "Die Bedeutung der meisten Nomina mit Doppeltenuis oder Konsonantenwechsel läßt keine expressive, lautnachahmende oder Intensität beziehungsweise Iteration ausdrückende Lautgebung vermuten." Both these arguments were also staged by Rasmussen one year later, who similarly emphasized the importance of the intra-Germanic evidence, and at the same time delicately pointed to the lack of expressiveness of many *n*-stems:

> "Daß alle Geminatenwörter als expressiv zu erklären wären, is aber nicht wahrscheinlich, und daß es so gut wie keine Anhaltspunkte für *n*-haltige Suffixbildung in den einschlägigen Wörtern gebe, ist einfach nicht wahr. Eine sehr bedeutsame Klasse umfaßt *n*-stämmige Substantiva ohne erkennbare 'expressive Bedeutung" (1989b: 252).

In conclusion, the material leaves no room for downplaying the amount of evidence of Kluge's law, whether internal or external.

6.3 Expressive gemination vs. analogical degemination

Another counter-argument against Kluge's law that was featured by Wissmann is that "es den Vertretern der Assimilationstheorie nicht gelungen ist, das Nebeneinander von Bildungen mit Doppeltenuis und solchen mit Doppelmedia einigermaßen glaubhaft zu erklären" (p. 161), thereby implicitly refuting the attempts by Kluge, Van Helten and Hellquist to explain this by paradigmatic contaminations. It is obvious, however, that the expressivity theory does not offer an explanation for the voiced geminates either. This was, in fact, admitted by Trautmann himself: "Wie wir uns freilich das nebeneinander von z.b. *kk- gg- k- g* zu erklären haben, weis ich nicht" (1906: 66).

The only theory that is powerful enough to explain such root variations, is the one that acknowledges consonant gradation and the underlying mechanism of the paradigmatic contaminations. The co-occurrence of ON *riga* 'to lift heavily' : MLG *wriggen* 'to twist' : ME *wricken* 'to wiggle', for instance, implies two different expressive formations within the expressivity theory, the choice between a voiced and voiceless geminate being arbitrary,

[131] Lühr further convincingly argues that the *n*-stems with geminate resonants (cf. **skelō*, **skel-n-ós* → OHG *scelo*, MHG *schel(l)e* m. 'breeding stallion') are completely parallel to the ones with geminate stops, so that Kluge's law must be assumed to have affected resonants and consonants alike.

erratic, or, in other words, scientifically unfalsifiable. By reconstructing a paradigm **wrikkōþi*, **wrigunanþi* < **uriḱ-néh₂-ti*, **uriḱ-nh₂-énti*, on the other hand, the only irregular root form is **wrigg-*, which can readily be explained by contamination of **wrig-* and **wrikk-*.

Note that the occurrence of *analogical singulation* is especially detrimental to the expressivity theory. The presence of such unetymological singulates must be assumed in, for instance, Du. *teek*, Cimb. *zecho* < **diǵʰ-*, and also in iterative off-shoots such as MDu. *token* 'to push' < PIE **duk-*, ON *skrapa* 'to scrape' < **skrop-*, Kil. *stroocken* 'to stroke' < **strugʰ-*, etc. Within the framework of the Kluge's assimilation theory, these secondary singulates can easily be accounted for by assuming a paradigmatic split, according to which, for instance, the original paradigm **tukkōþi*, *tugunanþi* could have been bifurcated into either 1. **tukkōþi*, **tukunanþi* (= MDu. *tocken* : *token*) or 2. **tuggōþi*, **tugunanþi* (= E *tug* : *tow*). The expressivity theory, though, offers no explanation whatsoever, because if one assumes that geminates were introduced on semantic or psychological grounds, long stops being more expressive than short stops, the idea that at the same time a secondary (un-expressive?) singulate should have been inserted, makes no sense. To my mind, this is the most critical objection against the expressivity theory.

6.4 The origin of the inchoative verbs

Parallel to the nominal counter-evidence against Kluge's law that was adduced by Trautmann, the opponents of Kluge's law have often added the inchoative verbs such as Go. *fullnan* 'to become full', Go. *ga·waknan*, OE *wæcnian* 'to wake up' and closely related duratives such as OHG *lirnēn*, OE *leornian* 'to learn' < **liznējan-* to testify against the Assimilation Theory.[132] The idea is that if the *nan*-verbs derive from the *neh₂*-presents, which is a generally accepted view, the iteratives with consonant gradation cannot have the same origin.

A possible solution to this problem was given by Van Helten (1905: 38 fn.), who assumed that the forms with retained nasals had root accent, so that Kluge's law could not operate. In the end, however, the formal differences between the Germanic iteratives and inchoatives seem to be best understood as resulting from a morphological difference. Clearly, the inchoatives cannot be separated from the PIE causative-factitives, cf. Skt. *rī́yate* 'to flow' → *riṇā́ti* 'to make flow', OIr. *rúad* 'red' → *rondid* 'to make red', etc. However, the PIE factitives are transitive, while the Germanic inchoatives are not, cf. Go. *bindan* 'to bind' → *and·bundnan* 'to become loose', ON *rauðr* 'red' → *roðna* 'to become red', Lith. *budė́ti* 'to be awake' → *bundù*, *bùsti* 'to wake up', *plìkas* 'bald' → *plinkù*, *plìkti* 'to become bald'. It was therefore suggested by Meiser (1993: 292) and Kortlandt (1995)[133], that the inchoatives really continue medial factitives. As a result, the lack of gemination in the Germanic inchoatives can simply be explained from the fact that the present middle forms had zero-grade of the suffix in the larger part of the paradigm, cf. Skt. sg. *gr̥bh-ṇ-é*, *gr̥bh-ṇī-ṣé*, **gr̥bh-ṇī-té*, pl. *gr̥bh-ṇī-máhe*, *grbh-ṇī-dhvé*, *gr̥bh-ṇ-áte* < **gʰrbʰ-n̥h₂-ói*, **gʰrbʰ-n̥h₂-sói*, **gʰrbʰ-n̥h₂-(t)ói*, pl. **gʰrbʰ-*

[132] Wissmann 1932: 160-1; Fagan 1989: 38-9; Hopper 1989: 247.

[133] Kortlandt suggested that the class 4 weak verbs were derived from the middle of the root aorist, which in Germanic must have had root stress, cf. OE *cūðe* 'could' < **kunþa* < **h₁e-ǵn̥h₃-to*, *ūðe* 'granted' < **h₁e-h₃ǵn̥h₂-to*.

n̥h₂-méd^hi, **g^hrb^h-n̥h₂-d^hué*, **g^hrb^h-n̥h₂-n̥tói*. This zero-grade caused the nasal, which was positioned directly in front of a consonantal laryngeal, to become vocalized, thus inhibiting the operation of Kluge's law throughout the paradigm.

Parenthetically, it does not seem obvious to me that at all the causative-factitive and the iterative function of the *n*-presents must be reconciled into one single "proto-aspect", as has been argued by e.g. Wissmann[134] and many others. I rather think that the causative-factitive "aspect" arose automatically when an *n*-present was created to an adjective (ON *rauðr* → *roðna*), just like the iterative aspect of other *n*-presents naturally follows from their derivation from the aorist. For the causative *n*-presents (Go. *bindan* → *bundnan*), which are analyzable as verbal factitives, there must be a similar explanation.

6.5 No geminates in Gothic?

A final counter-argument against Kluge's law is, according to Fagan (1989: 39), "the absence of geminates in Gothic verbs", for if Kluge's law did not affect East Germanic, it could not possibly have been of Proto-Germanic date. Fagan (1989: 54) consequently suggested that the mechanism of expressive gemination only became productive in North-West Germanic, i.e. after the separation of the Goths from the Germanic linguistic community.

Admittedly, there is a striking contrast between Gothic and the North-West Germanic dialects, where geminates are so abundant that they are, in fact, essential to the typological nature of these dialects. It is incorrect, however, to state that there were no geminates in Gothic at all. There are four words that have voiceless geminates, viz. *sakkus* 'sack' (<< Lat. *saccus*), *skatts* 'money', *atta* m. 'father' < **attan-* and *smakka* m. 'fig', all of which are explained away by Fagan. The Latin origin of *sakkus* is undisputed, which means that the geminate indeed has nothing to do with Kluge's law. However, Fagan's explanation of *smakka* as a loanword from OCS *smoky* 'fig' is not generally accepted. It has also been suggested that, conversely, OCS *smoky* was adopted from Germanic. It is possible, for instance, that *smakka* is related to the verb **smakōn-* as in OFri. *smakia* 'to taste (good)'.[135] Fagan further argues that *atta* and *skatts* cannot be used as evidence for Kluge's law, because their etymologies are obscure. However that may be, the fact that a geminate coincides with an *n*-stem inflection in *smakka* as well as in *atta* can hardly be ascribed to chance. I rather feel that this morphologically salient link should not be downplayed by pointing at the etymological uncertainties.

More importantly, the scarcity of geminates in Gothic is fully compensated by the demonstrable presence of shortened geminates in this language. It was shown by Lühr (1988: 352) that the strong verbs *dis·hniupan* 'to tear off', *sliupan* 'to crouch' and *slepan* 'to sleep' have taken their consonantism from the pertaining iteratives, e.g. OE *hnoppian* 'to pluck', **sluppōn-* → OHG *slopfāri* 'itinerant monk', Icel. *slabba*, *slappa*, *slapa* 'to slack, laze', etc. Go. *bi·mampjan* 'to mock' can probably be added here, too, because if it is really related to Gr. μέμφομαι, it can only be derived from a geminated root **mamp^p-*.

[134] Cf. 1932, p. 161.
[135] Vasmer 1953-8, II: 674.

In conclusion, there is marginal but nevertheless convincing evidence for geminates in Gothic. It cannot be claimed, for that reason, that Kluge's law operated in North-West Germanic only, let alone that there was no Kluge's law at all. An interesting consideration concerning the scarcity of geminates in Gothic was given by Kuryłowicz (1957: 140), who argued that Wulfila may have found geminates inappropriate in the Gothic translation of the Bible because they had a colloquial, informal flavor. This is a logical explanation, as it is clear from the North-West Germanic evidence that many *n*-stems, in particular the pet names, had such a connotation. The register of the *n*-stems should probably be compared to the one of words ending in *-ie* or *-y* in modern English as in *doggy*, *cookie*, *Danny*, *Blondie*, *smoothie*, which belong to more or less informal contexts.

6.6 Evaluation

To sum up, not one of the objections against Kluge's law can be maintained, in spite of the fact that they have been repeated over and over again. Moreover, the even older, but reanimated expressivity theory fails to clarify the systematic nature of the consonantal root variation in the *n*-stems and the iteratives, and must therefore be rejected.[136] In addition, the expressivity theory contains a critical theoretical fallacy. It is *a priori* implausible that a completely new range of phonemes (i.e. geminates) could be introduced into a linguistic system by extra-linguistic factors such as charged semantics. In this respect, the expressivity theory is truly comparable to what in biology is known as Aristotle's *generatio spontanea* hypothesis, which revolved around the idea that living organisms, such as flies and eels, come about spontaneously in decaying corpses.

Needless to say that not all the iteratives mentioned by Wissmann and other advocates of the expressivity theory must go back to PIE *neh*$_2$-verbs. Clearly, instances such as ON *klappa* 'to clap', OSw. *kratta* 'to scratch', Nw. *tikka* 'to tap', OE *cluccian* 'to cluck', OFri. *kloppa* 'to knock', ON *okka* 'to sigh', ON *skvakka* 'to make a gurgling sound', are of strong onomatopoetic nature. The mere existence of onomatopoeias, however, cannot be used as an argument against Kluge's law. A balanced approach to the issue was provided by Hellquist in the article *Nordiska verb med mediageminata* (1908).[137] Hellquist accepted Van Helten's (1905: 229-232) adaptation of Kluge's configuration[138], but nevertheless resisted Von Friesen's inclination to project verbs of the type Sw. dial. *bobba*, Icel. *babba*, *drabba*, *kvabba* back into Proto-Indo-European in spite of their pertinent sound symbolic nature ("Allting skulle vara indoeuropeiskt!"). He endorsed the view expressed by Willmanns in his *Deutsche Grammatik*, namely that the iteratives ultimately sprang from the PIE *neh*$_2$-present, but stressed that the resulting geminates could have become productive as an expressive

[136] Lühr 1988; Rasmussen 1989b; Kortlandt 1991.

[137] The article is a strong attack on O. von Friesen, who in *De germanska Mediageminatorna* (1897) erroneously tried to explain all the Germanic geminated iteratives as secondary derivations from *n*-stems. Hellquist (1908: 40): "v. Friesen har som bekant i hög grad förenklat problemet för sig genom att afleda dem samtliga ur urgermanska *n*-stammar".

[138] As has been pointed out, Van Helten retained the derivation of the iteratives from the *neh*$_2$-presents, but pushed back the paradigmatic cross-contaminations until before the devoicing phase of Grimm's law.

mechanism. Hellquist's solution was adopted by Prokosch (1939: 71), who summarized that "[o]nce geminates had been established by assimilation, they could easily become the instrument of sound symbolism." In view of the general productivity of the *ō(ja)n*-verbs, which resulted in a large body of verbs derived from sound imitation, this seems to be by far the most sensible approach to the matter.

6.7 The Leiden substrate theory

In the preceding sections, I have criticized the expressivity theory, which, to my mind, is for the larger part based on an incorrect rejection of Kluge's law and its important consequences for Proto-Germanic morphophonology. A similar criticism can be directed towards the socalled substrate theory, which was developed by Leiden comparative linguists such as R. Beekes, P. Schrijver and D. Boutkan towards the end of the 20th century. It was fashioned in order to account for that part of the Germanic lexicon that does not have an Indo-European etymology. Germanic, after all, had been under suspicion of harboring a substrate from the very beginning of Indo-European comparative linguistics, when Sir William Jones spoke of "the Gothic" as "blended with a very different idiom".

It was the Indologist and Indo-Europeanist F.B.J. Kuiper who gave the initial impetus to the formulation of a new method. Kuiper, who had studied the Munda loanwords in Sanskrit, attempted to apply this experience to the Germanic situation. The main difference between the Sanskrit and Germanic situation, however, is that while the Dravidian and Munda languages are still spoken, the language or languages that preceded the Germanic branch became extinct in prehistoric times. Kuiper's way around this problem was to focus on phonetic alternations in Germanic that were impossible in the Proto-Indo-European parent language, so as to isolate non-Indo-European from inherited material. By doing so, Kuiper devised a substrate theory that could be applied not only to Germanic, but, in fact, to any language of which the parent language's phonology is more or less known.

Two of the most important Germanic substrate features (layer "A2") that were proposed by Kuiper were 1) root-final consonant variation and 2) prenasalization. This idea was inspired by the parallel typology of the alternation of intervocalic *-m-*, *-mb-* and *-b-* in Mundari, a North Munda language, and similar phenomena in Germanic. The variation, for instance, of Mundari *haba'*, *hamba'* and *hama'* 'up to, as far as, during', Kuiper compared to the alternations of **dūb-*: ON *dúfa* 'to immerse', **dubb-*: Nw. dial. *dubba* 'to stoop', MDu. *dubben* 'immerse', **dūp-*: Du. *duipen* 'to hang one's head', **dupp-*: Nw. dial. *duppa* 'to nod' and **dump-*: SFri. *dumpen* 'to dive'. This particular substrate was conveniently dubbed "language of geminates".[139]

With the use of this new methodology, Kuiper's colleagues published a considerable number of articles on Kuiper's substrate in Germanic, adding new words and substrate features, many of which are convincing, such as the case of Go. *magus* 'boy', *megs* 'son-in-law', OIr. *mug* 'boy' and OIr. *macc* 'son'.[140] The root variants pertaining to this etymon

[139] Schrijver 2001; 2003.
[140] Boutkan 1998; 2003a.

cannot be traced back to a single (PIE) proto-form. This incongruity provides a firm basis for the hypothesis that the word results from some kind of pre-historic language contact.

It should nevertheless be recognized that the Leiden substrate theory is weak at a vital point, namely the interpretation of the Proto-Germanic geminates. Kuiper and his followers were not aware, or at least not sufficiently aware of the fact that the alleged substrate-born consonant variation primarily occurred in the *n*-stems and the iteratives. This distribution alone would probably have been reason enough to doubt the alien origin of such variation, because it begs the question why only particular morphological categories should be affected by the substrate.

Unfortunately, no such questions were raised. Kuiper, in fact, explicity mentioned the root alternation of **knaban-*: OE *cnafa*, **knabban-*: OHG *chnappo*, **knapan-*: OE *cnapa* and **knappan-*: OFri. *knappa* 'boy' or 'young man', apparently disregarding that fact that exactly this *n*-stem had been used to illustrate the effects of Proto-Germanic *n*-gemination by Kluge himself. As a result, it appears that many consonant alternations that were staged by Kuiper and his followers as symptoms of substrate influence in reality must be attributed to Kluge's law and its morphophonemic consequences.

Furthermore, one of Kuiper's other prime examples of supposed substrate alternations, the variation of **dūb-*: ON *dúfa* 'to immerse', **dubb-*: Nw. dial. *dubba* 'to stoop', MDu. *dubben* 'immerse', **dūp-*: Du. *duipen* 'to hang one's head' and **dupp-*: Nw. dial. *duppa* 'to nod', can be explained in a similar vein. By postulating an old opposition of a strong verb **dūban-* and an iterative **duppōþi*, **dubunanþi* < **d^hub^h-néh$_2$-ti*, **d^hub^h-nh$_2$-énti*, related to e.g. Lith. *dubùs* 'deep' < **d^hub^h-u-*, the complete set of root variants can be accounted for. The iterative was split-up into 1) **duppōþi*, **dupunanþi* and 2) **dubbōþi*, **dubunanþi*, and thus gave rise to Nw. *duppa*, *dubba*, MDu. *dubben*, etc. The consonantism of Du. *duipen*, with final **p* instead of **b*, finds its origin in the iterative geminate; either the strong verb **dūban-* attracted the **-p^p-* from **duppōn-*, a kind of contamination that occurred frequently, or **duppōn-* itself served as the base on which a secondary strong verb was created (see section 5.3).

Importantly, the feature of prenasalization cannot be maintained either, at least not in the root **dump-*: SFri. *dumpen* 'to dive'. In this case, the nasal can very well continue the Proto-Indo-European nasal infix, which also occurs in many other verbal stems, e.g. Go. *us·keinan* 'to germinate' < **ǵei-n-H-* vs. *us·kijanata* 'germinated', Du. *blinken* 'to shine' < **blinkan-* vs. *blijken* 'to appear' < **blīkan-* (< **b^hleig-*, cf. Lith. *blizgéti* 'to shine' < **b^hlig-sk-*) and OE *climban* 'to climb' < **klimban-* vs. ON *klífa* 'to climb' < **klīban-*, etc.

Typically Germanic vowel alternations were added to the substrate armamentarium as well. The alternation **ū* ~ **u* such as in *duipen* and *duppen* was regarded as equally indicative of substrate influence as the consonant alternations displayed by this etymological cluster. The problem with this procedure, of course, is that the ablaut **ū* : **u* arose analogically within Proto-Germanic morphophonology. It is indeed un-Indo-European in the sense that it came about in the Germanic branch after the dissolution of the Indo-European dialect continuum, but at the same time it does not in any way point to language contact.

More consonant and vowel interchanges were analyzed as substrate features by Boutkan, among which, for instance, the ones found in Go. *lofa* 'palm', ON *lófi* 'id.', OHG

lappo 'id.', *laffa* 'id.', Far. *labbi* 'id.', Icel. *löpp* f. 'paw'[141]. Boutkan (2003: 247-8) argued that the consonant variation was due to substitution: "the borrowed substrate items displayed consonants that were not available in the PGmc. phoneme inventory[...]. This may have led to hesitation and, subsequently, to variation". Still, the consonant alternations can all be accounted for by reconstructing an *n*-stem **lafō*, **lappaz*, **labini* that was split up in the usual way.[142] The ablaut of **ō* with **a* was, too, analyzed by Boutkan as resulting from substrate influence, but can well be explained from PIE **-eh$_{2/3}$-* : **-ḫ$_{2/3}$-*, as I will try to show in chapter 8. For Boutkan, however, the reconstruction of an ablauting *n*-stem **lōfō*, **lappaz*, **labini* was out of the question, because, within the substrate theory, the consonantal alternations were already supposed to be un-Indo-European. According to Boutkan (2003: 248), "[a]ll instances with **ō* : **a* ablaut concern (North) European substrate material and are likely to represent a vowel vacillation that somehow finds its origin in the donor languages."

All in all, it seems clear that, even though the substrate theory is a legitimate approach to the investigation of contact with unknown languages, it focused on the wrong features in the case of Germanic. In the search of substrate elements, it may be theoretically correct to focus on phonological traits that were absent in the Indo-European parent language, but this strategy can only become successful by the incalculation of the specifically Germanic changes that altered the IE dialect into a language with a spirit of its own. In other words, it is a simplification to regard linguistic change as a series of sound laws making their way through the lexicon. Linguistic change revolves about the transformation of old phonological and morphological systems into new phonological and morphological systems with new distinctions and new oppositions.

In Germanic, the rise of long obstruents by Kluge's law had an important impact on the phonology because it gave the language a new, characteristic feature that was absent in Proto-Indo-European: phonological consonantal length. The operation of Kluge's law in the *n*-stems and the *n*-presents affected Proto-Germanic morphology in an important manner, as it transformed the typically Proto-Indo-European ablaut opposition of the suffix into a new opposition of consonant length. Consequently, the language acquired both nominal and verbal paradigms with an allomorphy based on consonant length, a development that truly shaped the face of Proto-Germanic grammar.

From this perspective, the identification of substrate words on the basis of gemination seems a methodological instrument that must be reconsidered, because when one accepts that geminates arose regularly by the assimilation of **n*, they cannot at the same time be used as a substrate feature. The fact that the Proto-Germanic geminates arose by regular sound law, however, does not automatically mean that there cannot have been a substrate language with geminates. In other words, the possibility that Proto-Germanic adopted words with long stops from this substrate remains. One could even speculate, for instance, that Kluge's law was triggered by the absorption of speakers of this substrate language into the PIE dialect that ultimately became known as Germanic.

[141] Explicitly Boutkan 1999b.
[142] Boutkan (1999b: 17): "we could explain kk- as the result of Kluge's Law, but not the voiced stops [...] -gg-."

7 Vowel gradation

7.1 Kauffmann and nominal ablaut

When in 1887, Kauffmann published his article *Zur Geschichte des germanischen Consonantismus*, his main aim was to refute the way in which Kluge, the author of *Etymologisches Wörterbuch der deutschen Sprache*, had dealt with the consonant alternations in the Germanic *n*-stems. As I have discussed in the preceding sections, Kluge ascribed the rise of irregular, voiceless singulates and voiced geminates to paradigmatic analogy. This stance called forth strong criticism from Kauffmann, who was appalled by the large role of analogy in Kluge's framework, and preferred to explain these geminates by sound law in the West Germanic period.

In the final pages of his article, however, Kauffmann touched upon a very different issue, namely the vocalic alternations that are often found in the roots of the same *n*-stems. According to Kauffmann, instances such as ON *flík* : OHG *flecho* 'patch', ON *flóki* 'tangle': OHG *flocho* 'flake', ON *fraukr* : OE *frocca* 'frog' , OE *clēat* '*pittacium*' : MHG *klotz* : G Hess. *klūte* 'lump', OHG *chratto* : *chretzo* 'basket', OHG *chreta* : *chrota* 'toad', Go. *lofa* : OHG *laffa* 'palm of the hand', OE *hōc* : OHG *hācco*, OE *haca* 'hook' proved that the Proto-Indo-European (PIE) ablaut had at least partly remained intact in Proto-Germanic. This observation he formulated as follows:

> "Zweifellos war auch noch die alte vocalische abstufung des ablauts der wurzel lebendig und wir sind berechtigt, *die verschiedenen vocalstufen*, die wir historisch auf etymologisch identische aber meist nach dem bedeutung differenzierte nomina verteilt sehen, *in einem und demselben urgerm. paradigma zu vereinigen*" (1887: 544)

Not all of Kauffmann's examples are still tenable within the present state of reconstruction. Since, for example, short **o* is no longer accepted as a Proto-Germanic phoneme, the alleged ablaut of ON *flóki* and OHG *flocho* 'flake' can no longer be maintained. Similarly, the vowel alternation of OHG *chratto* and *chretzo* must rather be attributed to umlaut rather than ablaut (see chapter 9). Still, other *n*-stems that were mentioned by Kauffmann seem to have been correctly identified as apophonic in origin, e.g. Go. *lofa* : OHG *laffa* 'palm', G. Hess. *klūte* : MHG *klotze* 'lump'.

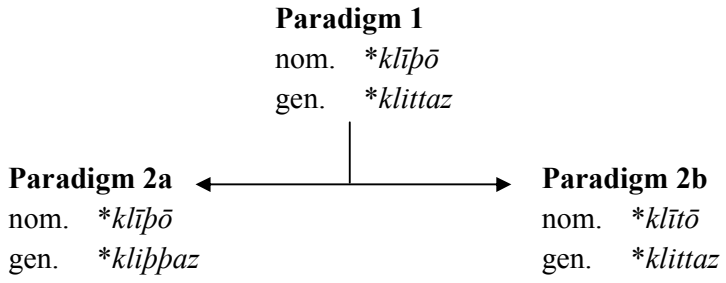
Kauffmann's notion that the Germanic *n*-stems retained the ablaut from the parent language seems to have been almost ignored, and never made it into the handbooks. After Otto von Friesen's *De germanska mediageminatorna* (1897), in which a number of *n*-stems with a vowel alternation **ū* ~ **u* are referred to as apophonic, the idea has been abandoned for more than a century. Recently, three cases were identified by Stefan Schaffner, who pointed to the vowel alternations of OSw. *val·mōghe* ~ OHG *mago*, *maho* 'poppy' < **mōgō*, **magini*, OHG (Notker) *rîdo*, dat. *ríten* 'fever' < **hrīþō*, **hridini* and OE *mūha* 'pile, bunch' ~ MHG *mocke* 'lump' in his elaborate study of Verner's law (2001). Further scrutiny of the Germanic

lexicon shows that there are many more *n*-stems as well as *mn*-stems, *m*-stems and *r/n*-stems that have preserved the ablaut of the root.[143]

7.2 Consonant gradation betrays vowel gradation

The possibility of ablauting *n*-stems was discussed by Lühr (1988) in her treatment of the correlation between Nw. dial. *fere* 'narrow field, earthen ridge' < **ferhan-* and OE *furh* f. 'furrow' < **furhō-*. Lühr, though, who was primarily focusing on the Proto-Germanic geminates, took up an agnostic position: "Aus einem derartigen Nebeneinander könnte nun ein ablautender *n*-stämmiger Typ gewonnen worden sein, eine theoretisch zwar mögliche, aber nicht weiter belegbare Vermutung" (1988: 318-9). Indeed, although the ablaut of some *n*-stems is self-evident in a number of cases, as Kauffmann has shown, it is difficult to *prove* it in the case of Nw. *fere* vs. OE *furh*. There is, however, a way around this epistemological problem. When the *n*-stems exhibit both consonant and vowel gradation, the paradigmatic ablaut is often evidenced by the widespread consonantal analogies. It is somewhat unfortunate, in this respect, that Kauffmann was unable to correctly analyze the analogies called forth by Kluge's law, because the old ablaut is ascertained by just those analogies.

When we encounter formal variants such as OE *clīðe* f. 'cleavers' < **klīþōn-* and OHG *chleta* f. 'burdock' < **klidōn-*, we cannot mechanically reconstruct an ablauting paradigm **klīþō*, loc. **klidini* < **gléitō*, **glit-én-i*, because the possibility exists that we are dealing with independent formations. The original paradigmatic unity of *clīðe* and *chleta* is ascertained, however, by the Kluge contaminations in forms such as OE *clīte* f. 'butterbur' < **klītōn-* and MDu. *clisse* 'burdock' < **kliþþōn-*. On the basis of the Indo-European inflection, we can expect that the original full-grade was coupled with a single stop in the nominative, the zero-grade with a geminate in the genitive, i.e. PGm. **klīþō*, **klittaz* from **gléit-ōn*, **glit-n-ós*. Now, MDu. *clisse* can be explained from a secondary genitive **kliþþaz* and OE *clīte* from a secondary nominative **klītō* by the usual consonant analogies. The paradigmatic split thus betrays the originally ablauting nature of the paradigm.



Similarly, the co-existence of OHG *zan* and Go. *tunþus* 'tooth' does not necessarily prove that the ablaut of the PIE paradigm < **h₃d-ónt*, **h₃d-nt-ós*[144] was retained in Germanic, even though this is not inconceivable. When, on the other hand, we see that Go. *maþa* m. 'worm' <

[143] Since the *mn*- and *r/n*-stems have obliques in *-n-*, I will often use the term *n*-stems in the broadest sense, i.e. as including these related inflectional types.
[144] Cf. Schaffner (2001: 627 ff): **tan-z*, **tunđiz* < **h₁dont-s*, **h₁dnt-és*.

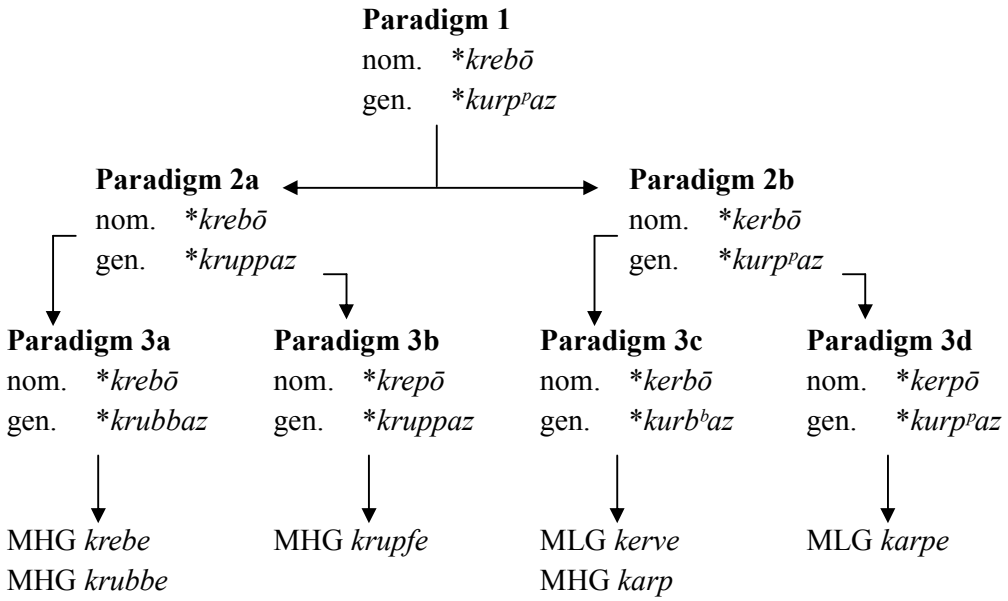
**maþan-*, MHG *matte* f. 'moth' < **maþþōn-*, OE *moþþe* f. 'moth' < **muþþan-* and ON *motti* m. 'moth' occur side by side, we must assume that the original paradigm was **maþō*, **muttaz*, and that it developed into **maþō*, **muþþaz* as a result of the analogy. In this particular case, the lack of a variant **muþō* indeed corroborates the reconstruction of the original paradigm as **maþō*, **muttaz*; this absence logically follows from the fact that, originally, the zero-grade was linked to a geminate in the original genitive case.

7.3 Resolution of schwebeablaut

Additional proof of the ablaut in the *n*-stems is furnished by the *schwebeablaut* that is displayed by some words with a resonant in the root. Such a case can be reconstructed on the basis of the co-occurrence of e.g. MHG *krebe* m. 'basket' < **kreban-* and *korbe* m. 'id.' < **kurban-*.

	PIE	**PGm.**
nom.	**gréb^h-ōn*	**krebō*
gen.	**grb^h-n-ós*	**kurp^{p}az*
loc.	**grb^h-én-i*	**kurbini*

It follows from apparently secondary forms such as MLG *kerve* m. 'fish trap' < **kerban-* and MHG *krupfe* f. 'basket' < **kruppōn-* that the *schwebeablaut* was resolved by the leveling of the vowel slot. A new root **krupp-* was created by inserting the zero-grade vocalism into the full-grade ablaut slot. Conversely, a secondary variant **kerb-* was fashioned by the insertion of the full-grade into the zero-grade slot. By these analogical processes, the original apophonic nature of the paradigm is ascertained. Note that the two new paradigms were split up further in many different ways according to the usual Kluge analogies. This process resulted in an impressive amount of root variants:



Needless to say that it is not necessary to assume that all of these four different paradigms have actually existed side by side, at least not as *complete* paradigms. The analogical inflections described here must be interpreted as *possible* pathways of analogy, the case slots of which could be, but did not have to be filled up in reality. The exact analogies probably differed from dialect to dialect, and it cannot be predicted which pathway a specific linguistic system would eventually use.

7.4 The different ablaut classes

We can distinguish several different types of ablaut. The most straightforward pattern consists of qualitative ablaut. It appears to continue the PIE ablaut of **e ~ ø* in its purest form, and can be reconstructed on the basis of *n*-stems such as:

- ON *bjalki* m. 'beam' ~ OE *bolca* m. 'beam, plank' < **belkō*, **bulk^{k}az*
- MHG *krebe* m. 'basket' ~ G MHG *krupfe* 'id.' < **krebō*, **kruppaz* (older **kurp^{p}az*)
- Far. *breddi* m. 'board' ~ OHG *borto* 'id.' < **brezdō*, **burzdnaz*
- G *Zimpe(n)* m. 'tip, stub' ~ MHG *zumpfe* m. 'id.' < **timbō*, **tump^{p}az* 'stub, tip'
- etc.

Another qualitative ablaut pattern is supported by a group of *n*-stems with PGm. **a ~ *u* alternations. This pattern is probably secondary, because it can be demonstrated that the *u* of the zero-grade cannot have arisen regularly in the bulk of these cases.

- OHG *sumar·lata ~ ·lota* f. 'summer shoot' < **laþō*, **luttaz*
- Go. *maþa* m. 'maggot' ~ ON *motti* m. 'moth' < **maþō*, **muttaz*
- OHG *rato* m. 'rat' ~ MLG *rotte* f. 'id.' < **raþō*, **ruttaz*
- OHG *zata* f. 'tuft'~ Swab. *zotze* f. 'id.' < **tadō*, **tuttaz*

Qualitative ablaut changes into quantitative ablaut in the *n*-stems with vowel alternations that pattern with the class 2 strong verbs. Like the verbs of this class, the full-grade of these *n*-stems vacillates between **eu* and **ū*, while the zero-grade usually surfaces as **u*. The full-grade marker **ū* seems to have developed analogically after the phonetically regular ablaut of other quantitative types.

- OE *grēofa* m. 'pot' ~ MLG *groppe* m. 'pot, cauldron' < **greubō*, **gruppaz*
- OFri. *jāder* n. 'udder' ~ OE *ūder* n. 'id.' < **eudur*, **ūdnaz*
- Nw. dial. *kn(j)uke* ~ MDu. *cnocke* 'bone, bump' < **kneukō* / **knūkō*, **knukkaz*
- Icel. *hró* n. 'pile' ~ MDu. *roc* 'stack' < **hrūhō*, **hrukkaz*
- Swab. *knaupe* m. 'knob' ~ OE *cnoppa* m. 'knob' < **knūbō*, **knuppaz*
- Icel. *hnúði* m. 'knob' ~ OE *cnotta* m. 'knot' < **knūþō*, **knuttaz*
- etc.

No doubt, the strongest quantitative pattern is evinced by *n*-stems with **ī* : **i* ablaut. It developed out of older **ei* : **i* ablaut by the Proto-Germanic monophthongization of **ei* to **ī*:

- Nw. *bie* f. 'bee' ~ G *Biene* m. 'id.' << **bīō*, **binaz*
- OHG *rīdo* m. 'fever' ~ G dial. *ritze·rot* 'crimson, flushing red' < **hrīþō*, **rittaz*
- OE *clīðe* f. 'burdock' ~ OHG *chletta* f. 'id.' << **klīþō*, **klittaz*
- Du. dial. *tijg* 'tick' ~ MHG *zecke* m. 'id.' << **tīgō*, **tikkaz* (cf. Arm. *tiz* 'id.')
- G *Reihen* m. 'instep' ~ Du. obs. *wreeg* 'id.' << **wrīhō*, **wrigini*
- etc.

Another phonetically regular type can be subtracted from the *n*-stems with **ō* ~ **a* alternations. This type ostensibly developed from roots with a laryngeal (**h_2* or **h_3*). There is at least one case that unambiguously points to **h_2*. This is the cluster of OSw. *mōghe* and OHG *maho* 'poppy', which can be connected with Gr. μήκων f. 'poppy'. The original paradigm must be reconstructed as **méh$_2$k-ōn*, **mḫ$_2$k-én-i*.[145]

- Go. *lofa* m. 'palm of the hand' ~ OHG *lappo* 'id.' << **lōfō*, **lappaz*
- OSw. *val·mōghe* m. 'poppy' ~ OHG *mago*, *maho* m. 'id.' << **mōhō*, **magini*
- OHG *zuogo* m. 'branch' ~ MDu. *tac(ke)* 'id.' << **tōgō*, **takkaz*

A category of which the secondary origin seems certain is borne out by a number of North-West Germanic *n*-stems with an **ā* ~ **a* alternation that ostensibly continues PGm. **ē* ~ **a*. The corpus contains the following examples:

- OHG *hācco* m. 'hook' ~ OE *haca* m. 'id.' << **hēgō*, **hakkaz*
- ON *snákr* m. 'snake' ~ OE *snaca* m. 'id.' << **snēgō*, **snakkaz*
- OHG *chrācco* m. 'crook' ~ G *Krack* 'id.' << **krēgō*, **krakkaz*
- etc.

The ablaut pattern may theoretically have arisen in roots with **h_1*, the full-grade/zero-grade opposition of **eh_1/ḫ$_1$* resulting into PGm. **ē/a*. But since there are no extra-Germanic cognates that can confirm such a laryngeal in any of the extant cases, the Indo-European origin of this type cannot be ascertained. In fact, the limitation of the type to North-West Germanic rather indicates that it arose analogically after the other *n*-stems with qualitative ablaut in the Proto-North-West Germanic period.

7.5 *O*-grade thematizations

A considerable number of *n*-stems are accompanied by thematic forms (mostly *a*-stems) that have an *o*-grade in the root. Since these formations frequently have a geminate, it seems that they were derived from their pertaining *n*-stems, in which Kluge's law operated. A similar

[145] For the vocalization, cf. PGm. **magra-* 'lean' < **mḫ$_2$k-ró-* (Beekes 1988).

explanation goes for the parallel *ma*-stems, which are often morphologically close to an ablauting *mn*-stem. Since, however, the *mn*-stems were usually derived from a verbal stem, it is also possible that the related *ma*-stems were derived from the same verbal base. Consider the following examples:

- **gīmō*, **gimenaz* 'aperture' → **gaima-* = Icel. *gíma*, ON *gima* → Icel. *geimur* (p. 73)
- **reumō*, ?**rūmenaz* 'cream' → **rauma-* = Icel. *rjómi*, ?Swi. *ruumme* → MHG *roum* (see p. 104)
- **hrūhō*, **hrukkaz* 'pile' → **hrauk^{k}a-* = Icel. *hró*, MDu. *roc* → ON *hraukr* (p. 109)
- **klūþō*, **kluttaz* 'clot' → **klaut^{t}a-* = MHG *klūde*, MHG *klotze* → OHG *chlōsz* (p. 112)
- **knūbō*, **knuppaz* 'knob' → **knaup^{p}a-*: Swab. *knaupe*, OE *cnoppa* → MHG *knouf* (p. 132)
- **sīlō*, **sillaz* 'trace, horse harness' → **saila-* = G *Seilen*, MHG *sille* → G *Seil* (p. 81)
- **skīmō*, **skimenaz* 'shine, shade'→ **skaima-* = Go. *skeima*, MLG *scheme* 'shade' → MHG *scheim* (p. 83)
- **swīmō*, **swīmenaz* 'dizziness' → **swaima-* = Icel. *svími*, *svimi* → ON *sveimr* m., *sveim* n. 'stir' (p. 87)
- **brezdō*, **burzdnaz* 'edge, board' → **brazda-* = Far. *breddi*, OHG *borto* → OHG *brart* (p. 137)
- **elm*, **ulmaz* 'elm' → **alma-* = OHG *elm(o)*, OE *ulm·trēow* → ON *almr* (see p. 140)
- **kelkō*, **kulk^{k}az* 'mandible' → **kalk^{k}a-* = Icel. *kjálki*, Da. dial. *kulk* → Icel. *kálkur* (see p. 149)
- **timbō*, **tump^{p}az* 'stub, penis' → **tamp^{p}a-* = G *Zimpe(n)*, MHG *zumpf(e)* → Du. *tamp* (p. 158)
- **hēgō*, **hakkaz* 'hook' → **hōk^{k}a-* = OHG *hācco*, OE *haca* → OE *hōc* (see p. 205)
- **snēgō*, **snakkaz* 'snake' → **snōk^{k}a-* = ON *snákr*, OE *snaca* → Sw. *snok* (see p. 209)
- **krēgō*, **krakkaz* 'crook'→ **krōk^{k}a-*: OHG *chrācco*, G *Krack* → ON *krókr* (see p. 208)

Most of the *o*-grade given here probably never belonged to an ablauting paradigm. In spite of a few uncertain exceptions, the PIE paradigm only seems to have had an *e*- and zero-grade in the strong and weak cases respectively. Beekes' theory that the *o*-vocalism could have arisen out of a secondarily introduced, unstressed *e*-grade, e.g. acc. **CeC-én-m* > **CoC-én-m* (see section 2.3), can be applied with certainty in only a few cases, the most important one being **belkō*, gen. **bulk^{k}az*, apl. **balk^{k}uns* 'beam' from **b^{h}élǵ^h-ōn*, **b^{h}lǵ^h-n-ós*, **b^{h}olǵ^h-n-ńs* (see p.

136). Most of the time, however, *o*-grades are closely associated with thematic formations, and must have been triggered by the derivational process by which they were formed.

7.6 Overlong syllables in Upper German

We have seen in section 3.2 that geminates were shortened in heavy syllables. However, the pan-Germanic date of this shortening is debated. The opponents of a pan-Germanic origin have pointed to the Upper German dialects, in which overlong syllables occur quite abundantly:

- MHG *tāpe*, Swi. App. *dɔɔppə* 'paw' < **dēbban-*
- OHG *hācco*, Visp. *haacko* 'hook' < **hēggan-*
- OHG *chrācco* 'crook' < **krēggan-*
- OHG *chrāppo* ~ *chrāpfo* 'crook' < **krēbban-*, **krēppan-*
- G Bav. *kauzen* m. 'bundle of flax' < **kūttan-*
- G Swab. *knaupe* m. 'bump, knot' < **knūbban-*
- G *Raupe* f. 'caterpillar' < **rūbbōn-*
- G Thur. *snaupe* f. 'spout'[146] < **snūbbōn-*
- G *Schnauze* f. 'snout' < **snūttōn-*
- MHG *zūpe*, G *Zaupe* f. 'bitch'< **tūbbōn-*
- App. *gniippə*, Swab. *kneip(eⁿ)* mf. 'large knife'[147] < **knībba/ōn-*[148]

In his analysis of these instances, Kluge himself seems to have had trouble explaining the long stops. "[N]ach langer silbe musste das hd. der treue bewahrer [...] der urgerm. gemination sein", Kluge (1884: 178) first writes in his *Consonantendehnung*. Yet on p. 183 he already withdraws his claim in view of e.g. OHG *wīz*, G *weiß* < **hwītaz* < **hwīttaz* < **ḱueit-nó-s*. In order to be able to explain the long stops of OHG *hācco* > G *Haken*, Kluge proposed that the paradigmatic consonant gradation in the above cases was analogically reintroduced from *n*-stems with a short vowel like **knabō*, **knappaz*.

Such an interlexical analogy, however, was rejected by Kauffmann (1887: 509 fn.) because such an analogy "nur auf dem papier denkbar ist." Lühr, too, dismissed the analogy and referred to the old notion that "außerhalb des Althochdeutschen in den germanischen Sprachen Doppelobstruenten nach langer Silbe grundsätzlich vereinfacht wurden" (1988: 214). Lühr suggested that shortening of geminates in heavy syllables did not affect Upper German, which – as Kluge already pointed out – is in conflict with the shortening of e.g. **hwītʲa-* 'white' in e.g. Swi. *wīss*.[149] Van Helten (1905: 229), on the other hand, adopted Kluge's solution.

It is possible, though, to avoid the wholesale reintroduction of consonant gradation from *n*-stems with light syllables to the ones with heavy syllables, as Kluge proposed, and at

[146] Thüringisches Wörterbuch, p. 823.
[147] Vetsch 143; Fischer/Taigel 279.
[148] Cf. ON *knífr* < **knīfa-* / **knība-*.
[149] Vetsch 184.

the same time retain the pan-Germanic date for geminate shortening. If the ablaut of the affected *n*-stem remained intact long enough, it is conceivable that the geminate of e.g. OHG *hācco* was adopted form the zero-grade oblique **hakkaz*, where the geminate was never lost. The original paradigm **hēgō*, **hakkaz*, *hagini*, for instance, may have been changed into Proto-Alemannic **hāggō*, **haggaz*, **haggini*. Similarly, the geminate of Swab. *knaupe* can be explained by assuming that an original paradigm **knūbō*, **knuppaz*, **knubini* was remodeled into **knūbbō*, **knubbaz*, **knubbini* in Proto-Alemannic.

Phonologically, the reintroduction of geminates to heavy roots was enabled by the effects of West Germanic *j*-gemination. By this gemination, superheavy syllables reentered the language, and unlike in the other West Germanic dialects, these new geminates were never shortened in Upper German. Thus we find forms such as G *Weizen*, Visp. *weitz* 'wheat' < **hwaitja-* and Swi. *zöukx* 'bitch' < **taukjō-*, etc. I accordingly assume that the rise of new superheavy syllables facilitated the introduction of *n*-stem roots with long vowels and long consonants.

8 The evidence

The present chapter is an attempt to provide an exhaustive, or nearly exhaustive survey of the Germanic *n*-stems that potentially qualify as apophonic. This means that it contains not just those *n*-stems of which the reconstruction of ablaut is beyond doubt, but also the less certain cases. This procedure has the advantage that little relevant material is left out, and the disadvantage that the reader's effort sometimes remains unawarded. I have nevertheless chosen to use this approach, because it is the most genuine way to present the potential evidence. The inclusion of rejected items hardly detracts from the evidentiality of approved items, and at the same time elucidates the kind of considerations with which I have been concerned during the evaluation of the material.

In addition to the potentially ablauting *n*-stems, I have included some ablauting *mn*-stems, *l*-stems, *m*-stems and *r/n*-stems. The reason for this is that these stem types are morphologically and typologically close to the *n*-stems, and in quite a few cases, they have actually secondarily acquired an *n*-stem inflection. This makes them relevant to our understanding of the Proto-Germanic ablaut patterns of the *n*-stems.

8.1 **ī ~ *i* alternations

The *n*-stems with **ī ~ *i* alternations probably represent the most prominent apophonic type. It evolved out of the PIE ablaut **ei* : **i*. Forms with *e*-vocalism, e.g. OHG *chletta* 'burdock', G *Zweck* 'peg', MHG *zecke* ~ *zeche* 'tick', arose in the genitive case sg. **-az* and pl. **-an*, where *a*-mutation lowered **i* to **e* in the North-West Germanic period.

**bīō*, **binaz* 'bee'

- **bīōn-*: Nw. *bie* f. 'bee', Gutn. *bäiå* f. 'id.'[150], OHG *bīa* f. 'id.'[151], MHG *bīe* f. 'id.'[152], G dial. *beie*, Cimb. *paia* f. 'id.'[153] (→ **bī-līn-*: Swi. App. *biili*[154], Visp. *biiji* n. 'id.'), OE *bīa* m. 'id.', *bīo* f. 'id.', Du. *bij*[155]
- **bīnōn-*: MHG *bīn(e)*, *beine* f. 'id.'[156]
- **binan-*, *-ōn-*: OHG *binen* m.pl. (→ dim. *bini* n.), G *Biene* f., Swab. *bine* f.[157], MLG *bēne* f.[158]

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[150] Klintberg/Gustavson 39.
[151] EWA II, 69.
[152] Lexer 1, 266.
[153] Schmeller/Bergmann 214.
[154] Vetsch 85.
[155] Franck/Van Wijk 64.
[156] Lexer 1, 277.
[157] Grimm 1, 1122.
[158] Lübben 39.

- **bĭja-*: Icel. *býˈ* n. 'id.'[159], OSw. *bi*, *by* n. 'id.', Sw. *bi* n. 'id.'[160], Da. *bi* c. (dial. n.) 'id.'[161], MHG *bīe* n. 'bee swarm'

  → ON **bí·fluga*: Icel., Far. *býˈfluga* f. 'bee'[162], Nn. obs. *biˈfluga*. 'id.'[163], Sw. dial. *biˈfluga* 'id.'[164], Da. obs. *biˈflue* 'horse fly'[165]

The material provided by the Germanic dialects implies that the Proto-Germanic word for 'bee' was an ablauting *n*-stem. This was first recognized by Lühr (2000: 98), who reconstructed the original paradigm as nom. **þīōn*, gen. **þines*. The full-grade **bīōn-* is ascertained by OE *bīo*, OHG *bīa*, MHG *bīe*, G *beie*, and Du. *bij* in West Germanic, and by Nw., Sw. *bie* f. in Scandinavian. The zero-grade stem is implied by OHG *binen* m.pl. < **binan-* as recorded by Notker, and its feminine equivalent **binōn-*, which is extant as MLG *bēne* and G *Biene*. I accordingly reconstruct the PGm. *n*-stem as **bīō*, **binaz* < **b^{h}éi-ōn*, **b^{h}i-n-ós*. The variants OHG *bīna*, MHG *bīn(e)*, G Bav. *bein* < **bīnōn-* and OHG *bīan* m. < **bīan-* are contamination forms that sprouted from this paradigm.

The derivation of the Notker form *bini*, *pini* n. 'bee' is debated. It is usually analyzed as stemming from PGm. **binja-*. Yet the question then remains why the *j* did not cause doubling of the preceding nasal, as would be the expected effect of West Germanic gemination. Lühr (l.c.) reconstructed *bini* as PGm. **bini-*, suggesting that its formation be derivationally comparable to the creation of Skt. *nīḍí-* 'housemate' to *nīḍá-* 'lair'. The easiest way to account for *bini*, however, is to regard it as a regular diminutive in **-īn*, cf. OHG *chizzi* n. 'young animal' < **kittīn-*, Go. *gaitein* n. 'little goat' < **gaitīn-*. It must, in other words, be reconstructed as **bin-īn-*, i.e. with the zero-grade stem of the ablauting *n*-stem and the aforementioned diminutive suffix.

Still unexplained is the exact derivation of ON *býˈ* n. 'bee', which is not an *n*-stem, but a thematic neuter. The most important problem consists of the origin of the rounded vowel. In order to explain it, a form **bīwa-* has been proposed[166], as a *w* would cause labial mutation of *í* to *ý* in Old Norse before its deletion (cf. *Týr* < **tīwaz*). The problem is, however, that there is no additional evidence for this *w*, which makes the reconstruction **bīwa- ad hoc*.

It has further been suggested that the *í* was rounded in the plural of a formation **bīa-* (or **bīja-*).[167] This plural **bīō* would have developed into Proto-Norse **bīu*, and further into ON *býˈ* with the required rounding. Still, this explanation cannot be maintained either, because Proto-Norse **bīu* would result in ON ***bjú* rather then *býˈ*. This follows, for instance, from *þrjú* n. '3' < **þrīō* < ***trei-eh$_2$* and *hjú* n. 'inmate' < **hīwō* < **ḱei-u-ōn*.

Since all the older explanations are demonstrably incorrect, I would like to propose an entirely different solution. In my view, the rounded vowel of *býˈ* is best explained by assuming that the original Old Norse form was a neuter **bí* < **bī(j)a-*, and that it was influenced by *mýˈ*

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[159] Böðvarsson 119.
[160] Hellquist 41; SAOB B2368.
[161] Falk/Torp 71
[162] De Vries 1962; Böðvarsson 119; Poulsen 171.
[163] Collet 1877.
[164] Möller 1928.
[165] Cf. Fabricius (1804, p. 262, 565): *biflue* '*tabanus groenlandicus*'.
[166] Franck/Van Wijk 64.
[167] Kock 1894: 297; Falk/Torp 71; Lühr 2000: 98; EWA II, 3.

n. ‘mosquito’ < **muwja-*. This seems probable to me, because 1) both words have a comparable meaning, 2) both words are neuter, and 3) both words occur as the first member of a compound with *fluga* f. ‘fly’, cf. Icel., Far. *býˑfluga* f. ‘bee’, *mýˑfluga* f. ‘mosquito’.[168] The reality of this **bí* is ascertained by the neuter Sw. *bi*, MHG *bie*, and by the compounds Sw. dial. *biˑfluga* ‘bee’ and Da. obs. *biˑflue* ‘horse fly’.

Extra-Germanic cognates are Lat. *fūcus* m. ‘drone’ < **b^{h}oi-ko-*[169], OIr. *bech* ‘bee’, W *begegyr* ‘drone’ < **b^{h}i-ko-*, OCS *bьčela*, Ru. *pčelá*, SCr *pčèla* f. ‘bee’ < **b^{h}i-k-el-eh$_2$-* and Lith. *bìtė* f. ‘bee’, OPru. *bitte* f. ‘id.’ < **b^{h}it-en-*. Just like the Germanic *n*-stem, they seem to be extensions to a root **b^{h}i-*.

**gīmō*, **gimenaz* ‘open space’

- **gīmōn-*: ON, Icel. *gíma* f. ‘aperture’[170], Nw. dial. *gime* f. ‘id.’, Sw. dial. *gjäim*[171]
- **gimōn-*: ON *gima* f. ‘aperture’, Nw. dial. *gjeme* ‘id.’
- **gim(i)na-*: OE *geofon*, *gifen* n. ‘sea’[172], OS *geþan* ‘id.’

- **gaima-*: Icel. *geimur* m. ‘expanse, space, sea’[173]
- **gaiman-*: ON poet. *geimi* m. ‘sea’[174]

The North Germanic languages provide substantial evidence for the existence of two ablauting *mn*-stems **gīmōn-* and **gimōn-*. There is some confusion in the literature about the vowel length of ON *gima*. De Vries (p. 176) gives *gíma*, following Björkmann’s (1900-2: 309) analysis of the Middle English loanword *gime*, and this vocalism is corroborated by Icelandic *gíma* and Sw. dial. *gjaim* (with regular diphthongization). Fritzner and Heggstad (p. 211), on the other hand, have *gima* with a short vowel. In fact, the actuality of *both* these variants is beyond doubt. They are corroborated by the Norwegian dialects, for which *Grunnmanuskriptet* sets up both *gíme* and *gìme*.[175,176] Given the semantic and morphological similarities of **gīmōn-* and **gimōn-* it is attractive to reconstruct an ablauting *mn*-stem **gīmō*, **gimenaz* to the root **ǵ^{h}ei-* as in ON *gjá* f. ‘cleft’ < **gī̆(w)ō-* and Lat. *hiāre* ‘to be open’.

The Nordic forms have a cognate in the “Saxonic” dialects, i.e. OE *geofen*, *gifen* and OS *geþan* ‘sea’.[177] The root vowel of this formation must, without question, have been short (Kluge 1883: 87). The original form of the suffix, though, is less clear. Superficially, the

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[168] Böðvarsson 664.
[169] Pokorny (p. 163) isolates Lat. *fūcus* and OE *bēaw* m. ‘horsefly’ from OIr. *bech*, and recontructs **b^{h}ouk^w-os*, but the Lat. *ū* can have developed out of PIE **oi*.
[170] Böðvarsson 283.
[171] Lindblom 1988: 79.
[172] Bosworth/Toller 24.
[173] Böðvarsson 275.
[174] De Vries 1962: 161.
[175] Cf. Torp 1909: 153.
[176] The form *gìme* is ascertained by the Telemark attestation *gjēme*, which has lowering and consecutive lengthening of ON **ĭ*.
[177] Note the parallellism of OE *geofenes strēam* and OS *geþenes strōm* ‘the ocean’s flow’ allows us to reconstruct a poetic syntagm for “Proto-Saxonic”.

attestations seem to continue PGm. **gimna-*. It is unclear, however, why Kluge's law did not operate in a form that appears to have developed out of PIE **ǵʰi-mn-ós*. It is not inconceivable, for this reason, that OE *geofen*, *gifen* and OS *geþan* actually developed out of **gimina-* with early syncope of the second **i*. If this is correct, we must assume that the underlying formation split off from the original locative **gimini* < **ǵʰi-mén-i*.

As in many other cases, an *o*-grade is found in a closely related thematic formation, i.e. Icel. *geimur* '(open) space' < PGm. **gaima-*. ON *geimi* 'sea' < **gaiman-* occurs in poetic contexts only, and may be a late nonce form.

****hrīþō,*hrittaz* 'fever'**

- **hrīþan-*: OHG *rīdo* m. 'fever', Kil. *rijde* '*febris*'
  - ↔ **hrīþō(ja)n-*: OHG *rīdōn* 'to shiver', MHG *rīden* 'id.'
- **hriþa-*: OE *hrið* m. 'fever'
  - ↔ **hridō(ja)n-*: OE *hridian* 'to shiver'
- **hridan-*: OHG *rito* m. 'fever', MHG *rite* m. 'id.'[178], OS *rido*, MLG, MDu. *rede* m., Kil. *rede* '*febris*'
- **hriddan-* or **hriþþan-*: OHG *ritto* m. 'id.', MHG *ritte* m. 'id.', G *Ritte(n)*[179], MDu. *ridde* m., Kil. *redde*, *ridde* 'id.'
- **hrittan-*: MHG **ritze* m. 'id.' (= Kil. sicamb. *ritse*) → G Swab. *ritze·rot* 'crimson'[180]
  - → **hrittīga-*: G dial. *ritzig* 'rutting, in heat'[181] (= Kil. *ritsigh*, Du. *ritsig* 'in heat'[182])

The pattern displayed by the different Germanic formations meaning 'fever' is suggestive of an originally apophonic *n*-stem in Proto-Germanic. At least four stem variants must be reconstructed. OHG *rīdo* and Kil. *rijde* unambiguously point to a full-grade form **hrīþōn-*, while a zero-grade variant **hridan-* is ascertained by OHG *rito*, MHG *rite* and MLG, MDu. *rede*. A third stem **hriddan-* occurs in OHG *ritto*, MHG *ritte* and MDu. *ridde*.[183] Finally, Kil. sicamb. (= North Rhinelandish) *ritse* and Swab. *ritze·rot* 'crimson' point to a variant **hrittan-*. On the basis of these forms, I reconstruct the original paradigm as **hrīþō*, **hrittaz*, *hridini* from **kréit-ōn*, **krit-n-ós*, **krit-én-i*. Remarkably, it was discovered by Schaffner (2001: 549-551) that the Verner variation as well as the ablaut of this paradigm were still intact in Notker's Old High German idiolect; in Notker's speech, a nominative *rîdo* < **hrīþō* is accompanied by a dative *ríten* < **hridini*. This means that, at least in this particular case, the Proto-Indo-European ablaut stayed alive until well into the second millenium AD.

OHG *ritto*, G *Ritte(n)* have traditionally been reconstructed differently. It was first claimed by Grimm (l.c.) that it continues PGm. **hridjan-*. Similarly, Kluge/Mitzka (p. 602)

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[178] Lexer, 2, 463.
[179] Grimm 14, 1051; Kluge/Seebold 767
[180] Grimm 14, 1086.
[181] Haas 1998: 851.
[182] Vercoullie 286.
[183] Note that MDu. *ridde* excludes the reconstruction **hriþþan-*, because this would have become ***ritte* and/or ***risse*.

reconstructs **hriþjan-* for both the geminated and the non-geminated forms (e.g. *ridо*). The *Reallexikon der germanischen Altertumskunde* (9, 6), too, states that the problem of the geminate is "mit der Annahme von geminiertem *þ* aus westgerm. *þj* zu lösen." Finally, also Schaffner (2001: 551) reconstructs **hridjan-*. I find it unsatisfactory, however, to isolate OHG *ritto* (etc.) from the other forms by reconstructing a separate *jan*-stem. There is no semantic motivation to do so, and, moreover, the alleged **hridjan-* would presumably have left some traces of the **j* in the oldest stages of Old High German, viz. OHG ***(h)ritteo*. Since this is not the case, the geminate of *ritto* must rather be explained from an analogical paradigm **hridō*, **hriddaz*, **hridini*.

Parenthetically, it has been claimed by Schaffner (l.c.) that the root of the original genitive **hrittaz* < **krit-n-ós* is not attested. As I have argued in the above, it can, in fact, be recovered from Kil. sicamb. *ritse* 'fever', which ostensibly represents a High German form **Ritze*. Venema (1997: 347) has argued that this *ritse* is an instance of *pseudolautverschiebung*, because it is found North of the area in which **-tt-* shifts to **-tz-*. Since, however, Swabian to the South has a compound *ritze·rot* 'crimson'[184], as in the sentence *Es* [= Mädchen] *ward ritzerot* 'she flushed'[185], the form *ritze* must at least partly be genuine. It re-occurs in the dialectal German adjective *ritzig* 'in heat', which was borrowed into Early Modern Dutch as *ritsig(h)* 'id.'.

Etymologically, the *n*-stem **hrīþō*, **hrittaz* is related to the verbs OHG *rīdōn* 'to shiver' < **hrīþō(ja)n-*, OE *hridian* 'to shiver' < **hridō(ja)n-* and to ON *hríð*, OE *hrīð* f. '(snow)storm' < **hrīþō-*. It furthermore has a semantically apt parallel in MIr. *crith* and W *crydd* 'fever' < PCelt. **kriti-*/**kritu-*, which can be a derivation from the nasal present that is attested as W *crynu* 'to shiver'.

**kībō*, **kippaz* 'basket'

- **kībōn-*: MHG *keibe* f. 'peddlar's pack'[186]
- **kīpᵖōn-*: MLG *kĭ̆pe* f. 'basket'[187], LG EFri. *kiepe* 'peddlar's pack'[188], WPhal. *kīpe* f. 'wicker basket, peddlar's pack'[189], (= G *Kiepe*[190], *Keipe* f. 'id.'[191]), MDu. *kijp* 'pack, bundle', OE *cīpan* m.pl. 'basket', E dial. *kipe* 'id.'
- **kippōn-*: ON *korn·kippa* f. 'basket for corn', Sw. dial. *kippa* 'bundle, pack'[192], EDa. *kippe* 'dying vat', Swi. *kipf* f. 'wine measure'[193], MLG *kip* 'pack'[194]
- **kibbōn-*: Du. *kib(be)* 'basket'[195]

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[184] Cf. Grimm (14, 1085/6) *ritz(e)roth*: "*gewöhnlich erklärt man 'roth wie ein ritz in der menschlichen haut, der das blut sehen läszt'*[...]"
[185] Fischer/Keller/Pfleiderer 379.
[186] Lexer 1, 1535.
[187] Lübben 174.
[188] Byl/Brückmann 65.
[189] Woeste 126.
[190] Kluge/Seebold 487.
[191] Grimm 11, 685-6.
[192] Rietz 321.
[193] Grimm 11, 780.
[194] Lübben 174.

At least four different roots can be reconstructed for the word for 'basket', and together they form a pattern that points to an old *n*-stem with ablaut. MHG *keibe*, with its diphthong, points to PGm. **kībōn-*. ON *kippa* and Swi. *kipf* support a North-West Germanic root variant **kipp-*, so that the original paradigm is to be reconstructed as **kībō*, **kippaz*. This paradigm seems to have been resolved in several different ways. OE *cīpa* and MDu. *kijp* contain a root **kīp^{p}-*, which may have come about through a secondary paradigm **kīpō*, **kippaz*. Conversely, the root of Du. *kib* < **kibbōn-* can only have arisen in an analogical paradigm **kībō*, **kibbaz*. The position of MLG *kīpe*, G *Kiepe* is not entirely clear. These forms can be reconstructed as either **kīp^{p}ōn-* or **kipōn-*. West Phalian *kīpe*, then again, unambiguously poins to a root with **ī*, as **kipōn-* would have yielded ***kiəpe* in this dialect.

Lühr (1988: 235) has explained the formations **kībōn-* and **kīpōn-* as primary derivations from a verb **kīban-* / **kīpan-*, thus disconnecting it from ON *kippa*, Sw. dial. *kippa*, Da. *kippe*. The semantic match between all the different stems, however, points to a shared origin, i.e. an *n*-stem **kībō*, **kippaz*. It nevertheless remains possible to assume a link with **kippōn-*: OE *cippian*, G dial. *kipfen* 'to cut', as was suggested by Lühr, if the *n*-stem originally referred to a container hollowed out of wood. It seems more appropriate, still, to start from the meaning borne out by Sw. dial. *kippa* 'pack, bundle'.

***klīþō, *klittaz 'burdock, tangle, clay'**

- **klīþōn-*: OE *clīðe* f. 'burdock'[196], E obs. *clithe* 'cleavers'
- **klīt^{t}ōn-*: OE *clīte* f. 'coltsfoot, butterbur'[197], E *clite* 'cleavers, goose-grass', G *Kleise* f. 'dodder'[198]
- **klait^{t}ōn-*: OE *clāte* f. 'clot-bur'[199], ME *clōte*, E *clote* 'burdock'[200]
- **kliþōn-*: OHG *chleda* f. 'burdock'
- **klidōn-*: OHG *chleta* f. 'burdock', *deni·chleta* 'agrimony', MHG *klete* f. 'burdock'
- **klitōn-*: ME *clēte*'burdock', G *Kließe* f. 'burr'[201,202]
- **klitta-*: G dial. (Brandenburg) *klitz* 'burdock'[203]
- **klittōn-*: G Tyr. ?*kletze* 'burdock'[204], MLG *kletze* f. 'down'[205]
- **kliþþan-*, *-ōn-*: OHG *chleddo*, *chletto* m., *chledda*, *chletta* f. 'burdock', G *Klette* f. 'id.'[206] (→ *Baum·klette* 'treecreeper'), Swi. Ja., Visp. *xlätta* f. 'id.'[207], MDu. *clesse*, *clisse*, *clitte* f. 'burdock, tangle, clay'[208], Du. *klis*, *klit* 'tangle, burdock'[209]

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[195] Vercoullie 162.
[196] Bosworth/Toller 129; Holthausen 52.
[197] Bosworth/Toller 159; Holthausen 52.
[198] Grimm 11, 1133.
[199] Bosworth/Toller 158.
[200] Holthausen 51.
[201] Schottelius (1663: 64) apud Grimm (11, 1163): "solche worte fallen ins herze, wie die klieszen an die wolle".
[202] Also compare Kil. *klijt(e),* Flem. *klijte* 'clay' (Willems 8, 182; WVD I, 1, 40).
[203] Taken from Grimm 11, 1152.
[204] Datenbank zur deutschen Sprache in Österreich, s.v. *Klette*.
[205] Lübben 176.
[206] Grimm 11, 1151-3; Kluge/Seebold 495-6.
[207] Wipf 34.

"Welcher reichthum der entwickelung bei einem so geringen dinge," Grimm writes s.v. *Klette*. Indeed, the formal variation found with this etymon is quite bewildering: the root vocalism shifts between **ī*, **i* and **ai*, while the final consonantism varies between **þ*, **t(t)*, **d* and **þþ*. Both the consonantal and vocalic interchanges are inherent to the inflection of the ablauting *n*-stems. In fact, one cannot escape tracing all the extant ablaut forms back to one single paradigm, because the different roots demonstrably contaminated each other. This proves that the different stem forms were part of one the same paradigm, which I reconstruct as **klīþō*, **klittaz*, **klidini*.

The evidence of the full-grade vocalism **ī* is limited. Possibly, OE *cliðe* represents the original nominative **klīþō*, but the length of its *i* is uncertain, so that we may just as well reconstruct **kliþōn-*. This is not inconceivable, because **kliþōn-* must be assumed anyway for OHG *chleda*. Unambiguous evidence of a long vowel comes from OE *clīte* 'coltsfoot' and modern English *clite* [klait] 'cleavers' < **klītᵗōn-*, because the latter word has a diphthong. In addition, Du. *klijt* 'clay' points to the same root. The different meaning is unfortunate, but not detrimental in view of MDu. *clisse* 'burdock, tangle, clay'. It is further probable that also G *Kleise* continues **klītᵗōn-*.The *s* instead of *ß* is unexpected, but the diphthong *ei*, at any rate, points to PGm. **ī*.

The creation of the variant **klītᵗōn-* probably took place when the geminate of the original genitive **klittaz* spread to the nominative **klīþō*. The root **klitt-*, however, is extremely sparse.[210] Grimm makes mention of a Brandenburg dialect form *klitz*, which on the surface seems to support PGm. **klitta-*. Yet Brandenburg is in the Low German speech area, where *-tt-* never changed into *-tz-*. Alternatively, it has been claimed that *klitz* was imported by the 12th century Dutch-speaking settlers.[211] The problem is that **tt* does not become **tz* in Dutch either. Admittedly, the form *klits* is sporadically found in the modern dialects of Limburg and Brabant, but not in Flanders, where the settlers originated from.[212] Even in Brabant and Limburg, *klits*[213] almost exclusively occurs in areas where *klis* and *klit* are found side by side. This raises the suspicion that *klits* is a contamination form. Whether this form was actually taken to Brandenburg by Dutch-speaking colonists remains doubtful.[214] Brandenburgian *klitz* can equally well be a High German intrusion into the Low German speech area[215], especially since this must probably be assumed for MLG *kletze* '*lanugo* (downy hair)', too. It is possible, then, that this word confirms the pre-existence of the variant **klittōn-*.

The reason for the paucity of the root **klitt-* is not hard to find: the original genitive **klittaz* < **glit-n-ós* must have been replaced by **kliþþaz* at an early stage. The variant **kliþþ-* is first of all found in OHG *chledda*, G *Klette*. In Middle Dutch, we find both *clisse* and *clitte*, which is the expected situation, as a double **-þþ-* regularly developed into *-ss-* in many Dutch

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[208] Verdam 295.
[209] Franck/Van Wijk 317.
[210] I have left the G *kletz* adj. 'sticky' < **klitta-* < **glit-nó-* out of consideration.
[211] Kluge/Mitzka 337; Teuchert: Sprachreste.
[212] PLAND, sv. *klit*.
[213] Additionally, *klits* frequently bears the meaning 'poppy' in the Limburgian dialects, which is conspicuously close to *klats* 'id.', cf. G *Klatsch·mohn* 'poppy'.
[214] Afrikaans *klits·gras* 'bur bristle grass' seems to provide a parallel.
[215] Cf. Grimm 11, 1152.

dialects. In Modern Dutch, too, both *klit* and *klis* occur side by side, predominantly with the meaning 'tangle'. The analogical replacement of **klittaz* by **kliþþaz* is paralleled by other *n*-stems such as **laþþōn-* 'lath' (p. 175) and **muþþōn-* 'moth' (p. 178). There are no indications that **-þþ-* developed out of **-hþ-*, as was argued by Lühr (1988: 255), or resulted from West Germanic gemination in a form **kliþjōn-*.[216]

At least two more root variants can be distinguished. OHG *chleta* contains the stem **klidōn-* with an allomorph displaying the operation of Verner's law. The combination of a zero-grade root with a stressed suffix may point to a locative **klidini* < **klit-én-i*. Finally, a root **klitōn-* can be reconstructed on the basis of ME *clēte*[217] and G *Kließe*. These forms appear to have a secondary singulate that must have arisen through the creation of an analogical paradigm **klitō*, **klittaz*.

A difficult form is OE *clāte* 'burdock', which with its long *ā* (< **ai*) secures an *a*-grade. The length of the vowel is ascertained in two ways, i.e. by the fact that the geminate **-tt-* would not have been shortened if the *a* was short, and simply because the vowel of Modern E *clote* 'id.' can only have developed out of OE *ā*. Thus we arrive at a PGm. form **klaitᵗ-*.[218] Perhaps it arose in an apl. case **klaitᵗuns* < **gloit-n-ṇ̥s*.

In addition to the forms with **i-* and **ī*-vocalism, there is a limited number of variants with **a*-vocalism in the Low German / Dutch, i.e. originally Frisian area, cf. MLG *klatte* f. 'rag'[219], MDu. *classe* f. 'burdock, dirt'[220], Kil. *kladde* '*macula*, (hol.) *lappa*', Du. dial. *klad(d)e*, *klarre* 'burdock, reed mace, bag, blot, smudge'[221], WFri. *kladde* 'burdock, stain slur, bag'.[222] This vocalism is problematic, because it disrupts the normal ablaut pattern. Since the **a*-variants often carry the meaning 'smudge', I think that the *n*-stem **klīþō*, **klittaz* became associated with the cluster of G Swab. *klatteren* '*das Kleid mit Dreck beschmutzen*'[223], MLG *kladderen*[224], MDu. *cladden*, *clatten*[225], Du. *kladden* 'to smudge'[226] and related formations (see Lühr 1988: 279ff.), which may go back to an iterative **klattōþi*, **kladunanþi* or – as Lühr (l.c.) suggests – to a primary *n*-stem **klaþō*, **klattaz* '*Schmutzklumpen*'.

Etymologically, the *n*-stem **klīþō*, **klittaz* belongs to the root found in e.g. Gr. γλία f. 'glue', Lat. *glūs*, *-tis* n. 'id.', and Lith. *gliejù, gliẽti* 'to smear', i.e. PIE **glei-*. Other well-known Germanic cognates are **klaja-*: OE *clæg*, Du. *klei* 'clay', and the sub-group of G *kleben* 'to stick' < **klibōn-*, cf. SCr. *glib* 'filth' < **glei-bʰo-*. The OE verb *clīðan* 'to stick' has a *t*-suffix, and is therefore likely to have served as the basis for the *n*-stem. Note that it is not allowed to reconstruct a PIE suffix in **-d-* on the basis of the Germanic material.[227]

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[216] Pace Kluge/Mitzka 337.
[217] Usually reconstructed as **klaitjōn-*, cf. MED: OE **clǣte*.
[218] From **gloit-n-ṇ̥* (Fick/Falk/Torp 58).
[219] Lübben 175.
[220] Verdam 292.
[221] Kocks/Vording 550.
[222] Zantema 1, 495.
[223] Fischer/Taigel 476.
[224] Lübben 174.
[225] Verdam 291, 292.
[226] Franck/Van Wijk 310.
[227] Contra OED, sv. *clote*; Pokorny 356-364.

***rīhō*, **rikkaz* 'stringing pole, line'**

- **rīhōn-*: OGutn. *ri* f. 'pole', Gutn. *räj* f. 'bar'[228], Da. *ri(e)* 'long bar, measuring rule', MHG *rīhe* f. 'line'[229], G *Reihe*[230], MDu. *rie* f. 'slat, measuring rule, line, row'[231], Du. *rij*
- **rīhan-*: Nw. dial. *rjå* m., Sw. dial. *rie* m. 'pole on which grain is placed to dry'[232], Swi. Visp. *reijo* m. 'row'
- **rīgōn-*: OHG *rīga* f. 'line', MLG *rīge* f. 'line, series of houses', MDu. *rige* f. 'row, ridge, plank'[233], Kil. *rijghe* 'line'

  → Kil. *rijchel* 'bar, slat', Du. *richel* 'ledge'
- **rigōn-*: OHG *riga* f., G *Riege* 'line, row, squad'[234], MLG *rege* f., Kil. *reghe* 'line', Du. dial. *reeg* 'line, series'[235]

  → OHG *rigil* m. 'bolt', G *Riegel*, MLG *regel* 'crossbeam, rail', MDu. *reghel* m. 'plank, slat, ruler'
- **riggōn-*: MDu. *regghe*, *rigghe* f. 'line, row, slat'
- **rikka(n)-*, *-ōn-*: Gutn. *räckå* f. 'post'[236], MHG *ric* m. 'horizontal bar on which to put things', G *Reck*, *Rick* mn. 'stake, row', *Recke* f. 'row, series'[237], dial. *ricke* m. 'line'[238]
- **rikōn-*: MDu. *reke* f. 'line, row'[239]
- **rihōn-*: MDu. *ree* f. '(guide)line, building line, marcation line'[240]

- **raihō-*: Nw. dial. *rå* f. 'border marcation'
- **raiga-*: Nw. *reig* m. 'border line'

The comparison of G *Reihe* 'line', *Recke* 'series' and *Riege* 'line, row, squad' shows that the German standard language alone offers sufficient evidence for the reconstruction of an ablauting *n*-stem **rīhō*, **rikkaz*, **rigini*. *Reihe* (= Du. *rij*), with its combination of a full-grade and a PIE initial accent, clearly continues the original nominative form **rīhō*. *Recke*, on the other hand, combines a zero-grade with a geminate, and thus can be traced back to the singular and plural genitives **rikkaz* and **rikkan*. Then, there is the additional form *Riege*, which, with its combination of a zero-grade and a **g* by Verner's law, points to the original locative case **rigini*.

Although modern High German already offers enough material to reconstruct a full-fledged *n*-stem paradigm, the diversity is still greater in the older stages of West Germanic. In

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[228] Klintberg/Gustavson 927 apud Schlyter 1877: 511.
[229] Lexer 2, 430.
[230] Kluge/Seebold 754.
[231] Verdam 494.
[232] Falk/Torp 895.
[233] Verdam l.c.
[234] Grimm 14, 992.
[235] WNT, s.v. *reeg*.
[236] Klintberg/Gustavson 980.
[237] Grimm 14, 444.
[238] Grimm 14, 907-8.
[239] Verdam 490.
[240] Verdam 488.

Old High German, the Notker form *rîga* clearly points to PGm. **rīgōn-*, a reconstruction that is corroborated by Kil. *rijghe*. Within the system of the *n*-stems, this form must probably be understood as a contamination form of the nominative **rīhō* and the locative **rigini*. The Middle Dutch forms *regghe* and *rigghe* 'line', then again, go back to PGm. **riggōn-*, and thus point to interference of the original genitive **rikkaz* with the locative **rigini*. MDu. *reke* has a secondary singulate, and most probably arose in an analogical paradigm **rikō*, **rikkaz*.

Paradigm 1

nom.	**rīhō*
gen.	**rikkaz*
loc.	**rigini*

Paradigm 2a		**Paradigm 2b**		**Paradigm 2c**	
nom.	**rĭ̄kō*	nom.	**rĭ̄gō*	nom.	**rĭ̄hō*
gen.	**rikkaz*	gen.	**riggaz*	gen.	**rihhaz* (?)
loc.	**rikini*	loc.	**rigini*	loc.	**rihini*

A different explanation for the *grammatischer wechsel* of **rīhōn-* and **rĭ̄gōn-* is given by Schaffner (2001: 403), who tentatively compares the accentual difference of Skt. *rekhā́-* 'stripe, line' < **(H)reik(H)-éh₂-* and *lékhā-* 'stripe, furrow'< **(H)réikh₂-eh₂*. In theory, it would also be possible to reconstruct a h_2-paradigm with ablaut, e.g **(H)réik-h₂*, **(H)rik-h₂-ós* > PGm. **rīhō*, **rigōz*. Such a paradigm, however, does not account for the geminates of G *Recke* and MDu. *regghe*, *rigghe*. The latter forms are reconstructed as **rigjō(n)-* by Schaffner, but it seems preferable to me to ascribe the voiced geminates to paradigmatic analogy.

The *n*-stem also has reflexes in North Germanic, i.e. Nw. *rjå* 'corn stick', Gutn. *räj* 'bar'. Nw. *rjå* can theoretically have developed out of both **rīhan-* and **rĭ̄han-* through the West Nordic accent shift of **-ĭ̄a-* to **-iá-* (cf. ON *ljá* 'lend' < **līa* < **līhwan-*, ON *fjá* 'to hate' < **fĭa* < **fijan-* (Go. *fi(j)an*). The vowel length is nevertheless confirmed by the Gutnish form *räj* 'bar', which shows regular diphthongization of OSw. *ī*.

Typical *rjå's* in the protected village of Havretunet, West Norway.

The semantic discrepancy between the North and West Germanic material is somewhat problematic. Whereas the West Germanic forms signify both 'line' and 'stick', the meaning 'line' is completely absent in Nordic. This seems to indicate that 'stick' is the original meaning. On second thought, however, this assumption must be rejected, because it defies the evident link with the strong verb **rīhan-* (e.g. MDu. *rijen* 'to string'). This paradox can nevertheless be resolved by starting from the meaning of Nw. *rjå*, i.e. 'to stick on which bundles of grain are pierced to dry'. I therefore assume that the more general meaning 'pole' developed out of 'stringing stick'.

Etymologically, the *n*-stem belongs to the already mentioned strong verb **rīhan-*, which also gave rise to Nw. dial. *rå* f. 'border marcation' < **raihō-* and *reig* m. 'border line' < **raiga-*. It has already been mentioned that the Germanic etymon may be related to Skt. *rekhā́-* 'rift, line'[241], but this old etymology is implausible from the semantic perspective. Skt. *rikháti* does not mean 'to string', but 'to scratch', and as such is clearly cognate with Gr. ἐρείκω 'to tear' and Lith. *riẽkti* 'to cut bread', Lat. *rīma* f. 'rift'. Logically, the Sanskrit meaning 'line' must have developed only secondarily out of older 'rift', which makes the connection with the Germanic word improbable.

Other suggestions are equally problematic. OE *rǣw* f. 'row' has been connected with Lith. *rievẽ*, *reivẽ* f. 'stripe'[242], but both words are irreconcilable with a root **Hreik-*. Fick/Falk/Torp isolate Nw. *rjå* and MHG *ric* from the rest of the material, connecting it to Lith. *rìkė* 'post, plank'[243], but this is a loanword from Low German, cf. East Frisian *rick*.[244] Pokorny proposes a link with ON *reigjask* 'stretch', *rígr* 'stiff' and Icel. *riga* 'to waver' under a semantic category 'to stretch, stumble', but these words belong to the root **uroiḱ-* 'to twist, sprain'. Kluge/Seebold (p. 754) prudently call the etymology unclear.

***sīlō*, **sillaz* 'strap, horse harness'**

- **sīlan-*: G *Seilen* m. 'horse harness'[245], Du. dial. *zijl(e)* 'trace, rope'[246]
  - → **sīljan-*: Icel. *síla*, *-di* 'to tie together'[247]
- **sila(n)-*: ON *seli*, *sili* m. 'harness', Nw. *sele* m. 'harness, suspender'[248], OSw. *sele*, *sile*, Sw., Da. *sele*[249], OHG *silo* m. 'rope', Swi. Visp. *silo* m. 'plow-trace', MHG *sil(e)* m. 'strap, trace, harness', G *Siele* 'id.'[250], MLG *sele* m. 'harness, trace', OFri. *sil·rāp* m. 'trace', WFri. *sile*, SFri. *siele* mf., NFri. *selle* f. 'hames'[251]
  - → **siljōn-*: Nw. dial. *silje* f., Sw. *silja*, *silla* 'harness'[252] (= G *Sille* f.[253]?)
- **silla(n)-*: G Pal. *sill* 'shoelace', *Sillen·weide* 'withe for tying'[254]

- **saila-*, *-ō-* 'rope': ON *seil* f.[255], Far. *seil* f. 'band, cow harness, scarf', (OH)G *Seil* n. 'rope, noose'[256], OS *sēl*, MDu. *seel* n., Du. *zeel* n. 'rope'[257],

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[241] Grimm l.c.; Fick/Falk/Torp 343; Pokorny 857-9; WNT, s.v. *rij*;
[242] Falk/Torp 895Pokorny 857-859; ; Fick/Falk/Torp 343; Holthausen 1934: l.c.
[243] Fraenkel 733.
[244] Byl/Bückmann 106.
[245] Grimm 16, 221
[246] Ter Laan 1929: 1259.
[247] Böðvarsson 830.
[248] Falk/Torp 956.
[249] Hellquist 704; ODS.
[250] Grimm 16, 953-6; Kluge/Mitzka 708; Kluge/Seebold 847.
[251] Zantema 1, 861; Jensen 475. Cf. Århammar 2004.
[252] SAOB 1808.
[253] Grimm 1058.
[254] Grimm 1058; Kluge/Mitzka 708; Christmann 6, 116.
[255] De Vries 1962: 468.

OFri. *wind·sēl* n. 'certain rope used at a sailing boat'[258], OE *sāl* mf. 'rope, tether', E *sole*

→ Go. *in·sailjan* 'to rope up', MHG *seilen*, MLG *sēlen*, OFri. *sēla*, OE *sǣlan*

The co-occurrence of G *Seilen* < **sīlan-*, ON *seli*, *sili*, OHG *silo* < **silan-*, Pal. *sill* < **silla-* and ON, OHG *seil*, OE *sāl* < **saila-* is suggestive of an old apophonic *n*-stem in combination with an *o*-grade thematization. The reconstruction of such a paradigm seems all the more attractive in view of the absence of a strong verb **sīlan-*, which hypothetically could have given rise to all the different formations. It must be stressed that the evidence for a nominal full-grade is limited to G *Seilen* and Du. *zijl(e)*. Still, a full-grade is also found in Icel. *síla* < **sīljan-*, which looks like a denominal formation. The geminate of Pal. *sill*, too, points to an *n*-stem, which I reconstruct as **sīlō*, **sillaz*, **silini* < **séil-ōn*, **sil-n-ós*, **sil-én-i*. Kluge/Seebold (p. 847), on the other hand, consider the possibility that G *Siele* is an "alter *l*-Stamm oder ablautende Zugehörigkeitsbildung".

The etymon is clearly related to Lith. *siẽti* 'bind', Skt. *syáti* 'id.'[259] < PIE **s(e)i-*. Lith. *seĩlas* 'band, tie'[260] < **seil-o-* is most closely related formally.

***skīō, *skinaz 'shinbone'**

- **skīa(n)-* and **skīōn-*: OE *scīa* m. 'shinbone', E dial. *shy* 'pole'[261], Swi. Visp. *šiija* f. 'leg splint, stick', MHG *schī* m., *schīe* f., G *Scheie* f. 'fence post'[262]
- **skinō-*: OE *scinu* f. 'shin'[263], OHG *scena*, *scina* f. 'shinbone, strip, needle', MHG *schin(e)* f. 'strip, shin(plate)', G *Schiene* f. 'shin, strip'[264], MLG *schēne* f. 'shin(plate), strip' (= Nw. dial. *skine*, *skjene*, Sw. *skena*, Da. *skinne* 'shin, strip, stave'[265]), MDu. *schene* f. 'shin(plate), hollow bone, strip', Kil. *scheene*, Du. *scheen* 'shinbone'

The etymological dictionaries treat the two variants meaning 'stick' and 'shinbone' as separate formations. Given the remarkable morphological parallelism with the paradigm of **bīō*, **binaz* 'bee' (G *Beie* : *Biene* = *Scheie* : *Schiene*), it seems preferable to explain them as the off-shoots from a single *n*-stem, which must be reconstructed as **skīō*, **skinaz*. The full-grade nominative allomorph **skīō* is evidenced by most of the West Germanic languages, cf. OE *scīa* and Visp. *šiija*. The oblique zero-grade stem **ski-n-* is attested in OHG *scena* , OE *scinu*, etc. The fact that these two root variants mean both 'stick' and 'shinbone' is another important

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[256] Grimm 208; Kluge/Mitzka 700; Kluge/Seebold 839.
[257] Franck/Van Wijk 813.
[258] Hofmann/Popkema 588.
[259] Pokorny 891-2.
[260] Fraenkel 770-1.
[261] Bosworth/Toller 830; Holthausen 1934: 276.
[262] Lexer 2, 723; Grimm 14, 2418.
[263] Bosworth/Toller 834; Holthausen 1934: 279.
[264] Lexer 2, 746; Grimm 15, 15-8.
[265] Hellquist 733.

argument to trace them back to a single formation. The Vispertermin form *šiija* 'leg splint' provides a possible link between the two different meanings.

The etymon is often connected with the root **ski-* as in Skt. *chyáte* 'prune'.[266] Lubotsky (2001: 232-3) has recently proposed a semantically more straightforward link with Ru. *cévka* 'tube, shin of a horse' , Cz. *céva* 'reed, tube', Lith. *šaivà*, *šeivà* 'tube, net, needle, spool'[267] and with the second member of Av. *ascūm* asg. 'shank' and Skt. *aṣṭhīvá(nt)-* 'shinbone' < **h₃esth₁-(s)ḱiH-uo-* "bone-tube". The difference between PBSl. **koi(H)u-* and **ḱoi(H)u-* is explained by Lubotsky as due to the *s*-mobile[268] that can be reconstructed on the basis of the Germanic forms. Lubotsky then goes on to reconstruct OE *scīa* as from **sḱiHu-o-*. Still, in absence of a labial in OE *scīa* (cf. *spīwan* 'to spit' < **spīwan-*, OE *gīw* m. 'vulture' < **gīwa-*) as well as in **skinō-*, it seems advisable to analyze the **u* in the other Indo-European languages as a suffix. PIIr. **Hast-čīua-*, Lith. *šaivà* and *šeivà* may then point to an old ablauting *u*-stem **ḱe/oiH-u*, **ḱiH-u-ós*. The Germanic *n*-stem, on the other hand, continues **ské(h₁)i-ōn*, **sk(h₁)i-n-ós* directly, or PIE **skéiH-ōn*, **skiH-n-ós* with Dybo's law in the oblique cases.[269] This formation cannot be directly related to Gr. κίων, Myc. *ki-wo* and Arm. *siwn* 'pillar'[270], while these forms must be derived from **ḱiHu-ōn*.

Within Germanic, we may further compare ON *skíð*, OHG *scīt*, OE *scīd* n. 'wooden bar' < **skīda-*, Kil. *schie(de)r*, *schie(de)rken houts*, Flem. *schier* 'wooden fragment' < **skīd-ra-*[271], and OFri. *skidel* m. 'spoke-bone'[272], WFri. *skyl*[273], NFri. *skidjel* 'piece of wood used for making nets', MLG *schēdel* m. 'bone in the arm'[274], which Århammar (2004) derives from **skīd-la-*. It is not entirely inconceivable, however, that all these words were formed from the verb **skīþan-* as in e.g. MHG *schīden* 'to split'.

**skīmō*, **skimenaz* 'shine'

- **skīma(n)-*: Go. *skeima* m. 'torch', Icel. *skími* m. 'glimmer, gleam'[275], OHG *scīmo* m., MHG *schīm(e)* m. 'shine, gleam'[276], OS *dag·skīmo* 'daylight', MDu. *schime* m. 'shine'[277], OE *scīma* m. 'splendor, brightness'[278]
  - → **skīmla-*: Du. dial. *schijmel* 'shade'
- **skima(n)-*: ?ON *skimi* m. 'gleam, shine'[279], OE *scima* m. 'shadow'[280], MHG *scheme* m. 'shade' m. 'id.'[281], G *Schemen*, OS *skimo* '*umbra*', MLG *scheme* m. 'shade', MDu. *scheme* 'shine, shade'[282] (→ Kil. *schemel* '*umbra*')

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[266] Cf. Franck/Van Wijk; Holthausen 1934; Pokorny 919-22.
[267] Cf. Pokorny 919-22.
[268] Kortlandt 1978: 238.
[269] Lubotsky 2001: 323 fn.
[270] K. Praust apud Lubotsky 2001: 323 post scriptum.
[271] Not **skī-ra-*, Franck/Van Wijk: 577.
[272] AfW 97.
[273] Zantema 890.
[274] Franck/Van Wijk 557.
[275] Böðvarsson 862.
[276] Lexer 2, 742
[277] Verdam 521.
[278] Bosworth/Toller 832.

• **skaima-*: MHG *scheim* m. 'gleam'[283]

The above forms represent an *mn*-stem derived from the original *n*-present **skīnan-* 'to shine' (cf. Go. *keinan* 'to germinate', past ptc. *kijans*), which is cognate with Gr. σκιά f. 'shade', Skt. *chāyā́-* f. 'gleam', etc. Two different vowel grades can be reconstructed for the *mn*-stem: the full-grade form **skīman-* is found in Go. *skeima*, Icel. *skími*, the zero-grade **skiman-* in MHG, MLG, MDu. *scheme*. Together, they may continue a paradigm **skīmō*, **skimini* that through Osthoff's law and Dybo's law developed out of PIE **skéh₁i-mōn*, **skh₁i-mén-i*. In addition to this *mn*-stem, there is MHG *scheim*, which represents an *o*-grade thematization.

Determining the vowel length is problematic in Old Norse, Old English and Old High German, because it is not (systematically) indicated in these languages. De Vries and Fritzner, for instance, give ON *skimi* 'shine, light', but the vocalism of Icel. *skími* rather suggests that the form had a long vowel. Traditionally, the handbooks differentiate between **skīman-* and **skiman-* on semantic grounds on the basis of MHG *schīme* 'shine' : *scheme* 'shade', which Sehrt (1950) projected back into an OS opposition of *skīmo* with *skimo*. Bosworth/Toller accordingly gives OE *scīma* 'splendor' vs. *scima* 'shadow'. This semantic differentiation, though, may have arisen secondarily, i.e. after the splitting-up of the original paradigm (cf. MDu. *be-scinen* 'to cast a shadow' < **skīnan-*). A parallel is provided by the split of PGm. **skadwaz*, **skadwesa* into E *shadow* and *shade*.

****snībō*, *snippaz* 'pointy nose, snipe'**

- **snīpᵖōn-*: ON, Icel., Far. *(mýri·)snípa* f. 'snipe', Nw. *snipe* f. 'snipe, small boat, *dial.* bill, northern pike', ME *snīpe* 'snipe'
- **snīpᵖa(n)-*: Icel. *snípur* m. 'penis, clitoris'[284], Far. *snípi* m. 'pointy nose'[285]
- **snippa(n)-*, *-ōn-*: Far. *(nasa·)snippur* m. 'tip (of the nose)'[286], Nw. *snipp* m. 'long tip, collar', OHG *snepfo* m., *-a* f. 'snipe', MHG *snepfe*, G *Schnepf* m. 'snipe, tip, edge'[287], *Schnepfe* f. 'snipe, tip'[288], OS *snippa* f. 'id.', MLG *snippe* 'snipe, shoe tip'[289] (= Da. *(myre·)sneppe*, *snippe* 'snipe, snout, longspine bellowfish'[290]), MDu. *sneppe*, *snippe* f., Kil. *sneppe*, Du. *snip* 'snipe'[291]

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[279] De Vries 1962: 492.
[280] Bosworth/Toller l.c.; Holthausen 1934: 279.
[281] Lexer 2, 698, 742.
[282] Verdam 516.
[283] Lexer 2, 687.
[284] De Vries 1962: 525; Böðvarsson 920.
[285] De Vries 1962: 525; Böðvarsson 920; Poulsen 1097.
[286] Poulsen 1097.
[287] Grimm 15, 1335.
[288] Grimm 15, 1313-4; Kluge/Seebold 819.
[289] Lübben 360.
[290] Falk/Torp 1093.
[291] Franck/Van Wijk 633.

- **snipan-*: Du. *sneep* 'carp'[292]
  → **snepila-*: MLG *snep(p)el* m. (= G *Schnäpel*, *Schnepel*) 'whitefish'[293]
- **snibbōn-*: MLG *snebbe*, *snibbe* f. 'bill'[294], G *Schneppe*, *Schnibbe*, *Schnippe* 'bill, tip, snipe'[295], Kil. *snebbe* '*rostrum avis*', Du. *sneb* 'bill'[296]

A comparison of Germanic words for 'snipe', a long-billed wading bird, reveals a sharp division between Anglo-Norse and the German dialects: ON *mýri·snípa* 'moor-snipe', ME *snīpe* 'snipe' point to a form **snīpōn-*, OHG *snepfo*, *snepfa*, MLG, MDu. *sneppe*, *snippe* to **snippan-*, *-ōn-*. The OED (s.v. *snipe*) calls the relation between the two different forms "not clear". Lühr (1988: 320), then again, considers the possibility that they sprang from a single, ablauting paradigm, but in the end rejects it. As an alternative, Lühr separates the Anglo-Norse form **snīpōn-* from the German **snippōn-*, proposing that it was derived from a strong verb **snīpan-* as in Nw. dial. *snipa* 'to snatch', which is mentioned by Fick/Falk/Torp (p. 523). This *snipa*, however, is absent from the exhaustive *Grunnmanuskriptet* database, and may be a ghost word. I therefore reconstruct an ablauting *n*-stem for Proto-North West Germanic.

It is generally accepted that the meaning 'snipe' evolved out of an older word meaning 'pointy nozzle' or 'bill', which is one of the most prominent features of the bird. A semantic parallel can be adduced from French, where *bécasse* 'snipe' is indeed derived from *bec* 'bill'.[297] These two meanings can at any rate hardly be separated from each other in the material, cf. Nw. *snipe* 'snipe, long bill, northern pike'. Importantly, the more primitive meaning is also conveyed by cognates that preserved different consonantisms. MLG *snibbe* 'bill', for instance, proves that the single **p* of *snípa* represents a shortened geminate. This enables us to reconstruct the original paradigm as **snībō*, **snippaz*. The same conclusion follows from *sneb(be)* 'carp'[298] < **snibban-*, a dialectal variant of Du. *sneep* 'id.' < **snipan-*. This fish was apparently named after its prominent nose[299] (cf. G *Näsling*, *Schnabel* '*chondrostoma nasus*').[300]

MLG *snebbe*, *snibbe* and Du. *sneb* have sometimes been derived from **snabja-*[301], and must then be akin to OHG *snabul*, OFri. *snavel* m. 'id. < **snabla-* and OFri. *snabba* m. 'mouth'.[302] Although the two roots **snīb-* and **snab-* will certainly have been associated with each other, their origins must ultimately be different. In view of OE *snīte* f. 'snipe', PGm.

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[292] WNT, s.v. *sneep*; Franck/Van Wijk 631.
[293] Lübben 359; Grimm 15, 1311-12.
[294] Lübben 359, 360.
[295] Grimm 15, 1312, 1316-18, 1335; Mensing 1927: 646.
[296] Vercoullie 320.
[297] Cf. Franck/Van Wijk 633; Falk/Torp 1093.
[298] WBD III 4.2, 83.
[299] Boutkan (1999: 21 fn. 15) argues that *sneep* belongs to the family of ON *snákr*, OE *snaca* 'snake', because "variation of labials and velars is also a frequent characteristic of European substrate words". Since, however, the *benennungsmotiv* "nose fish" has excellent parallels, the derivation from **snībō*, **snippaz* must be preferred.
[300] The same consonant can perhaps be established on the basis of Icel. *sníf(a)* f., Nw. *snive* f., Da. *snive*, *snibe* 'equine nose condition', but the Danish doublet probably indicates that the word is identical to ON *snípa* (in the sense of 'nose'?), and that the Danish form *snive* was adopted by the other Nordic languages.
[301] Vercoullie 320; De Vries 1962: 525.
[302] Hofmann/Popkema 451.

*snībō can be analyzed as from a root *snei- with a labial suffix, possibly PIE *-b^hon-.[303] Compare for a similar situation the opposition of OE *clīte* f. 'colt's foot' < *klīt^{t}ōn- and *clīfe* f. 'burdock' < *klībōn- (see p. 76ff.). The root *snab-, on the other hand, is related to MLG, MDu. *snappen* 'to gasp, grasp, snap'[304] < *snappōn-, ON *snapa* 'to bite, snap' < *snapōn-, MHG *snaben* 'to snap, sniff, smack', MLG *snaven* 'to stotter, stumble'[305] < *snabōn- and Du. *snoepen* 'to nibble'[306] < *snōp^{p}ōn-. It has a different ablaut pattern and, unlike *snei-b^h-on-, it can hardly be broken down into more basic elements. The root *snab- may be related to Lith. *snãpas* 'bill', *snapẽlis* 'nozzle'[307], if these words are not ultimately adopted from Low German in the first place. The derivation of Ir. *naosga* (or rather *naoscach*) f. 'snipe' < *snoip-sk-eh$_2$-[308] is improbable, since an initial *s* is normally not lost before *n* in Irish.

***strīmō, *strimenaz 'stripe, streak'**

- *strīman-: OHG *strīmo* m. 'stripe, streak'[309], MHG *strīme*, *streime* m. 'stripe, streak'[310], G *Strieme*[311], Swi. Visp. *štriimo* m. 'streak', MLG *strīme* m. 'streak, stripe'[312], MDu. *strieme* m. 'stripe, streak'[313], Du. *striem* 'streak'[314]
- *striman-: MLG *streme* m. 'streak, lash' (→ *stremel* m. 'strip of cloth, paper')[315], Kil. *streme* '*linea*, *filum*, *tractus*'

The apophonic nature of this *mn*-stem is confirmed by the co-occurrence of OHG Notk. npl. *strîmen*, dpl. *strîmon*, Visp. *štriimo* < *strīman- and MLG *streme* < *striman-, all meaning 'streak, stripe'. On the basis of these forms, a paradigm *strīmō, *strimenaz < *stréi-mn, *stri-mén-(o)s can be reconstructed.

The original vocalism of MHG *strīme*, *streim(e)*, G *Strieme* is more difficult to determine. At first sight, G *Strieme* seems to point to *strim-, but in this environment a short *i should have produced reflexes with *e*-vocalism (cf. MHG *scheme* < *skiman-). It has been argued, for this reason, that the German and Dutch forms with *-ie-* go back to a lengthened grade *ēi (cf. Franck/Van Wijk l.c.), yielding a vowel that merged with *$ē^2$. This seems improbable to me. In view of the identical wavering of the vowel length in OHG *chīmo*, MHG *kīme*, *kieme*, G *Keim*, Kil. *kieme*, *kijme*, Du. *kiem* < PGm. *kīman- 'germ', it is more likely that the long *ī was shortened before *m* in dialectal German and Dutch. The phonetic rationale for his shortening is the inherent length of the phone *m*, which due to the required labial

[303] Cf. Vercoullie (p. 321): *sneip-.
[304] Franck/Van Wijk 629.
[305] Grimm 15, 1070; Lexer 2, 1022 ; Lübben 359.
[306] Franck/Van Wijk 634.
[307] Fraenkel 851-2.
[308] Falk/Torp 1093; Fick/Falk/Torp 523.
[309] Graff 6, 754.
[310] Lexer 2, 1230.
[311] Grimm 19, 1601-9; Kluge/Seebold 891.
[312] Lübben 386.
[313] Verdam 583.
[314] Franck/Van Wijk 676.
[315] Lübben 385.

closure takes more time to pronounce than, for instance, a dental nasal. Thus, the intrinsic length of the *m* explains word pairs such as MHG *gumme* vs. *guome* 'palate', Du. *blom* vs. *bloem* 'flower', as well as the lack of open syllable lengthening in G *kommen* < **kuman-*, *Himmel* < **hemila-*, etc. Note that the form *streime* occurs only in late MHG (and dialectal Bavarian and Swabian (Grimm 19, 1304), and seems to exhibit diphthongization of **ī*. There is no evidence for a PGm. variant **straim-*[316].

Outside Germanic, the etymon **strīmō*, **strimini* can be related to Lat. *stria* f. 'furrow, channel' (cf. Fick/Falk/Torp l.c.).

***swīmō, *swimenaz 'dizziness'**

- **swĭman-*: ON, Icel. *svími*, *svimi* m. 'dizziness' (in *vaða í villu og* ~ 'to be on the wrong track')[317], OS *swīmo* m. 'giddiness', Du. *zwijm* 'swoon', OFri. *swīma* m. 'unconsciousness', OE *swīma* m. 'dizziness, giddiness'[318]

- **swaima-*: ON *sveimr* m., *sveim* n. 'stir', Far. *sveim* n. '*tað að sveima*', MHG *sweim* m. 'floating, sway'[319]

The different formations Icel. *svími*, Du. *zwijm* < **swīman-* and Icel. *svimi* < **swiman-* are in clear ablaut correlation with each other, and can therefore be traced back to an old *mn*-stem **swīmō*, **swimenaz* < **suéi-mn*, **swi-mén-s*. This *mn*-stem may have been derived from a verb continued by Icel. *svía* 'to diminish, abate'[320], although the semantic difference poses a problem. ON *sveimr* < **swaima-* looks like an independent *o*-grade *mo*-stem.

The Germanic forms are most probably related to a range of Celtic formations, e.g. W *chwil* < **swi-lo-* 'turning', *chwyf* m. 'movement' < **swi-mo-*[321], etc. Kümmel/Rix (2001) further assume the root to be an extension of a more primary base **sueh$_1$-*, which can be reconstructed on the basis of MLG *swāien* 'to swing, sway' and Ru. *xvéjat' sja* 'to move'. Still, the Du. Stw. form *zwaaien* cannot regularly have developed out of **swējan-* with PGm. **ē*, because the verbs *mi'jen* 'to mow' < **mē(j)an-*, *ni'jen* 'to sew' < **sē(j)an-* and *dri'jen* 'to turn' < **þrē(j)an-* demonstrate that this should have become ***swi'jen*.

***swīrō, *swirraz 'neck, mooring-mast'**

- **swīran-*: ON *svíri* m. 'neck, ship's beak'[322], Far. *svíri* m. 'thick neck'[323], Sw. obs. *svire* 'pig's neck; ship's beak'[324]

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[316] Pace Fick/Falk/Torp 500.
[317] De Vries 1962: 570; Böðvarsson 1009.
[318] Bosworth/Toller 957.
[319] Lexer 2, 1353.
[320] Böðvarsson 1007.
[321] Pokorny 1041-2.
[322] De Vries 571.
[323] Poulsen 1187.

- **swiran-*: OE *swe(o)ra*, *swura* m. 'neck', Swi. Visp. *šwiro* 'post, stake'
  → **swirōjan-*: OHG *swirōn* 'to fasten'
- **swira-*: MHG *swir* m. 'mooring mast'[325], G dial. *schwier* 'bridge post'[326], OE *swe(o)r* m. 'column, pillar'[327]
- **swirra(n)-*: MHG *swirre* m. 'mooring-mast'[328], G dial. *schwir(re)n* 'post, bridge post'[329]

There are strong indications that the above forms go back to an *n*-stem **swīrō*, **swirraz* with consonant and vowel gradation.

The full-grade stem **swīran-* is attested in North Germanic, e.g. ON *svíri* 'neck (esp. of an ox), curled ship's beak'. The word is absent from the modern Nordic languages with the exception of Faroese, where *svíri* means 'thick neck (esp. of cattle)'. Sw. *svire* has gone out of use, but according to SAOB, it meant 'pig's neck' and 'ship's beak', which is close to the semantic field of the Old Norse word. The zero-grade is evinced by MHG *swirre* 'mooring mast', which goes back to a stem **swirran-* with a geminate. The additional MHG form *swir* 'id.' has a singulate and a thematic inflection. It seems to be close to Visp. *šwiro* 'post' < **swiran-*, which, then again, preserved the *n*-stem inflection. Note that the Old High German verb *swirōn* 'to fasten' seems to be derived from the same root.

The semantic bifurcation between 'neck' and 'ship's beak' is explained by Fritzner as from an original sense 'mooring mast', either on a boat or along the shore[330]. In view of MHG *swirre* 'mooring-mast', which preserves such a semantic primitive, this interpretation must be correct. A semantic parallel can be adduced from the Celtic languages, where MIr. *farr* f. 'post' corresponds to W *gwar* f. 'neck'. Both words can be traced back to a proto-form **urs-eh₂-* that perhaps belongs to the root **uers-* 'high' as in Skt. *varṣmán-* m. 'height'[331].


The *svíri* of a viking ship (±820 AD) found in Oseberg, Norway.

An important issue is the position of the Old English forms *swe(o)ra* 'neck' and *swe(o)r* 'pillar'. It is generally acknowledged that these words correspond to the North and West Germanic material, but there is widespread disagreement over the vowel length, which is not indicated in the Old English manuscripts. Pokorny (p. 1050) and Holthausen (p. 335) reconstruct long diphthongs in *swēora* and *swīor*. Fick/Falk/Torp (p. 550) have *swēora* 'neck' as opposed to *swĕor* 'post', and,

[324] SAOB S15202.
[325] Lexer 2, 1318.
[326] Grimm 15, 2619.
[327] Bosworth/Toller 949.
[328] Lexer 2, 1318.
[329] Grimm 15, 2716.
[330] Cf. Bugge 1879: 110.
[331] Cf. Pokorny 1151-2.

conversely, De Vries (p. 571) gives OE *swĭora* vs. *swēor*. Bosworth/Toller (p. 949), on the other hand, give short vowels in both instances, i.e. *swĕora* and *swĕor*. The variant form *swura*, mentioned by Bosworth/Toller, is omitted from the etymological dictionaries, but seems to be of crucial importance for determining the original vowel length. It clearly displays the late Kentish change of *-weo-* to *-wu-*, as in *sweoster* > *swuster* 'sister', *sweord* > *swurd* 'sword' (cf. Wright 1925: §94), and since this change applies to short *eo* only, the corresponding form *sweora* must likewise have had a short vowel[332]. As a consequence, I conclude that OE *swe(o)r(a)*, inspite of its meaning 'neck', is not formally identical to ON *svíri*, but rather to Visp. *šwiro* 'post' < **swiran-*.

All things considered, it turns out that the original meaning of the ablauting *n*-stem **swīrō*, **swirraz* was 'mooring mast', and that the semantic development into 'neck' happened in Anglo-Saxon and Nordic. The inflection **swīro*, **swirraz* presupposes earlier **swéir-ōn*, **swir-n-ós*. Earlier reconstructions such as **swerhjan-* and **sweriha-*, which are found in all the etymological dictionaries, were inspired by the alleged link with Lat. *surculus* 'twig' and Skt. *sváru-* 'post'. This etymology can now be abandoned.

***tīgō*,*tikkaz* 'tick'**

- **tīgan-*: Du. dial. (Kumtich) *tijg* 'id.'[333]
- **tīkᵏan-*: OE ?**tīca* (= *ticia*) 'id.', ME *tīk*e 'id.', E obs. *tyke* 'sheep-tick', Du. dial. (Fijnaart) *schape·tijk* 'id.' (= Fr. *ticque*?)[334]
- **tikan-*, *-ōn-*: OHG *zehho* m. 'id.', MHG *zeche* m. 'id.', G Cimb. *zecho* m. 'spider'[335], Swi. Visp. *zäxxo* m. 'tick', MLG *teke* 'id.', Kil. *teecke* 'id.', Du. *teek* 'id.'[336], WFri. *tyk* 'id.'[337], SFri. *tieke* f., NFri. *teg* f. 'id.'[338], ME *teke*, E *tick*
- **tikka(n)-*, *-ōn-*: Nw. dial. *tikk* m., *tikke* f. 'id.', MHG *zecke* m. 'id.', G *Zecke* 'id.'[339]

The word for tick displays the typical features of the ablauting *n*-stems. The etymological dictionaries distinguish between three different stem forms, i.e. **tikkan-*, **tikan* and **tīkan-*[340], but do not seek to clarify the relationship between these forms. Only Fick/Falk/Torp (p. 163) mentions the possibility that the root variation can be the result of the *n*-stem inflection.

The reconstruction of the three different root variants is relatively straightforward. The first variant **tikkan-* can be mechanically reconstructed on the basis of MHG *zecke*, G *Zecke*, etc. A second variant **tikan-* is evidenced by OHG *zecho*, MHG *zeche*, MLG, MDu., ME

[332] Not *swēora*, *swūra* (thus Mitchell/Robinson 2001: 376).
[333] WBD III, 4, 2.
[334] Wartburg (1966: 329): "Gam[milscheg] Germ 1, 245 möchte aus fr. *ticque* ein anfrk. **tîka* erschliessen. Doch is diese form wenig wahrscheinlich, da das mndl. nur *teke*, *teecke* kennt, das auf *ĭ* weist."
[335] Schmeller/Bergmann 181.
[336] Franck/Van Wijk 690.
[337] Zantema 1, 1050.
[338] Jensen 618.
[339] Kluge/Mitzka 876-7
[340] Cf. Pokorny 187-8; Franck/Van Wijk 690; Kluge/Mitzka 876-7; OED, sv. *tick*.

teke[341]. It is interesting to see that, in Cimbrian, both variants occur side by side as *zecko* and *zecho*[342]. The retention of two forms resulted from a semantic split in this dialect, where *zecko* and *zecho* mean 'tick' and 'spider' respectively[343].

The variant **tīk^{k}an-* can only be obtained with some effort, because the attestations on which it is based are generally obsolete, dialectal or ambiguous. The Old English gloss *ticia*, for instance, can be read as either *ticca* or *tiica*[344], which renders it indecisive. Similarly, the Saterland Frisian form *tieke* can represent PGm. **tīk^{k}an-* just as much as **tikan-*.[345] In the end, the dictionaries seem to rely solely on ME *tīke* and E *tyke* 'sheep-tick'[346] for their reconstruction of **tīkan-*, which puts the etymologist in an uncomfortable position. The long vowel, however, finds additional support in the Dutch form *(schape·)tijk* '(sheep-)tick' in the dialects of Brabant and Limburg[347]. With the addition of these forms, the basis for the reconstruction of **tīk^{k}an-* becomes sufficiently reliable.

Having arrived at a range of three forms, i.e. **tīk^{k}an-*, **tikan-*, **tikkan-*, it is not difficult to recognize the pattern of root variation as belonging to the ablauting *n*-stems: there is a clear opposition between a full-grade (**ī*) and a zero-grade (**i*) of the root, and the opposition between singulate and geminate consonants agrees with the usual *grammatischer wechsel* resulting from the operation of Kluge's law in the weak cases. The etymological dictionaries nonetheless do not establish a link between the consonantal and vocalic interchanges on the one hand, and the inflection of 'tick' as an *n*-stem on the other. Franck/Van Wijk (p. 690), Kluge/Mitzka (p. 876) and Falk/Torp (p. 1311) do not attempt to explain the geminate of **tikkaz*, and Pokorny (p. 187-8) dubs it "intensivgemination". The only dictionary that mentions the possibility that it can be ascribed to the assimilation of a nasal is Fick/Falk/Torp (p. 163), but even this dictionary hesitates between reconstructing PIE **dĭǵ^h-n-́* and **d(e)iǵ-*.

Indeed, the forms **tīkan-* and **tikan-* ostensibly point to a PIE root **d(e)iǵ-*. The problem with this is that PIE phonology did not allow roots with two glottalized stops. In addition, the reconstruction of the root as **deiǵ-* is conflicting with Arm. *tiz* 'tick', which together with MIr. *dega*, asg. *degaid* 'stagbeetle' points to PIE **d(e)iǵ^h-*. By way of a solution, Falk/Torp parenthesizes the aspiration, supposing a double root **deiǵ$^{(h)}$-*. Franck/Van Wijk even goes so far as to completely reject the link between the Germanic and Armenian word. It is more likely, however, that the consonantism of PGm. **tīkan-* and **tikan-* is secondary. The single **k* was most probably introduced analogically on the basis of the genitives **tikkaz* and **tikkan* < **diǵ^h-n-ós* and **diǵ^h-n-óm*.

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[341] According to the OED, English *tick* can have developed out of ME *teke* by a similar shortening as found in *sick* < OE *sēoc* < **seuka-*.
[342] If Nw. *tikk(e)* is not a loanword from Low German, it proves that the word occurred in North Germanic as well.
[343] Schmeller/Bergmann 181.
[344] OED; Franck/Van Wijk 690; Falk/Torp 1311.
[345] Cf. *uut-wieke* 'evade' < **wīkan-* vs. *stiekel* 'prickle' < **stĭkila-*.
[346] MED; Wright 1869: 988.
[347] The exact forms are not included in the printed versions of WBD and WLD, but can be looked up in the source material on which these publications are based. The source material is available online at www.ru.nl/dialect/wbd and www.ru.nl/dialect/wld.

Direct proof of a PGm. variant **tīg-* is furnished by the *Woordenboek van de Brabantse dialecten*, which in the recent volume on animal names by J. Swanenberg makes mention of the variant *tijg* 'tick' (p. 234). Although this variant is isolated, it directly corresponds to its Arm. cognate *tiz*. This is a complementary indication that the original PGm. paradigm was **tīgō*, **tikkaz* rather than **tīkō*, **tikkaz*. For Indo-European, I therefore reconstruct it as **déiǵʰ-ōn*, **diǵʰ-n-ós*, **diǵʰ-én-i*.

****twīgō*, *twikkaz* 'twig'**

- **twīga(n)-*: OHG *zwīg* mn., MHG *zwīc* m., G *Zweig*, obs. *Zweige*[348], MLG *twīch* n., MDu. *twijch* mn., Du. *twijg*, SFri. *twiech* m. 'branch, twig'
- **twiga(n)-*: EDa. *tvege*, *tvige* 'branch, two-pronged fork'[349], Da. *tvege* 'forked twig'[350], OE *twig* n., *twiga* m. 'twig, sprout'[351]
- **twiggōn-*: Da. *tvegge* f. 'branch'[352], OE *twigge* f. 'id.'[353], LG *twig* 'id.'[354]
- **twikka-*: OHG *zwech* 'nail'[355], Swi. Visp. *zwäkk* 'hobnail', MHG *zwec* m. 'nail, bolt, twig'[356], G *Zweck* m. 'nail, bolt, aim'[357], *Zwick*[358] m. 'plug, flagellum, sprout' (→ G *Zwickel* 'wedge'[359]), WPhal. *twick* m. 'twig'[360]
- **twikkōn-*: G *Zwecke*, *Zwicke* f. 'nail, plug, sprout'[361]
- **twikōn-*: LG (Westph.) *twiək* f. 'twig'[362]

A close inspection of the predominantly West Germanic word for 'twig' yields a number of different root variants that together point to an apophonic *n*-stems. A full-grade is found in OHG *zwīg*, G *Zweig(e)* < **twīga(n)-*. The zero-grade is attested in a number of formations with different consonantisms. In Anglo-Nordic, we find a voiced stop, cf. OE *twig(a)*, Da. *tvege* < **twigan-*. WFri. *twige*, *twiich* may belong here, too, but the original vowel length is uncertain. A root with a voiced geminate is supported by OE *twigge*, E *twig* < **twiggōn-*. It has a correspondence in LG *twig* and possibly also in Da. *tvegge*, if this word is not borrowed from Low German. Most German dialects have a voiceless geminate, G *Zwecke*, *Zwicke* 'nail, plug'[363], WPhal. *twick* 'twig'. Finally, West Phalian *twiək* (with lengthened **ĭ*) combines a

[348] Grimm 32, 1036ff.; Kluge/Mitzka 895.
[349] Kalkar 490.
[350] Falk/Torp 1302.
[351] Holthausen 357.
[352] ODS, s.v. *tvege*.
[353] Holthausen 357.
[354] Rosemann/Klöntrup 329.
[355] Graff 5, 731.
[356] Lexer 3, 1204.
[357] Kluge/Mitzka 894.
[358] Grimm 32, 1109-10.
[359] Grimm 32, 1112-4; Kluge/Mitzka 896.
[360] Woeste 377.
[361] Grimm 32, 964; Grimm 32, 1111.
[362] Woeste 1882: 277.
[363] These meanings are secondary, and have developed out of the more original meaning 'twig'. In order to illustrate this, Kluge/Mitzka (p. 894) cite from Rollenhagen's *Froschmeuseler* (1595), in which a raven sits down

zero-grade with an analogical singulate *k*. I consequently reconstruct a PGm. paradigm **twīgō*, **twikkaz*, **twigini*.

Regarding the etymology of the word, the literature agrees on the link with the number '2', and usually Skt. *dviká-* 'twofold' is compared[364]. Franck/Van Wijk stress that the PGm. **g* can be from both PIE **k* and **g^h*, and indeed Pokorny (228-232) chooses to reconstruct **duei-g^h-* in view of Lith. *dveigỹs* 'two year old animal' and Alb. *degë* f. 'branch' < **dueig^h-* or **duōg^h-* [365]. The Germanic material bears no evidence for PIE **k*, which makes the reconstruction **duéig^h-ōn*, **duig^h-n-ós* most straightforward. The association with OHG *zuogo* 'branch'[366] is a persistent misconception, and must be abandoned. That form belongs to a different ablauting *n*-stem, i.e. **tōgō*, **takkaz* < **déh$_{2/3}$g^h-ōn*, **dh$_{2/3}$g^h-n-ós* (see p. 187).

****wīwō*, *wiwini 'harrier'**

- **wīwan-*: OHG *wī̆(w)o* m. '*milvus*, *asida*, *ibis*'[367], MHG *wī(w)e* m. 'harrier'[368], G *Weihe* f. 'id.', MDu. *w(o)uwe(r)* 'kite, harrier'[369], Du. *wouw* 'kite'[370]
- **wiwan-*: OHG *weho* m. '*ibis*', MHG *wehe*[371], *wewe*[372] m. 'harrier', Cimb. *bibo* m. 'id.'[373]

Scrutiny of the West Germanic dialects shows that the word for 'harrier' (and some other birds of prey) qualifies as an ablauting *n*-stem. The predominantly masculine *n*-stem appears both as a full-grade stem **wīwan-* and as a zero-grade stem **wiwan-*. The original paradigm must therefore probably be reconstructed as **wīwō*, **wiwini*[374] from older **uéi-uōn*, **ui-uén-i*. This formation seems to have been a *uen*-stem to a root **uei-*. This suffixal *-u-* is comparable to bird names such as SCr. *žȅrāv* 'crane' < **ǵerH-ōu* beside Gr. γέρην 'id.' < **ǵerH-ēn* (see p. 196) and Lat. *corvus* m. 'raven' < **ḱorH-u-* beside Lat. *cornīx* f. 'crow' < **ḱorH-n-*.

The long **ī* of the full-grade form **wīwan-* is most clearly visible in MHG *wī(w)e* and German *Weihe*, the vowel length of the Old High German attestations being uncertain. The long **ī* is further ascertained by the Low Franconian evidence, viz. MDu. *wouwe* and Du. *wouw*. These forms had rounding of **ī* to **ū* under the influence of the contiguous labial elements, a development that is also found in e.g. MDu. *w(o)uwere* 'pond', an early loanword

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on "ein dürren zweck", i.e. 'a dry twig'. According to Grimm (32, 1110), the meaning 'sprout' is also attested for *Zwick*.

[364] Fick/Falk/Torp 173; Franck/Van Wijk 716; Kluge/Mitzka 895.

[365] Demiraj 125.

[366] Cf. Franck/Van Wijk 716; Fick/Falk/Torp 173; Pokorny 228-232.

[367] Graff 1, 643.

[368] Lexer 3, 876.

[369] Verdam 811.

[370] Franck/Van Wijk 804.

[371] Benecke 4, 548.

[372] Lexer loc. cit. = Michael Beheim (1416-±1476): "der adelar wil sich verkêren und newen - - er ist worden zuo einem w e w e n".

[373] Schmeller 111.

[374] The regular Proto-Germanic outcome of **uiu-n-ós* would have been **ujunaz*.

from Lat. *vīvārium* (cf. G *Weiher*), and *sp(o)uwen* 'to vomit' < **spīwan-* (cf. Go. *speiwan* 'to spit')[375]. In OHG *wĭ̆o*, the medial **w* was lost intervocalically[376].

The zero-grade form **wiwan-* is less frequent in the German dialects, but nevertheless appears beside the full-grade form as *wanne·weho* 'kestrel'[377] already in the Old High German period. This form lives on as Middle High German *wannen·wehe*[378] and Modern German *Wannenweher*[379], both with the same meaning. The simplex emerges as OHG *weho* (the gloss for Latin *ibis* is unexpected), MHG *wehe*, *wewe* 'harrier', and – remarkably – as Cimb. *bibo* 'id.', which has the regular change of MHG *w* > Cimb. *b*. Note that the latter two variants have preserved PGm. **w* in intervocalic position, and therefore preclude the reconstruction **wihan-* as proposed by Fick/Falk/Torp (p. 407).

The *n*-stem **wĭ̆wan-* is usually connected with a Nordic word for 'auk' or 'murre', a fishing bird of the family that also includes the puffin genus, e.g. Icel. *lang·vii* m., *·vía* f. 'murre'[380], Nw. *lang·vi*, dial. *·vie* m. 'id.'. Superficially, the word even seems to mirror the West Germanic ablaut of long and short **i* in view of the variants ON *lang·vé* m. 'auk'[381], Nw. *lang·ve* m. 'murre', but these forms can be derived from **wewan-*, **wehan-* and **wīhan-* alike (cf. *kné* 'knee' < **knewa-*, *fé* 'money' < **fehu-*, *vé* 'temple' < **wīha-*). The connection furthermore poses important semantic and formal problems. First, the difference between 'auk' and 'harrier' is quite a gap to bridge. Second, it follows from instances such as ON *ýrr* m. 'ivy' < **īwa-* and *Týrr* 'Tyr' < **tīwa-* that the regular outcome of **wīwan-* should be ***ýi* (with loss of inital *v* before a rounded vowel), not *vii*. The etymology can, of course, be saved by reconstructing the West Germanic paradigm as **wīō*, **winaz*, **winini*, and this reconstruction does have the advantage of being able to explain Icel. *vii*. However, if this paradigm were correct, the *w* of OHG *wĭ̆wo*, MHG *wewe* and Cimb. *bibo* must be intrusive. To my knowledge, there are no parallels to such a development. In the end, it therefore seems better to suspend the connection between the West and North Germanic words for the time being.

Outside Germanic, **wīwan-* has been linked with Lat. *avis* m. 'bird', Skt. *vé-*, *ví-* m. 'id.' < PIE **h₂éu-i-*, **h₂u-éi-* and OIr. *fíach* 'raven' < **uei-ḱo-*[382], but this is all very doubtful. The Nordic word can perhaps be connected with the Icelandic verb *vía* 'to guard, spy', to which Böðvarsson (p. 1147) adds the illustrative phrase: *örninn víar yfir hræinu* 'the eagle is watching the flesh'. If this is correct, the *n*-stem must ultimately have denoted "prowler". Compare for this sense also the doubtlessly related Icel. *ví* n. 'fly egg, swarm of flies or birds surrounding a cadaver'[383]. The verb *vía* can further be linked with Skt. *véti* 'to turn to, strife for', Lith. *výti* 'to chase, hunt', etc., for which Kümmel/Rix reconstruct **ueih₁-* '*sein*

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[375] Cf. Franck/Van Wijk s.v. *wouw*: "voor 't vocalisme vgl. s p u w e n.".
[376] Cf. Braune 1891: §110, n. 1: "So findet sich *grâêr*, *êa*, *sêes*, *spîan* statt *grâwer*, *êwa*, *sêwes*, *spîwan*, auch im lehnwort *wîwari* und *wîari* (vivarium, weiher)."
[377] Graff loc. cit.
[378] Benecke loc. cit.
[379] Grimm 27, 1908.
[380] Böðvarsson 559.
[381] De Vries 345-6.
[382] Cf. Fick/Falk/Torp loc. cit.
[383] Böðvarsson 1147.

Augenmerk richten auf'. Whether the West Germanic word belongs here, too, still remains uncertain.

***wrīhō*, **wrigini* 'instep'**

- **wrīhan-*: OHG *rīĕho* m. 'hollow of the knee, instep', MHG *rīhe* m. 'instep'[384], G *Reihen*, Als. *rih(ə^n)* m. 'instep, coupling of the wagon pole'[385]
- **wrīgan-*: MDu. *wrijch*, *wrijf*, *wrijghe* m. 'instep'[386], Kil. *wrijf des voets* 'id.', Du. obs. *wrijg* 'id.'[387]
- **wrihan-*: MHG *riche* m. 'id.'[388], Swi. Rhtl. *reəhə* m. 'id.'[389], Du. dial. *wree* m. 'id.'[390]
- **wrigan-*: Du. obs. *wrege*, *wreeg* 'id.'[391], Du. *wreef* 'id.'[392]

The West Germanic word for 'instep' has been discussed by Schaffner in his study of the effects of Verner's law. Schaffner ascribes the *grammatischer wechsel* to the shifting accent of an old *n*-stem (2001: 573-4), i.e. **wrīgō*, loc. **wrīgini* < **uréiḱ-ōn*, **ureiḱ-én-i*. This paradigm explains the interchange of e.g. G *Reihen* < **wrīhan-* and MDu. *wrijghe* < **wrīgan-*. In addition, there is evidence for a zero-grade in Swiss and Dutch. Du. obs. *wrege* goes back to **wrigan-*. Rhtl. *reəhə*, Du. dial. *wree* unquestionably continue a formation **wrihan-*, which further seems to be supported by the MHG hapax *riche*. I conclude that the original paradigm was apophonic, and that it must be reconstructed as **wrīhō*, **wrigini* < **uréiḱ-ōn*, **uriḱ-én-i*. It is directly related to Lith. *ríeša* f. 'wrist, instep, knuckle, nut' < **ureiḱ-ieh$_2$-*.[393]

The material is especially polymorphic in Middle and Modern Dutch, which in addition to the already mentioned full- and zero-grades have opaque variants ending in the labio-dental fricative *f*. The different variants seem to have competed with each other through the ages. In Middle Dutch, there are three forms, i.e. *wrijch*, *wrijf* and *wrijghe*, but Kilian only gives *wrijf van de voet*. In the 19th century, *wreeg* appears to have temporarily prevailed over *wreef*, which is called dialectal and obsolete.[394] In modern Dutch, in turn, *wreef* has again become the only existing form.

The origin of the *f* is not entirely clear. Usually, the *f* is considered to be due to the influence of *wrijven* 'rub'[395]. It is more likely, though, that the change of final [x] into [f] is due to some kind of assimilation at the time when intial [wr-] changed into [vr-] and [fr-].

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[384] Lexer 2, 431.
[385] Martin/Lienhart 2, 244b-245a.
[386] Verdam 810.
[387] Vercoullie 398.
[388] Lexer 2, 416.
[389] Berger 76.
[390] WLD II/10, 23-4; Van Es 1989, 139.
[391] Vercoullie 398.
[392] Franck/Van Wijk 805: "Evenals Kil. *wrijf* 'wreef' een jongere vorm, in de plaats gekomen voor mnl. **wrīe*".
[393] I reconstruct **ureiḱ-ieh$_2$-*, which by metatony became *ríeša* (< **reĩšià*). Differently Schaffner (2001: 574): **urēiḱ-o-*.
[394] De Jager 1837: 471.
[395] WNT, s.v. *wreef*; Kluge/Mitzka 592.

Another *terminus post quem* for the rise of *f* is the Middle Dutch apocope of final *ə*, which led to the devoicing of *g* [ɣ] to *ch* [x].

Etymologically, **wrīhō*, **wrigini* can be compared to ME *wrāh* 'wrong, stubborn', Du. *wreeg* 'stiff' < **wraiga-* and especially the iterative verb **wrikkōþi*, **wrigunanþi* (< **uriḱ-n(e)h₂-*): Icel. *riga* 'to move to and fro', OE *wrigian* 'to turn', OFri. *wrigia* 'to stumble', MLG *wriggen*, *wricken* 'to twist, turn', Du. *wrikken* 'to pry, tug'. The meaning 'wrist' is also attested for **wrihsti-* > ON *rist*, OSw. *vrist*, OFri. *wrist*, OE *wrist*, *wyrst* f. 'wrist, instep' and **wrihtja-* > MHG *riste* n. 'instep', Du. *gewricht* n. 'joint'. Note that the original meaning of the *n*-stem probably was 'twist' or 'joint'. Consequently, the Alsatian meaning 'coupling of the pole' can be old. The position of MHG *ric* m. 'band, fetter, tangle' < **wrikka-*, on the other hand, is unclear to me, although it may theoretically continue the original genitive case of the ablauting *n*-stem. Further Indo-European cognates are Gr. ῥοικός 'bent', Av. *uruuisiieiti* 'to turn', *uruuaēša-* m. 'bend'. The meaning 'to turn' apparently developed into 'to wrap' in many Indo-European languages, cf. Lith. *rìšti* 'to bind, tie', OPru. *perrēist* 'to link', OHG *int·rīhan* 'to disclose', OE *wrēon*, *wrīon* 'to cover' < **wrīhan-*.

Doubtful cases

**īkwernō*, **aikwernaz* 'squirrel'?

- **īkwerna(n)-*: ON, Icel., Far. *íkorni* m., Nw. *ekorn* mn., Nn. *ikorn* n., dial. *ikorn(a)* n., OSw. *ekorne*, *ikorne*, Sw. *ekorre*[396], EDa. *egerne*[397], Da. *egern* n.
- **aikwerna(n)-*: OHG *eihhorn(o)*, *eihhurno* mn., MHG *eich·horn* n., OE *ācurna*, *ācwe(o)rn(a)* m., ME *aquerne*, MLG *ēkern(e)*, *ēk·horn(e)* m., MDu. *ee(n)coren* mn., Du. *eek·hoorn(tje)*, WFri. *iik·hoarntsje*, NFri. *īk·hōrn* n.[398]

The Germanic word for 'squirrel' has two different proto-forms: West Germanic has **aikwerna(n)-*, Nordic points to **īkwernan-*. The correlation between these two stems can theoretically be classified as resulting from an ablauting *n*-stem.

In West Germanic, the oldest forms are OE *ācweorn(a)* and OHG *eichorn(o)*, and they are in support of a Proto-Germanic form **aikwerna(n)-*. The Old English form developed into *ācurna* in late West Saxon, but not in that particular dialect on which the Middle English form *aquerna* is based. OHG *eichorno* or *eihhurno* is continued by MHG *eichhorn* and G *Eichhörnchen*. Just like MLG *ēk·horn(e)* and Du. *eek·hoorn(tje)*, it has an unetymological *h*. Apparently, the word was reanalyzed as a compound of **aik-* 'oak' and **hurna-* 'horn' in many dialects, a development that seems to depend on the usual deletion of *h* after consonants. This popular etymology of **aikwernan-* to **aikhurnan-* is probably also the reason why the word became neuter in some of these languages.

Etymologically, WGm. **aikwernan-* looks like an old compound. Falk/Torp (p. 186) analyzes the word as **aik-wernan-* from **aik-* 'oak'[399] and **werna-* 'weasel' (or rather 'squirrel'). This *werna-* reappears in many different shapes in the West Indo-European languages: 1) **wāwer*: Lith. *voverẽ*, Latv. *vãvere*; 2) **waiwer*: OCS *věverica* 'squirrel', Lith. *vaĩveris* 'pole-cat'; 3) **wer-*: Ir. *feoróg*, Gae. *feòrag* 'squirrel', 4) **wifar*: Lat. *vifarrus* (= Ir. *iora*, W *gwiwar*); 5) **wiwer*: Lat. *vīverra* f. 'ferret'. Little can be said about modern Gr. σκίουρος (= Lat. *sciūrus*, MLat. *squiriolus*, *spiriolus*, *asp(e)riolus*, Fr. *écureuil*, Wall. *skiron*, *spirou*[400]). It may have contained the element **uer-*, but synchronically it looks like a compound of σκιά f. 'shadow' and -ουρος, 'tailed' < ουρά f. 'tail'. Perhaps the original form of the word was altered by popular etymology, like in West Germanic.

It is, in fact, not simple to arrive at a PIE reconstruction of the word. Since the different forms cannot be unified by a single reconstruction, the question arises whether the word was adopted from a non-Indo-European substrate language. With Pers. *varvarah* 'squirrel'[401], however, the etymon seems to require an Indo-European horizon. Within Indo-European morphology, the best way to account for the formal variation of the word is to

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[396] Hellquist 116;
[397] Kalkar 446.
[398] Zantema (F-N) 433; Jensen 226
[399] The connection with ON *eikinn* 'vivid', Skt. *éjati* 'move quickly' < PIE **$h_2$eig-* (De Vries 1962: 283; Hellquist 116; Pokorny 13-4) is unlikely.
[400] Grandgagnage 1857: 10.
[401] Pokorny 1116.

reconstruct a reduplicated noun.[402] To my mind, the original paradigm must have been similar to the one of the Indo-European word for beaver. This was *b^hé-b^hr, *b^hi-b^hr-ós and probably developed out of older *b^hé-b^hr, *b^he-b^hr-ós by the raising of pretonic *e to *i in the genitive.[403] Accordingly, I reconstruct the paradigm of squirrel as *$h_2$ué-$h_2$ur, *$h_2$ui-$h_2$ur-ós. While the nominative stem *$h_2$ueh$_2$u(e)r- regularly gives Lith. *voverẽ*, *vóverė*, Latv. *vãvere*, the genitive stem *$h_2$uih$_2$ur- explains Lat. *vīverra*. The exact way of realizing the reduplication, however, differed from language to language. OPers. *varvarah-* < *$h_2$uer-$h_2$uer-, for instance, has so-called 'broken' reduplication, according to which the whole root was repeated. In Balto-Slavic, reduplication often occurred with *o or *oi instead of *e, cf. Lith. *bẽbras*, *bãbras*, Ru. *bobr* 'beaver' < *b^he-b^hr-, *b^ho-b^hr- and Lith. *gaĩgalas* 'drake', OPru. *gegalis* 'kind of fishing bird' < *g^hoi-g^hol-o-[404]. This explains the variant Lith. *vaĩveris*, ORu. *vĕverica* < *$h_2$uoi-$h_2$uer-. Lith. *vėverìs*, on the other hand, points to *$h_1$ue-$h_1$uer-, thus indicating that the root perhaps had *h_1 rather than *h_2.

In Germanic, the second element of the compound can safely be reconstructed as *wernan- (< *Huer-ōn, *Huer-n-ós?). The correlation of WGm. *aikwerna(n)- with Nordic *īkwernan-, on other hand, has always been difficult to understand. Pokorny (p. 116) hesitates between "alter Ablaut oder Schwächung aus *aik-* im Nebenton?", and the same options are given by Falk/Torp. Since, however, the weakening of pretonic *ai* to *i* is unparalleled in Old Norse, this solution must be rejected. Then again, the reconstruction of paradigmatic ablaut is not very likely either, because an ablauting compound *Heiǵ-$h_2$uer-ōn, *Hoiǵ-$h_2$uer-n-os is unacceptable in many respects.

The only way in which the apparent ablaut of the first syllable would make sense, is to assume that it is the reduplication vowel that alternates. It has, in fact, been suggested by Seebold (1982) that the Germanic word continues "*woiwr̥-" through the alleged change of PIE *-iu- to PGm. *-kw-. It seems preferable, then, to use Kortlandt's reformulation of this development, which implied the velarization of a laryngeal between a resonant and a *u, cf. OE *tācor* 'brother-in-law' < *taik(w)er- < *daiHuer- < PIE *deh$_2$i-uer-. As a matter of fact, we can indeed derive PGm. *aikwernan- from PIE *$h_2$uoi-$h_2$uer- and *īkwernan- from *$h_2$uei-$h_2$uer- with this sound law. However, as Seebold already noted, the unexpected loss of the initial *w remains a major problem with this etymology.

Perhaps we could alternatively assume that the Nordic form *īkwernan- was borrrowed from Frisian at the time when Frisian traders still dominated European maritime trade in the early Middle Ages. Such a hypothesis has two advantages. First, the Scandinavian forms in *īk-* match the development of PGm. *aik- 'oak' to *īk* and *iik* in North and West Frisian correspondingly. In addition, it provides a probable explanation for the neuter gender of Da. *egern* and Nw. (dial.) *ikorn(a)*. This gender is unexpected from the Old Norse masculine *n*-stem *íkorni*, but understandable from the North Frisian neuter *īkhōrn*, where the West Germanic association with *hurna- took place. Squirrel hides were often used as currency or tax payment in the Middle Ages, and it is not inconceivable that the Frisian word for 'squirrel' passed over into early Old Norse as a result. Such a scenario, for instance, must

[402] Cf. Bailey 1979: 209; RLGA 6, 536.
[403] Beekes 1995: 190.
[404] Endzelīns/Schmalstieg/Jegers 1971: 85.

be assumed anyway for Finnish *tikurri* 'ten squirrel hides', which seems to be borrowed from Sw. **tio ikorre* 'ten squirrel'. The most probable point of contact between Frisians and Scandinavians is the Viking town of Birka in Sweden, one of the centers of the Frisian fur trade.[405]

[405] Singleton 1998: 16.

8.2 **eu* ~ **ū̆* alternations

A relatively small group of *n*-stems shows a vowel alternation of **eu* with **u*, thus forming a pattern parallel to class IIa of the strong verbs. The alternation is also comparable to the ablaut that is found in the old heteroclitic *udder* (cf. Skt. *ū́dhar*, *ū́dhnas* n.), although in this word the **u* was lengthened in the zero-grade due to a contiguous laryngeal.

***eudur, *ūdraz 'udder'**

- **eudr-*: ON *júr*, *júgr* n. 'udder' (< **júðr*), Icel. *júfur*, *júgur* n. 'id.'[406], MLG *jeder* n., OFri. *jāder* 'id.', WFri. *jaar* n. 'id.'[407] (= Du. dial. *jaar*, *jadder*[408])
- **eldr-*: E dial., Du. dial. *elder* 'id.'[409]
- **ūdr-*[410]: OHG *utar(o)*, dsg. *ūtrin* '*ubere*'[411], MHG *iuter*, *ūter* mn. 'id.', G *Euter*[412], Bav. *auter* n. 'id.'[413], Swi. App. *uuttər*[414], Visp. *üütter*[415] n. 'id. ', MDu. *uder* m. 'id.', Du. *uier*[416], OE *ūder* n. 'id.', E *udder*

The ablaut of the word for 'udder' is unambiguous. The *e*-grade is ascertained by a range of forms found in both North and West Germanic. It is most clearly attested in MLG *jēder* and OFri. *jāder*, the latter of which shows the usual Frisian development of **eu* to **iā*. The anomalous form *elder*, which occurs in an area that unifies some Dutch and English dialects, is certainly no reflex of **aliþra-* < **$h_2$el-i-tro-* "feed-organ", as has been claimed.[417] It rather continues the form **eudur* with the (dissimilatory?) change of **eud-* to **eld-*.[418]

ON *júgr* developed out of **júðr*, and clearly points to a PGm. diphthong **eu*. The velarization of the dental fricative is paralleled by instances such as *fjǫgur* n. '4' < **fjǫður* < **fedwōr* < **k^wetuōr*, and thus seems to have been triggered by an adjacent labial vowel.[419] In modern Icelandic, the velar fricative was lost between back vowels, the resulting hiatus being filled up with a labial glide. This is reflected in the orthography by the variant *júfur*.

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[406] Böðvarsson 472.
[407] Zantema 1, 453.
[408] Weijnen 1996: 82.
[409] Weijnen 1996: 43
[410] A consonant stem must be reconstructed for OHG dpl. *ūtrin*, but for the other forms a thematic formation (cf. Fick/Falk/Torp 29: **eudar(a)* ~ **ūdar(a)*; Kluge/Seebold 263: **eudara-* ~ **ūdara-*) would work as well. The original PGm. nasg. will have been **eudur* < **$h_1$eud^h-r*.
[411] Graff 1, 158.
[412] Kluge/Seebold 263: "Man erklärt dies [d.h. die indogermanische Vokalvariationen] durch einen alten Ablaut *ēu/ōu/ū*, doch hat diese Annahme nicht viel Wahrscheinlichkeit für sich."
[413] Grimm 1, 1044.
[414] Vetsch 76.
[415] Wipf 36.
[416] Franck/Van Wijk: 717.
[417] OED, s.v. *udder*.
[418] A similar change is seen in Swi. Visp. *hälffa* f. 'hip, wild rose' < OHG *hiufa* f. 'id.' < **heupōn-*. It shows the reverse development of *l* > *ł* as in e.g. Polish.
[419] We may even wonder whether the change required two surrounding labial vowels. It this is correct, *júgr* presupposes **eudur* rather than **eudra-*.

The zero-grade root **ūdr-* is reconstructed on the basis of OE *ūder*, MDu. *uder*, Bav. *auter*, Swi. *uuttər*, etc. MHG *iuter* and G *Euter* are opaque, as they can be derived from either **eudr-* or **ūdr-* with front mutation. OHG *ūtar(o)*, dsg. *ūtrin* also reflects a zero-grade, but unlike all other forms, it has forms that point to a masculine *n*-stem.[420] This has been the reason for many handbooks to reconstruct a PGm. formation **ūdran-*.[421] Still, the *n*-stem endings may also be a vestige of the original heteroclitic interchange of *r* in the strong and *n* in the weak cases.

With two ablaut grades, the Germanic material seems to continue a paradigm **eudur*, **ūdraz* continuing e.g. **$h_1$éu(H)d^h-r̥*, **h_1u(H)d^h-r-ós*. With cognates such as Skt. *ū́dhar*, *ū́dhnas*, Lat. *ūber* and Gr. οὖθαρ, οὖθατος, the Germanic *e*-grade remains isolated. I nevertheless think that it must be old, because the root **eudur* is attested in both North and West Germanic, which reduces the chance the *e*-grade is an innovation[422]. The presence of three different vowel grades prompted Schindler (1975: 8) to reconstruct a static paradigm **$h_1$óuHd^h-r*, **h_1(é)uHd^h-n-s*.[423]

***eulō 'hollow stalk'**

• **eula(n)-*: ON *hvann·jóli* m. 'stalk of angelica'[424], Icel. *hvann·jóli* m. 'id.', *njóli* m. 'sorrel, stalk, cigar'[425], Far. *hvann·jóli*, *-ur* 'stalk of angelica', *jólur* 'stalk (of angelica)[426], Nw. dial. *jol* m. 'angelica', *kvann·jol* m. 'cane, stalk (of angelica)'[427]

• **aula(n)-*: Nw. dial. *aul* m. 'stalk of angelica', *geit·aule* m. 'wild angelica', *kvann·aule* m. 'id.'

Angelica sylvestris.

The angelica plant was used in Scandinavia throughout the Middle Ages as an herb and vegetable, and the Vikings took the plant to every land on which they set foot. As a consequence, the plant has become indigenous on the Faroe Islands, Iceland and Greenland. The plant was known for its hollow stalks. This becomes clear from the application of it by Ólaf Tryggvason on a mission to Christianize the north of Norway. At some point, Ólaf captures the pagan Rauð, and

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[420] Bloomfield 1891: 4.
[421] Cf. Falk/Torp 1410; Franck/Van Wijk: 717.
[422] This is a real possibility for ON *júgr* in view of the strong West Norse tendency to replace **ū* by **eu* (cf. Go. *muks* 'soft' ~ ON *mjúk* 'id.'). No such replacement can have taken place in the case of OFri. *jāder* and MLG *jēder*, because these dialects usually replace **eu* by **ū*.
[423] The idea that the Germanic *e*-grade represents a lengthened grade (Pokorny 347) does not solve much, because then Germanic is again placed in the position of having an isolated vowel grade.
[424] De Vries 1962: 292.
[425] Böðvarsson 429, 471, 688.
[426] Poulsen 500, 556.
[427] Torp 250: "paafaldende avlydsform til a u l."

demands him to be baptized. When Rauð refuses, Ólaf becomes infuriated, and decides to kill him by feeding him a snake through an angelica tube that was pushed down his throat. The explicit use of angelica for its hollowness confirms the generally accepted connection of Nw. *aul* with Gr. αὐλός m. 'tube, flute', Lith. *aũlas* m. 'boot leg'[428] < *$h_2$eulo- and furthermore Ru. *úlej*, gen. *úl'ja* m. 'bee hive', Lith. *aulỹs* m. 'id.' < *$h_2$eul-io-[429].

In addition to the forms with **aul*-, the West Norse dialects have an *e*-grade root **eul*-, cf. Icel. *·jóli*, Far. *jólur*, Nw. dial. *jol*. This variant is problematic, because the PIE root *$h_2$eul- can account for PGm. **aul*-, but not for **eula*-, initial **e* being impossible after a laryngeal. By way of a solution, Pokorny (p. 88-89) derives the root from a PIE lengthened grade, i.e. *h_2ēul-, assuming that the laryngeal did not modify this long vowel. The problem with this solution is twofold: 1) it is rather tricky to reconstruct a lengthened grade for Proto-Germanic or even Proto-Indo-European on the basis of a West Norse vowel alone, and 2) it is unclear what kind of morphological process could have given rise to a lengthened grade, not in the least because the formation is otherwise identical to *$h_2$eul-o-. For these reasons, the reconstruction *h_2ēul- must be rejected.

In view of the limitation of the root **eul*- to Germanic, it is more likely that the *e*-grade is a post-Indo-European innovation. I think that it was triggered by the creation of an *n*-stem to the inherited thematic form **aula*-. This follows from the fact that the attested *n*-stems predominantly occur in compounds, e.g. Nw. dial. *aul* vs. *kvann·aule*, Far. *jólur* vs. Far., Icel. *hvann·jóli*. Icel. *njóli* is a simplex, but its initial *n*- must be due to reanalysis of *hvann·jóli* as *hvan(n)·njóli*. In view of this distribution, I assume that the *e*-grade arose in the *n*-stem that was created in order to form a compound with **hwannō*- 'angelica'.

In conclusion, the etymon described here does not attest to an ablauting *n*-stem directly, because no real zero-grade ***ullaz* < ***$h_2$ul-n-ós* was ever present. It nevertheless indirectly points to paradigmatic ablaut, because it proves that the *e*-grade must have been productive in the Germanic *n*-stems. In this respect, it can be compared to, for instance, the formation **kernan*- as in ON *kjarni*, OHG *cherno* m. 'kernel, grain'. It is unclear, however, whether this **ǵerH-n-on*- represents a independent Germanic formation or that it continues the full-grade form of an old neuter *n*-stem, cf. Go. *kaurno* n. 'grain' < **ǵrH-n-ōn*-, Lat. *grānum* n. 'grain, seed' < **ǵrH-no*- and Lith. *žìrnis* 'pea' < **ǵrH-n(i)*-.

***greubō*, *gruppaz* 'pot'**

- **greuban*-: OE *grēofa* m. 'pot'[430]
- ?**greup^{p}jō*-: OE *gripu* f. 'cauldron'[431]
- **gruppan*-: MDu. *groppe(n)* m. 'iron pan'[432] (= MHG *grop(p)e* 'iron pan', G *Groppen* 'iron pan, cauldron'[433])

[428] Cf. Torp 9.
[429] Derksen 2008: 508.
[430] Bosworth/Toller 488; Holthausen 1934: 137.
[431] Attested as *gripu* f. 'cauldron' (Bosworth/Toller 490; Holthausen 1934: 138).
[432] Verdam 232.
[433] Lexer 1, 1093; Grimm 9, 445-6.

- **grupan-*: OE *gropa* m. 'pan'[434], MLG *grope(n)*, *grape(n)* m. 'pot'[435] (= Kil. sax., sicamb. *grape*, *grope* '*chytra*, *lebes*'), MDu. *grope*, *groop* m. 'vase, cauldron'[436]

The variation of OE *gropa*, MDu. *grope* < **grupan-* and MDu. *groppe* < **gruppan-* unambiguously points to an *n*-stem with consonant gradation, viz. **grupō*, **gruppaz*. Accordingly, the single **p* must probably be secondary, as has already been claimed by Lühr (1988: 243-4) on the basis of the consonantism of e.g. OE *grēofa* 'pot'. The same form additionally points to a full-grade formation **greufan-* or **greuban-*. With this *grēofa* in mind, we may consider an apophonic *n*-stem **greubō*, **gruppaz* < **gréub^h-ōn*, **grub^h-n-ós*.

The position of the OE gloss *gripu* 'cauldron' is unclear to me. It looks like a light-syllable *ō*-stem (**grepō-*?), but the derivation of the word is not transparent, not in the least because of its sparse attestation (2x). If it represents **grīepu*, it can theoretically be derived from a formation **greup^{p}jō-*.

The etymology of the word is relatively clear. In view of correspondences such as Sw. dial. *grjopa* 'to hollow out' < **greup^{p}an-*[437], ON *greypa*, MLG *gröpen* 'to scoop' < **graup^{p}jan-*, ON *gryfja* f. 'hole' < **grubjōn-* and Nw. dial. *grove* f. 'hole' < **grubōn-*, it seems plausible that the *n*-stem **greubō*, **gruppaz* originally denoted a vessel hollowed out of wood (cf. Lühr l.c.).

**keudō*, **kuttaz* 'bag'

- **keuda(n)-*: OHG *chiot* '*bursa*'[438], OE *cēod(a)* m. 'bag'[439]
  → **keudila-*: G *Keutel* m. 'cod-net (bag-shaped fishing net), bowel, dewlap'[440], MLG *kūdel* m. 'bag', MDu. *cudel(e)*, *cuil*, Du. *kuil* 'cod-net'[441]
- **kudda(n)-*: ON, Icel., Far. *koddi* m. 'pillow, scrotum, *clava*'[442], Nw. *kodd(e)* m. 'cushion, scrotum, testicle', MLG *kodde* 'testicle', OE *cod* m. 'bag, husk'[443], ME *cod* 'bag, cod-net, husk, throat, belly, scrotum'[444], Kil. *kodde* '*coleus*, *testiculum*', Du. *kodde* 'ass, tail'[445]
- ?**kuttan-*: G Swab. *kotze* mf. 'blister, pimple'[446]

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[434] Holthausen 1934: 138. [OE *gripu* ‚cauldron' Bosworth/Toller 490; Holthausen 1934: 138 = *grīepu* < **greupjo-*?]
[435] Lübben 130.
[436] Verdam 231, 232.
[437] Lühr (244 fn.) analyzes **greuban-* as a derivation from an unattested strong verb **greuban-*.
[438] Graff 4, 366.
[439] Holthausen 1934: 46.
[440] Grimm 11, 655-6.
[441] Verdam 316; Franck/Van Wijk 356.
[442] Böðvarsson 510; Poulsen 612.
[443] Holthausen 1934: 56.
[444] MED, s.v. *cod*.
[445] De Vries/Tollenaere 341.
[446] Fischer/Taigel 283.

The West Germanic dialects bear witness of an old *n*-stem meaning 'bag' that has both a full-grade and a zero-grade. A full-grade root **keud-* is attested as the Old High German *chiot* '*bursa*' and in OE *cēod(a)* 'bag', which is found in Anglo-Saxon law as *man sceal habban* […] *cisfæt, ceodan, wilian* […] 'one should have […] cheese-vessels, bags, baskets […]' and in the gloss *ceodas* '*marsuppia*', where it is thematic. The full-grade is further supported by the derivation **keudila-* as in MHG *kiutel* m. 'crop, dewlap', G *Keutel* 'cod-net, bowel', and MDu. *cudel(e)*, *cuil* 'cod-net'. A zero-grade root **kudd-* is found in both North and West Germanic, e.g. ON *koddi* 'pillow, scrotum' and Kil. *kodde* 'colon, testicle'. The fact that this root combines a zero-grade with a geminate, can be an indication that it developed out of the genitive. With this in mind, the paradigm can be set to nom. **keudō*, gen. **kuddaz* for the Proto-North-West Germanic period. There are no traces of the expected genitive **kuttaz*, except, maybe, for Swab. *kotze* 'blister'.[447]

Other possible cognates are Icel. *koðri* m. 'scrotum', G *Koder* 'dewlap' < **kuþra(n)-* and Kil., Du. *kossem* 'dewlap' < **kuþma-*.[448] The American slang word *chode* 'the area between scrotum and rectum' is unlikely to be related, although it formally and semantically corresponds to OE *ċēoda*.[449]

***leuhmō*, **l(a)uhmenaz* 'flash'**

- **leuhman-*: ON *ljómi* m. 'flash of light, radiance', OE *lēoma* m. '(ray of) light, splendor'[450], OS *liomo* m. 'id.'
- ?**leuhna-*: Nw. *lyn*, dial. *ljon* n. 'lightning'[451], EDa. *ljun* n. 'id.'[452]
- **l(a)uhmunjō-*: Go. *lauhmuni* f. 'lightning'
- **l(a)uhumnja-*: ME *levene* n. 'lightning', E poet. *levin* 'flash, lightning'

The above words for 'ray of light' and 'lightning' are in clear ablaut correlation with each other and may thus point to an apophonic *n*-stem to the root **leuk-* 'shine'.

An *e*-grade is found in ON *ljómi*, OE *lēoma*, OS *liomo* < PGm. **leuhman-*. The same vocalism is pointed out by the Scandinavian word for 'lightning', viz. Nw. *lyn*, EDa. *ljun*. It is uncertain, however, whether this formation actually split off from the *mn*-stem. If it did, we must assume that the *m* was lost in a genitive form **leuk-mn-os*, for which we can compare the paradigm of **b^{h}ud^h-mēn*, **b^{h}ud^h-mn-ós* (see section 4.1.2). Then again, **leuhna-* was not affected by Kluge's law, which makes the comparison imperfect. The only way to maintain it, is to assume that **leuk-mn-os* was barytone, so that Kluge's law could not operate.

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[447] The semantic difference between 'bag' and 'pimple' is trivial, cf. OE *pocca* m. 'bag', *poc* m. 'pock', etc.
[448] De Vries/Tollenaere (p. 353) sets the reconstruction to **kuþ-sma-*, but the sibilant probably stems from a form with West Germanic gemination before *m*, i.e. **kuþþm-*, cf. Du. dial. *pessem* 'root' < **peþþm-*.
[449] Phonetically, the development of *chode* from *cēoda* is comparable with *choke* from OE *(ā-)cēocian* 'suffocate' < **keukōjan-*, as the OED correctly assumes; the palatal affricate [ʧ] absorbed the first part of the diphthong **ēo* < **eu*.
[450] Bosworth/Toller 633.
[451] Torp 384-5.
[452] Fick/Falk/Torp 373; Kalkar 817-8.

No *e*-grade can be reconstructed for Gothic. Still, the original vocalism of *lauhmuni* is uncertain because of the ambiguity of the Gothic grapheme {au}, which can continue both PGm. **u* and **au* in the position before *h*. The form must accordingly be reconstructed as either **luhmunjō-* or **lauhmunjō-* < **l(o)uk-mn-ieh₂-*. Pogatscher (1902: 234-5) supposed a diphthong in view of ME *levene* 'lightning', which he derived from OE **lēahufne* or **līehifne*[453]. Both of these reconstructions were taken by Pogatscher to be possible continuations of a PGm. neuter *ja*-stem **lauhmunja-*, the latter variant representing a form affected by *chain umlaut*. However, I doubt that the Middle English form is as decisive as Pogatscher claimed it to be. Similar formations such as ME *heven* 'heaven' < OE *he(o)fen* and ME *stev(e)ne* 'voice' < OE *stefn* show a development that is identical to the one of *levene*, and neither of them had a PGm. diphthong. The reconstruction of a diphthong therefore does not seem compelling. In my view, there is actually no objection against deriving *levene* from OE **lyhifne* and ultimately from PGm. **luhumnja-* (again with chain umlaut). This variant closely approaches Go. *lauhmuni*, the only difference being that *levene* continues a stem **l(o)uk-m̥n-* with vocalization of the *m*, whereas *lauhumni* presupposes **l(o)uk-mn̥-* with vocalization of the *n*. This, however, is only a minor problem, because ultimately both variants are reflexes of the same suffix. In Gothic, the variant *-ubni* / *-ufni* < **-m̥n-io/h₂-* became productive, cf. *witubni* n. 'knowledge' < **uid-m̥n-io-* and *fraistubni* f. 'temptation' from **proist-m̥n-ih₂*.

I conclude that the Germanic evidence unambiguously points to an ablauting paradigm, but that it is indecisive on the original vocalism of *lauhmuni* and *levene*. As a consequence, the original paradigm may have been a hysterodynamic **léuk-mōn*, **luk-mn-ós*, a proterodynamic **léuk-mn*, **luk-mén-s*, or even a static **lóuk-mn*, **léuk-mn-s*.

Other Germanic formations are ON *ljóri* m. 'louver, opening in the roof' < **leuhran-* or ON *ljós* n. 'light' < **leuhsa-*, etc.

***reumō, ?*rūmenaz 'cream'**

- **reuman-*: Icel. *rjómi* m. 'cream'[454], Far. *rómi* m. 'id.'[455], Nn. *rjome* m. 'id.', Nw., Da. *rømme* 'id.'[456], Sw. *römme* 'id.'[457], OE *rēama*, *rēoma* m. 'membrane, meninx'[458], WFri. *rjemme* 'cream'[459]
- ?**rūmōn-*: Swi. *ruum(m)e* f. 'skin (on milk or butter), crusty skin'[460]

- **rauma(n)-*: OE *rēam* m. 'cream'[461], E obs. *ream* 'id.', MHG *roum* m. 'id.'[462], G *Rahm* 'id.'[463], Swi. Rhtl. *roomm* 'id.'[464], MLG *rōm(e)* 'id.'[465], MDu. *room*, *rome* 'id.'[466], Du. *room* 'id.'[467], Limb. *room* 'skin'[468]

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[453] Cf. Pokorny 687-690; Lehmann 228.
[454] Böðvarsson 799.
[455] Poulsen 956.
[456] Falk/Torp 935.
[457] SAOB R4410.
[458] Bosworth/Toller 791: *se reóma ðes brægenes*.
[459] Zantema 1, 823.
[460] Schweizerisches Idiotikon 915.
[461] Bosworth/Toller 788.

The Germanic word for ‘cream’ or ‘skin (on milk)’ appears with at least two different root vocalisms. The modern Nordic languages, e.g. Icel. *rjómi*, Far. *rómi*, Nw., Da. *rømme* ‘(sour) cream’, OE *rēoma*, *rēama*[469] and the generally ignored WFri. *rjemme* continue PGm. **reuman-* with *e*-grade[470]. In the rest of the West Germanic dialects, this formation has cognates that point to a thematic formation with *o*-grade, cf. OE *rēam*, MHG *roum* ‘cream’ < **rauma-*. Only Middle Low German and Middle Dutch have a variant *rome* that provides some evidence for an additional weak stem **rauman-*.[471] Even more marginal is the evidence for a Proto-Germanic form with a long **ū*, which is reconstructed by Pokorny (p. 873) on the basis of Sw. *rūm* (in *Schweizerisches Idiotikon* lemmatized as *ruum(m)e*). It can theoretically continue a zero-grade, but the status of this reconstruction remains doubtful.

Etymologically, the connection with Avestan *raoγna-* n. ‘butter’[472] gives the word an Indo-European base. As a result, the formation can safely be reconstructed as **Hreug^h-men-* or – if Lith. *ráugas* m. ‘sourdough’[473] is related – as **Hreug-men-*. The Avestan word may continue a form **Hreug^h-mno-* with dissimilation of the *m*.[474] In Germanic, the root-final stop was lost before **m* as in e.g. **drauma-* ‘dream’ < **d^{h}roug^h-mo-* and **hrīman-* ‘rime’ < **kriHp-men-* (see p. 30).

The distribution of the different ablaut grades is roughly in agreement with the usual pattern, according to which the *e*- and zero-grade are found in roots inflected as *n*-stems, the *o*-grade being restricted to thematic derivatives. With this pattern in mind, we can reconstruct the original paradigm as **Hreug^h-mōn*, **Hrug^h-mn-ós*[475]. Alternatively, the emphasis can be placed on the fact that the *o*-grade is inflected as an *n*-stem in Middle Low German and Middle Dutch. This is in favor of the reconstruction of a static paradigm **Hróug^h-mn*, **Hréug^h-mn-s*. Notably, the ablaut of **reugman-*, **raugman-* and **rūgman-* is indeed parallel to the one of **h$_1$eu(H)d^h-r-*, **h$_1$ou(H)d^h-r-*, **h$_1$u(H)d^h-r-* ‘udder’ (see p. 99).

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[462] Lexer 2, 516.
[463] Kluge/Seebold 741: “Die neuhochdeutsche Form beruht auf einer Mundart, die mhd. *ou* zu *ā* entwickelt hat.”
[464] Berger 56.
[465] Lübben 306.
[466] Verdam 499, 500.
[467] Franck/Van Wijk 559; De Vries/Tollenaere 590.
[468] WLD I, 11: 128.
[469] WS *ēo* = North. *ēa* (cf. Wright §137)
[470] De Vries 1962: (p. 449) gives *rjúmi* m. ‘rahm’, but this form only occurs in the nickname *rjúma·rauðr* (cf. Heggstad 544), and can be discarded. Falk/Torp (p. 935) gives ON *rjómi*, but this form does not exist but in (modern) Icelandic.
[471] Franck/Van Wijk reconstructs the different ablaut variants as **reugman-* and **raugma(n)-*.
[472] Schwyzer 1907: 180-3; Pokorny 873.
[473] Thus Fraenkel: 705-6; Franck/Van Wijk: 559.
[474] Cf. Av. *asman-*, gen. *ašnō* m. ‘stone, meteorite, sky’ = Skt. *áśmā*, gen. *áśnaḥ* < **h$_2$ék̑-mōn*, **h$_2$(e)k̑-mn-ós*.
[475] Alternatively, the ablaut pattern can be analyzed as belonging to a static paradigm, cf. OFri. *jāder* < **h$_1$eu(H)d^h-r*, Gr. οὖθαρ < **h$_1$ou(H)d^h-r*, Skt. *ū́dhar* < **h$_1$u(H)d^h-r*. The problem with this solution is that this type is rare in the Indo-European languages, and that the Germanic material rather points to thematization as the point of start of the *o*-grade.

8.3 *ū ~ *u alternations

A large group of *n*-stems displays an ablaut pattern *ū : *u, thus directly corresponding to the class 2b of the strong verbs. Osthoff (1882) was the first to make mention of the alternations in a discussion of the Proto-Germanic geminates, and he suggested that the roots of ON *knútr* and OHG *chnodo* originally belonged to one and the same paradigm. A little later, Noreen (1894: 164) reconstructed a rudimentary paradigm **knóþan-*, **knuđén*, **knutt-́* : **knūtt-́*. The key problem of these reconstructions was expressed by Kauffmann (1887: 529) in the following way: "Wie ist aber *ū* zu erklären?". It is not possible, after all, to project the alternation *ū ~ *u back into Proto-Indo-European, and reconstruct it as *uH ~ *u. It therefore requires a different solution.

Of course, the alternation *ū ~ *u is not confined to the *n*-stems. It occurs in other morphological categories as well, especially in class 2 of the strong verbs, where it seems to have been in competition with the alternation *eu ~ *u. The outcome of this competition was different in each and every dialect. Go. *biugan* and OHG *biogan* 'to bend', for instance, are in contrast with OE *būgan*, OFri. *būga* and MLG, MDu. *būgen*. When we compare a larger corpus of second class verbs throughout the Germanic dialects, the conclusion must be that Old Norse, Old High German and – to a lesser extent – Old English, have a preference for the *eu vocalism, whereas *ū has the strongest representation in Old Frisian, Middle Low German and Middle Dutch. It must be stressed, however, that the "choice" between *eu and *ū differs from verb to verb, even in the dialects that have a strong inclination towards either variant. The distribution of the two vocalisms over the different dialects is rendered in the table below, which is an adaptation of a similar representation by Perridon (2001). In order to visualize the distribution as clearly as possible, I have given the verbs with *ū a dark background color.

	ON	OHG	OE	OFri.	MLG/MDu.
'to bend'	-	*biogan*	*būgan*	*būga*	*būgen*
'to drip'	*drjúpa*	*triufan*	*drēopan*	*driāpa*	*drūpen*
'to roar'	*hrjóta*	*rūzzan*	-	*(h)rūta*	*rūten*
'to cleave'	*kljúfa*	*klioban*	*clēofan*	-	*klieven* *klūven*
'to creep'	*krjúpa*	-	*crēopan*	*krūpa*	*krūpen*
'to smoke'	*rjúka*	*riohhan*	*rēocan*	*rūka*	*rēken* *rūken*
'to push'	-	*skioban*	*scēofan* *scūfan*	*skūfa*	*skūven*
'to sneak'	-	*sliufan*	*slūpan*	*sliāpa*	*slūpen*
'to close'	-	*sliozzan*	-	*slūta*	*slūten*
'to sneak'	-	*smiogan*	*smūgan*	*smūga*	*smūgan*
'to sprout'	-	*spriozzan*	*sprēotan* *sprūtan*	*sprūta*	*sprūten*

'to be dusty'	-	*stioban*	-	-	*stūven*
'to howl'	*þjóta*	*diozzan*	*þēotan*	-	-
			þūtan		

It thus appears that the result of the competition between **eu* and **ū* differed from dialect to dialect. This ostensibly random variation implies that the balance between the two variants remained dynamic in many Germanic daughter languages, and that, accordingly, many individual verbs may have shifted from one vocalism to another at different points in time. In some cases, such a shift can actually be demonstrated. It is beyond doubt, for instance, that **reukan-* 'to smell' was replaced by **rūkan-* in the continental North Sea Germanic dialects. Old Norse, Old High German and Old English all have **reukan-*, but in Old Frisian we find **rūkan-*. Middle Low German, on the other hand, has both *rēken* and *rūken* 'to smoke, smell'. The competition between the two variants has almost been settled in modern Dutch, which likewise has *rieken* and *ruiken* 'to smell'. The *rieken* form, though, is nowadays perceived as archaic, and exclusively occurs in figurative use, e.g. *dat riekt naar censuur* 'that smacks of censorship'. This distribution indicates that **ū* must be regarded as the invasive variant ousting older **eu*.

The competition of **eu* and **ū* has evolved in the opposite direction in Nordic. In Old Norse we find the doublets *súga* ~ *sjúga* 'to suck' and *lúka* ~ *ljúka* 'to close', of which the variants with **ū* are by far the most frequent ones. In Modern Icelandic, however, this distribution has been reversed; the doublet *lúka* ~ *ljúka* still exists, but *ljúka* has become the dominant variant. The doublet *súga* ~ *sjúga* is not even a doublet anymore, because *sjúga* has completely supplanted *súga*.

Notably, the *n*-stems show a similar evolution towards **eu*. Whereas, for instance, Old Norse has both *strjúpi* and *strúpi*, Modern Icelandic has preserved only the former variant. An extremely relevant observation in this framework was made by Perridon (2001: 33-5), who noted that "[a]blaut in Proto-Germanic is not a phenomenon that is confined to the verbal system." In order illustrate this, Perridon adduced correspondences such as ON *bljúgr* ~ OHG *blūg* 'shy', ON *mjúkr* ~ Go. *muk-* 'soft' and ON *tjóðr* ~ MDu. *tūder* 'tether'. Examples like these indeed seem to confirm that, in Old Norse, there was a long-term process by which **ū* was gradually being replaced by the reflex **eu*.

Three important observations can be based on the distribution of **eu* and **ū* in the Germanic dialects throughout the ages: 1) **eu* and **ū* were morphologically isofunctional in both the strong verbs and ablauting *n*-stems; 2) since all the Germanic dialects have both variants, though in different proportions, the variation must find its origin in Proto-Germanic; and 3) the distribution of the two variants was probably unstable in Proto-Germanic times already, and drifted toward **eu* in some dialects, and to **ū* in other dialects. It follows from these facts that the original, Proto-Germanic situation can be reconstructed by isolating archaisms. In practice, this means that **ū* is likely to be old if it is found in dialects where **eu* is prolific, and that, conversely, instances of **eu* must be old in dialects with intrusive **ū*. In other words, **eu*-forms are ambiguous in Old Norse, while **ū*-variants are insignificant in the Low German and Frisian dialects.

With these observations in mind, we can move to the problem of the origin of the variant **ū*. There are several theories regarding this problem. The oldest explanation was furnished by Boer (1924: §94), who argued that all verbs with **ū* instead of **eu* originally belonged to the class of aorist presents, corresponding to the Skt. *tudáti*-type. Boer assumed that in Germanic these verbs acquired an analogical full-grade **eu* (cf. **teudéti*), which through **əu* became monophthongized before the accent, so as to develop into PGm. **ū*. An important objection to this theory is that Proto-Germanic still has a number of root aorists that are recognizable as such exactly because they did *not* introduce the full-grade: Go. *digan* 'to knead', Go. *trudan*, ON *troða* 'to tread', Go. *wulan* 'to seethe', ON *koma*, OHG *chuman* 'to come', ON *knoða* 'to knead', etc. This argument, which was furnished by Perridon (2001: 32), is critical to Boer's theory, and it becomes all the more valid when the apophonic *n*-stems are taken into account. In many of these *n*-stems, the **ū*-vocalism is in opposition with the zero-grade **u*, which indicates that it is isofunctional with **eu*. Since, then, this full-grade always carried the stress, Boer's pretonic change of **eu* > **ū* becomes untenable.

Perridon himself proposed a different solution. In view of the verbal as well as nominal spread of **ū*, he argued that that **eu* regularly developed into **ū*, but that this change did not affect the whole of the lexicon (2001: 35). This situation would then be comparable to the difference between the British and American English pronunciation of *duke* [djʊuk] : [dʊuk] and *news* [njʊuz] : [nʊuz][476]. Though the Proto-Germanic problem of the distribution of **eu* and **ū* is indeed reminiscent of the English variation of [jʊu] and [ʊu], an important objection to Perridon's approach is that it does not account for the intrusiveness of **eu* in Old Norse, where many instances of old **ū* have demonstrably been replaced by younger **eu*. Since in both American and British English there is a unidirectional process of [jʊu] being ousted by [ʊu], cf. Brit. [əsjʊ́um] >> [əsʊ́um], the Germanic equilibrium seems to have been the result of a more complex process.

From the perspective of the ablaut in the *n*-stems, the only acceptable theory, therefore, is the one formulated by Campbell (1959: 303) in his Old English Grammar: "The reason for the intrusion of *ū* into the present of this class is uncertain, may be no more than analogy with class 1 in Germanic: after *ei* > *ī*, since verbs with *ai* in the past had *ī* in the present system, those with *au* in the past might develop long *ū* in the present system". This view is a variation to Prokosch, who argued for a similar analogy, though sticking to the stray idea that **ū* arose in the *tudáti*-verbs.[477]

This analogical solution is preferable on systemic grounds: the *n*-stems already had a quantitative ablaut opposition in the **ī* ~ **i* type and the **ō* ~ **a* type. It seems probable to me that these two classes provided the model for the introduction of an analogical **ū* : **u* opposition[478] next to the old opposition **eu* : **u*. As a result, **eu* and **ū* became isofunctional full-grade markers that started a competition in a Darwinian sense. The outcome of this competition, we have seen, was different in the individual dialects.

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[476] Cf. Phillips (1981).

[477] "Probably the forms are analogical, following the proportion *steigan* (*stīgan*) *staig stigum stigan = lukan lauk lukum lukans*. An analogical leveling of **lŭkan* to **lūkan* is required to make the parallelism complete." (Prokosch 1939: 150).

[478] Schaffner (2001) reached the same conclusion in his discussion of **mūhō*, **mukkaz* 'stack' (see p. 116).

Parenthetically, an actual, linguistically real basis for the rise for the **ū* : **u* opposition may have been created independently by Dybo's law, the development underlying the pretonic shortening of e.g. PIE **suHnús* to PGm. **sŭnuz* 'son'.[479] By this law, an originally non-ablauting *mn*-stem with a root ending in **-uH-* or **-iH-* would have acquired qualitative ablaut in a regular way. It is conceivable, for instance, that OHG *dūmo* 'thumb' and OSw. *þume* 'id.' continue a paradigm **þūmō*, **þŭmenaz* that regularly developed out of **tuH-mōn*, **tuH-mén-s*. The resulting ablaut in such paradigms may have formed an additional starting point for the otherwise secondary **ū* : **u* opposition.

****hrūhō*, *hrukkaz* 'pile'**

- **hrŭ̆ha-*: Icel. *hró* 'hillock'[480], Far. *rógv* n. 'stack'
- **hrūgōn-*: ON, Icel. *hrúga* f. 'pile'
- **hrūk^{k}ōn-*: Icel. *hrúka* f. 'small pile'[481], Nw. dial. *hruke* f. 'pile, haystack', Sw. dial. *ruka* f. 'hillock, pile', E *ruck* (dial.)
- **hrūk^{k}a-*: Nw. dial. *ruk* m. 'haystack, potato row'
- **hrugan-*, *-ōn-*: Sw. dial. *råga* 'stack'[482], Gutn. *rugä* m. 'load'[483]
- **hruggan-*: Sw. *rugge* 'bush'[484]
- **hrukka-*: MDu. *roc* m. 'haystack'[485], Kil. *rock* '*cumulus*, *meta foeni*'
- **hruka(n)-*, *hrukōn-*: ON *hroki*, *-r*, Icel. *hroki*, *-ur* m. 'pile'[486], Far. *roki* m. 'pile on a waggon'[487], Nw. dial. *roke* m. 'haystack', Gutn. *rukå* f. '(dung) heap'[488]

- **hrauk^{k}a-*: ON *hraukr* m. 'pile'[489], Icel. *hraukur* m. 'stack, big guy'[490], Far. *reykur* m. 'bird's crest'[491], OE *hrēac* m. 'heap, stack, rick'[492], Du. *rook* 'haycock, rick'

The interchange of ON *hrúga* and OE *hrēac* is mentioned by Kauffmann (1887: 515) as an example of paradigmatic ablaut in the *n*-stems. Similary, Hellquist (p. 680) recognizes Icel. *hrúka* as an ablaut variant to **hrauk-*, but calls the consonant alternation "ej fullt klart". In my

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[479] Dybo's law only operated through resonants, cf. **hūdiz* < **kuHtís* (Kortlandt 1975).
[480] Böðvarsson 412.
[481] Böðvarsson 415.
[482] Hellquist 659.
[483] Klintberg/Gustavson 979.
[484] Hellquist 659.
[485] Verdam 499.
[486] De Vries 1962: 259; Böðvarsson 413.
[487] Jacobsen/Matras 296.
[488] Klintberg/Gustavson 979.
[489] De Vries 1962: 252
[490] Böðvarsson 405.
[491] Poulsen 932.
[492] Bosworth/Toller 556.

view, the root **hrauk-* is to be understood as an *o*-grade thematization to an ablauting *n*-stem **hrūgō*, **hrukkaz*.

The full-grade vocalism **ū* is found scattered through the Nordic dialects, and accompanied by different consonantisms, e.g. ON *hrúga* < **hrūg-*, Icel. *hrúka*, Sw. dial. *ruka* < **hrūk^k-*. The forms Icel. *hró* and Far. *rógv* probably continue **hrūh-*, although **hrŭh-* is possible, too (cf. ON *þó* 'though' < **þuhwe* < **tu-k^{w}e*). Since, however, the full-grade is likely to have occured in stressed position, the most logical way to reconstruct *hró* is **hrūha-* from the nominatival allomorph **krū́k-*. The zero-grade is attested in a wide variety of formations, e.g. Sw. dial. *råga* < **hrugōn-*, Sw. *rugge* < **hruggan-*, ON *hroki* < **hrukan-* and MDu. *roc* < **hrukka-*, the latter root form representing the original genitive **hrukkaz*. Together, the different forms point to a PGm. paradigm **hrūhō*, **hrukkaz*, **hrugini*, which was split up in a number of different ways. Sw. *rugga*, for instance, has an analogical geminate and ON *hroki* an analogical singulate.[493] The variation between thematic *hrokr* and athematic *hroki* is a characteristic of a disintegrated *n*-stem (see section 4.1.1.1).

PGm. **hrauk^{k}a-* has been regarded as cognate with OIr. *crúach* f. 'stack of corn, rick', W *crug* 'id.' < PCelt. **krouk-*[494], but given the limitation of the etymon to Germanic and Celtic, it is more likely that the word was borrowed from either branch into the other. Since in Germanic, the word is 1) derivationally transparent and 2) embedded in a broader etymological context, whereas 3) the Celtic word is lexically isolated, the direction of borrowing must have been from Germanic into Celtic. The feminine ending of **kroukā-* may then be an adaptation to the Germanic *a*-stem. Other connections, such as Lat. *crux*[495] and Skt. *kruñcati* 'to bend' are more uncertain, but the appurtenance of PGm. **hrugja-* 'ridge' is not implausible.

**hūfō*, **huppaz* 'heap'

- **hūpan-*: OHG *hūfo* '*strues*, *tumulus*, *cumulus*'[496], MHG *hūfe* m. 'id.', G *Haufen*[497], Swi. Visp. *hüüfo* m. 'id.', MLG *hūpe* m. 'id.'[498]
- **hubbōn-*: G Tyr. *huppe* f. 'hill'[499], LG *hobbe* 'hillock'[500], Kil. *hobbe* 'big cheese'
  - → **hub(u)la-*: Swi. Visp. *hubol* m. 'hill', Kil. *hobbel* '*nodus*, *tuber*', Du. *hobbel* 'bump'[501], *heuvel* 'hill'
- **huppōn-*: OE *hoppe* f. 'capsule'

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[493] Noreen (1894: 164); Falk/Torp 866.
[494] Hellquist (p. 680): "F.ö. urbesl. med ir. *chrúach* (av **krouko-*) [...]"; Falk/Torp 866: "Außerhalb des germ. entspricht air. *crúach* (von **kroukā-*), kymr. *crûg* „haufe, heudieme"."; De Vries 1962: 252.
[495] Cf. Pokorny 935-8.
[496] Graff 4, 833.
[497] Kluge/Seebold 396: "Außergermanisch stehen am nächsten (mit Auslautvariationen) lit. *káupaz* »Haufen«, akslav. *kupŭ* »Haufen«."
[498] Lübben 154.
[499] Schöpf/Hofer 282.
[500] Doornkaat-Koolman 89.
[501] De Vries/Tollenaere 259.

- **haup^{p}a-*: OHG *houf* '*strues*'[502], OS *hōp* m. 'id.', MLG *hōp* m. 'id.'[503], OE *hēap* mf. 'pile, host'[504], OFri. *hāp* m. 'heap, crowd'[505]

It was Kauffmann (1887: 518) himself who in the 19th century suggested a paradigm **haufō*, **hūp^{p}az*, in order to explain the vocalic and consonantal alternations. In laryngealistic terms, the underlying reconstruction can be represented as **kéHup-ōn*, **kuHp-n-ós* (with laryngeal metathesis), the root of which is in correspondence with Lith. *káupas* and SCr. *kȕpa* 'hill'. There is no compelling reason to reconstruct a PIE root variant with **b* on the basis of the Germanic material, as has been suggested by, for instance, Kluge/Seebold (p. 396) and Boutkan/Siebinga (p. 152). Von Friesen (1897: 51) already correctly emphasized that the consonant alternations of **hūpan-* and **huppan-* are fully understandable as resulting from Kluge's law and the subsequent paradigmatic analogies. OHG *hovar* '*gibbus*'[506], MHG *hover* m. 'hump'[507], OE *hofer* m. 'id.'[508] < **hufra-* < **kúp-ro-* further indicates that the Pre-Germanic root ended in a **p*.

An alternative way to reconstruct the original paradigm is to bring it in line with other *n*-stems with **ū* ~ **u* ablaut, e.g. ON *hrúga* ~ MDu. *roc* 'haystack'. In this configuration, the stem **haup^{p}a-* can be analyzed as a geminated *o*-grade split-off, i.e. as morphologically parallel to ON *hraukr* < **hrauk^{k}a-* 'haystack'. From this perspective, **haup^{p}a-* can be analyzed as continuing **ko(H)up-nó-*.

It must be acknowledged that both Kauffmann's and my own alternative paradigm are incapable of completely explaining the material. By reconstructing the paradigm as **haufō*, **hūp^{p}az*, **hūbini* < **kéHup-ōn*, **kuHp-n-ós*, **kuHp-én-i*, the formation **hubbōn-* must have a secondary short **u*. If, on the other hand, there was no laryngeal metathesis in the zero-grade forms, the paradigm would have been **haufō*, **huppaz*, **hubini*, but this paradigm does not account for the long **ū* of **hūp^{p}an-*. Similarly, when we assume a paradigm **hūfō*, **huppaz*, **hubini*, either the long **ū* must represent a secondary full-grade, or the short **u* must be analogical. The decision between the two largely hinges upon whether **kHup-* went through laryngeal metathesis or not.

In view of the short **u* of OHG *hovar*, which is morphologically isolated from the *n*-stem, it seems preferable to assume a root **kHup-* in which no metathesis took place. The *n*-stem may have started of as **haufō*, **huppaz* < **kéHup-ōn*, **kHup-n-ós* or – without ablaut – **hufō*, **huppaz* < **kHúp-ōn*, **kHup-n-ós*. The form **hūp^{p}an-* should in both scenarios be regarded as a secondary nominative, replacing either **haufō* or **hufō*. An argument in favor of such a replacement is that the **p* of **hūp^{p}an-* indeed seems to indicate that it was created on the basis of a geminated form, arguably the genitive **huppaz*.

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[502] Graff 4, 835.
[503] Lübben 297.
[504] Bosworth/Toller 521.
[505] Boutkan/Siebenga 152: "the ablaut form **hūp-* (< **kuH-b-*? [...]) is problematic".
[506] Graff 4, 838.
[507] Lexer 1, 1365.
[508] Bosworth/Toller 548.

The Balto-Slavic and Germanic words are related to MIr. *cúan* f. 'group, pile' < **k(o)Hup-n-eh$_2$-*.[509] The appurtenance of Av. *kaofa-* m. 'mountain' with its conspicuous *f* can only be maintained if we reconstruct the word as **koHup-H-o-* (cf. Av. *raϑa-* m. 'wain', Skt. *rátha-* m. 'id.' < **Hrot-h$_2$-o-*). Balto-Slavic points to **kHup-* rather than **kuHp-*.[510] Alb. *qipí* f. 'pile' < **kūp-iā-* is a loanword from Slavic.[511]

****klūþō*, *kluttaz 'clot'**

- **klūþōn-*: MHG *klūde* f. '(stone used as) weight for wool'[512], Du. dial. *kloede* 'lump'[513]
- **klūda-*: OE *clūd* m. 'pile, rock'[514], *stān·clūd* 'rock'[515], E *cloud*[516]
- **klūtʿa(n)-*: MLG *klūt(e)* m. 'clod'[517], Kil. *kluyte* 'clod, floe'[518], OE *clūt* m. 'rag, piece of metal'[519] (= ON *klútr* m. 'rag'[520]), E *clout*[521]
- **klutta(n)-*: MHG *kloz*, *klotze* m. 'lump'[522], G *Klotz*[523], MDu. *clot(te)* m. 'ball, lump'[524], Kil. *klot(te)* 'ball, clod', OE *clot* 'lump'[525], E *clot*
- ?**kluþþōn-*: MDu. *clos(se)*, *clotte* f. 'ball, lump'[526], Kil. *klos* '*globus*', Du. *klos* 'clew'
- **kludda(n)-*: OE *clod* m. 'clod', Kil. *klodde* 'clew, prop'

  → **klud(d)ra-*: Du. *klodder* 'blotch'

- **klautʿa-*: OHG *chlōz* m. 'lump, tuber, dumpling', MHG *klōz* m. 'lump, clew, knob'[527], G *Kloß*[528], MLG *klōt* m. 'lump, ball'[529] (= ON *klót* n. 'sword knob', G *Klöten* 'testicles'[530]), MDu. *cloot* m. 'ball, clod, bullet'[531], Du. *kloot*[532], OFri.

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[509] Cf. Pokorny 588-592.
[510] Derksen 2008: 256.
[511] Demiraj 1997: 341.
[512] Grimm 11, 1157; Lexer 1, 1635. Contra Venema (1997: 283).
[513] Ter Laan 1929: 1081.
[514] Bosworth/Toller 160; Holthausen 1934: 53.
[515] Bosworth/Toller 910.
[516] Barnhart 181.
[517] Lübben 178.
[518] Kil. sicamb. *kloet* is not identical with *kloot* '*globus*' (Franck/Van Wijk 317-8), but with *kluyte*, which in the dialects to the east of the Netherlands was not fronted to [y]. There is no compelling evidence for a PGm. root ***klōtʿ-*.
[519] Bosworth/Toller 160; Holthausen 1934: 53.
[520] De Vries 1962: 318.
[521] Barnhart 182.
[522] Lexer 1, 1634.
[523] Grimm 11, 1248-53; Kluge/Seebold 499.
[524] De Vries/Tollenaere 332.
[525] Holthausen 1934: 53.
[526] Verdam 296.
[527] Lexer 1, 1633.
[528] Grimm 11, 1244-8; Kluge/Seebold 499.
[529] Lübben 177.
[530] Kluge/Seebold 499.
[531] Verdam 296.

klāt m. 'pile, clod'[533], OE *clēot* '*pittacium*'[534], E *cleat* 'wedge-shaped piece'[535]

→ **klaut^{t}jan-*: MHG *klœzen* w.v. 'to split'[536]

One of the more striking aspects of the etymon under discussion is that the etymologists usually separate the different stem forms from each other, projecting the Germanic consonant and vowel gradation back into Proto-Indo-European. Thus, the Barnhart Dictionary of Etymology (p. 181-2) reconstructs four different PIE roots: 1. **gloud-* for E *cleat*, 2. **glūd-* for *clout*, **glud-* for *clot-* and **glūt-* for *cloud*. The same approach is found in Pokorny (p. 356-364), Kluge/Seebold (p. 499), Franck/Van Wijk (p. 319) and the OED, all supposing a long **ū* and a root extension **d* for Proto-Indo-European on the basis of E *clout* and *cleat*.

The problems with this procedure are legion. First of all, the separation of the semantically and formally closely related Germanic forms is artificial. The vowel and consonant gradations as displayed by the material fit into the usual pattern of the apophonic *n*-stems, and it is therefore methodologically unsound to push the origins of the root variation beyond the Proto-Germanic horizon.

Secondly, the only extra-Germanic evidence, i.e. the only potentially reliable support for a root extenstion **d* comes from Ru. *glýda* f. 'clod', which is a very small basis for the reconstruction of such a suffix. Since Slov. *glûta*, *glúta* f. 'gnarl, lump' with a **t* must be related (cf. Vasmer 1, 415-6), the Russian *d* is probably unreliable, as must be concluded anyway on the basis of the peculiar variants *glýba* and *glýza*, both meaning 'clod'. Apparently several different words were formally and semantically associated with each other.

As I have argued above, the origin of the Germanic root variation should at any rate be sought within the language itself, because it mechanically follows from a regular *n*-stem paradigm built to **klewō* (see p. 151) with a dental suffix as e.g. Gr. γλουτός 'bottom' < **glou(H)-to-*.

The vowel alternation of OE *clūd* < **klūda-*, MHG *klotze* < **kluttan-* and OFri. *klāt* < **klaut^t-*, on the other hand, is more difficult to analyze. The problem is that, if one starts from a root **gleu-*, the forms with **ū* must be analogical, while if one starts from **gluH-*, the form with **u* cannot be primary. Since OE *clēot* seems to provide some evidence for a full-grade **kleut^t-*, one way to deal with the **ū* would be to locate it in the oblique cases, cf. **kleuþō*, **klūt^{t}az* < **gleuH-tōn*, **gluH-tn-ós*. The zero-grade in **klutt-* then ends up as an analogical allomorph. Since, however, the **ū* is the only vowel that is found in a non-geminated root, i.e. **klūd-* or **klūþ-*, there is a good possibility that it originates in the nominative and functioned as full-grade. If this is correct, the oldest paradigm was **klūþo*, **kluttaz*, in which case **kleut^t-* must be a secondary full-grade coined to the oblique. The fact that OE *clēot* is only attested as an isolated gloss to Lat. *pittacium* 'patch' makes the second scenario more attractive.

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[532] Franck/Van Wijk 319.
[533] Holthausen 1925: 58.
[534] Bosworth/Toller 158; Holthausen 1934: 51.
[535] Barnhart 178.
[536] Lexer 1, 1634.

The root **klaut^{t}a-* was never part of the apophonic *n*-stem, but is a regular thematization taking the *o*-grade of the root.

***krūmō*, **krumenaz* 'crumb'**

- **krūmō-*: OE *crŭma* m., MDu. *crume* m. 'inside of a bread, chunk', Du. *kruim(el)*[537]
- **kruma(n)-*, *-ōn-*: ?Icel. *krumur* m. 'gut', OE *croma* m. 'crumb'[538], MHG *krume* f., MDu. *crome* f.[539], MLG *krume* f.[540] 'crumb'

- **krauma-*: Icel. *kr(a)umur* m. 'core, marrow'[541]

The vowel length of OE *cruma* is uncertain, but the alternation of MDu. *crume*, Du. *kruim* < **krūman-* with OE *croma*, MDu. *crome* < **kruman-* points to an originally ablauting *mn*-stem **krūmō*, **krumenaz*. The appurtenance of Icel. *kr(a)umur* remains uncertain because of the semantic differences, although most etymological dictionaries [542] consider them unproblematic. If it does belong to the *mn*-stem, it can be explained as an *o*-grade thematization.

With Alb. *grimë* f. 'crumb', Lat. *grūmus* m. 'heap (of earth)'[543], one could start with a form **gruH-m-*. If this is correct, the ablaut of the *mn*-stem in Germanic can be ascribed to Dybo's law, which operated in the oblique cases, cf. gen. **gruH-mén-(o)s* > **krumenaz*, loc. **gruH-mén-i* > **grumini*. As opposed to other ablauting *n*-stems with an **ū* ~ **u* alternation, this particular case probably resulted from regular sound change rather than analogy.

***kūþō*, **kuttaz* 'tuft'**

- **kūtta(n)-*: G Bav. *kauzen* 'bundle of flax', Swab. *kauzen* 'entangled thread'[544], Rhnl. *kūz* m. 'ball of yarn, tangle', *kützche* (dim.) 'tuft of hair, bird's crest'[545], Swi. *kuuz* m. 'pelt wool, female bush, knotty hair' (→ Swi. *kuuzig* 'shaggy, hirsute'[546])
- ?**kūdōn-* or **kūttōn-*: MHG *kūte* f. 'bunch of flax'[547], G *Kaute* f. 'bundle of flax'[548]

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[537] Franck/Van Wijk 354.
[538] Bosworth/Toller 172.
[539] Verdam 314.
[540] Lübben 190.
[541] Böðvarsson 522, 528.
[542] Cf. Fick/Falk/Torp 54; Franck/Van Wijk 354; Falk/Torp 583-4; Pokorny 385-390.
[543] Cf. Holthausen: 61; Franck/Van Wijk 354.
[544] Grimm 11, 363.
[545] Müller 4, 349-50.
[546] Grimm 11, 372.
[547] Lexer 1, 1803-4.
[548] Grimm 11, 1902-3; Haas 265.

- ?*kuddan-*: Du. *kodde* 'tail'[549], G Rhnl. *kudden·tol* 'mixed up'[550], MLG *kuddeken* n. 'small pile'[551]
- **kutta(n)-*, *-ōn-*: Nw. dial. *kott* n. 'small clew', OHG *chotzo* m., *chotza* f., OS *kot* m. 'woolen rug, coat'[552] (= Icel. *kot* n. 'waistcoat', Far. *kot* n. 'woolen vest'[553]?), MHG *kotz(e)* m. 'woolen rag' (→ MHG *kotzeht* 'shaggy'[554]), G *Kotze* 'woolen cloth, rugged cloth', dial. Zips/Spiš *kotzen* 'knotty hair', E *cot* 'matted lock', *cot·gare* 'refuse wool'[555] (→ *cotted*, *cotty* 'matted, entangled'[556])

Modern English *coat* is a loanword from Old French *cote*, but this word is again adopted from a Germanic source, perhaps from Old Franconian **kutta-* 'harsh cloth', as Harper suggests in his *Online Etymological Dictionary*. The supposed Old Franconian form has a direct correspondence with the Old Saxon gloss *kot* and G *Kotze*, both meaning 'woolen cloth or coat'. This etymon is far from isolated in the Germanic languages. It is part of a larger complex of formations, such as Swi. *kuuz* 'pelt wool, knotty hair' and Swab. *kauzen* 'entangled thread'. The latter attestations, presupposing a root **kūtt-*, are in clear contrast with the aforementioned **kutt-*, and the combination of these two roots is compatible with the morphology of the ablauting *n*-stems.

The short vowel root **kutt-* has quite a large distribution. It is well attested in Old High German as masculine and feminine *n*-stems *chotzo* and *chotza* 'woolen coat, rug', and with the same meaning it is extant in the Low German area as Old Saxon *kot* in the Freckenhorst and Werden tax scrolls. It is clear from other, more peripheral sources, that the word originally had a more restricted meaning. In the Bohemian German dialect of Zips, for instance, *kotzen* signifies 'knotty hair'. Similarly, the obsolete English term *cot* 'matted lock' and *cot·gare* 'refuse wool' point to an original meaning 'woolen tuft' or simply 'tuft'. The semantic reconstruction is further corroborated by North Germanic in the form of Nw. *kott* 'small clew'. Grunnmanuskriptet and Hellquist (p. 348) connect the word with Sw. *(gran·)kotte* 'fir-cone', but this link is formally and semantically less attractive. Icel. and Far. *kot* 'vest' are probably borrowings from West Germanic or Old French, and do not presuppose an additional root **kut-*.

The root **kūtt-* with a long **ū* is evidenced by Bavarian *kauzen* 'bundle of flax', Swi. *kuuz* 'pelt wool, knotty hair' and Rhnl. *kūz* 'ball of yarn'. It may be noted that the latter is especially close to Nw. *kott*. The diminutive Rhnl. *kützche* 'tuft, crest' is also quite archaic semantically.

The long vowel is also found in MHG *kūte* and G *Kaute*. At first sight, these forms seem to have a different consonantism. From the High German perspective, they must reflect PGm. **kūd-*, but it is quite uncertain whether they can be labeled High German. Both Lexer

[549] EW 408; WNT.
[550] Müller 4, 1656.
[551] Schiller/Lübben 590.
[552] Gallée 182; Fick/Falk/Torp 47.
[553] Böðvarsson 520; Poulsen 624.
[554] Lexer 1, 1691.
[555] DEE 380; Wright 1869: 345.
[556] Grimm 11, 1901-3.

and Grimm acknowledge that the word only occurs in the Middle German area, e.g. in the dialects of Bohemia and Thuringia, Göttingen and Hesse. Since there are no real High German attestations with *t*, it is tempting to analyse *Kaute* as an intrusive Low German form. Such a hypothesis, though, is in conflict with the complete absence of the word in the Low German area. Perhaps, the *t* of *Kaute* is best explained as a continuant of **tt* in those Middle German dialects where the shift to *tz* did not take place. The *appel/apfel*-isogloss, for instance, runs to the south of the Hesse dialect area, whereas the *dorp/dorf*-isogloss lies north of it. It is not entirely impossible, however, that a proto-form **kūd-* did exist. The consonant could then be related to the Du. obs. *kodde* 'tail' and Rhnl. *kudden-tol* 'mixed up', the meanings of which could have developed out of 'tuft' or 'tangle'. Still, the evidence in favor of both **kūd-* and **kudd-* is slight.

The consonantism of the more certain root **kūtt-* itself is not without problems either, albeit for different reasons. With its combination of a long vowel and a long stop, it defies the Proto-Germanic shortening of geminates after long vowels. However, such roots are quite frequent in the High German dialects, especially in words that are inflected as *n*-stems. A strong parallel, for example, is G *Haken*, Swi. Visp. *haacko* 'hook' < **hēggan-* (see p. 205). Presumably, these *n*-stems have generalized both the full-grade and the geminate of the original paradigm. The formation **kūttan-* seems to have been created accordingly from an original paradigm **kūþō*, **kuttaz*.

The original consonantism follows from G *Kauder* m. 'rope, refuse hamp or wool', Swi. *k(x)uuder* 'refuse hamp'[557], which reflect PGm. **kūþra-*. Similarly, G Rhnl. *kuddel* 'muddle'[558] may represent **kuþla-*. Hence, I reconstruct the original *n*-stem paradigm as nsg. **kūþō*, gen. **kuttaz*, loc. **kudini*.

The reconstruction of the paradigm **kūþō*, **kuttaz* sheds new light upon the history of the word, which has not yet received a reasonable etymological explanation. It becomes clear that G *Kauzen* does not presuppose PIE **goud-on-*, but rather **gou-ton-*, i.e. a **ton*-formation to the root found in ON *kárr* m. 'curl' < **gouero-*, Nw. dial. *kaure* m. 'curl, lock of wool', *kaur* n. 'fine, curly wool', Lith. *gaũras* m. 'hair, down, tuft, flax fiber'[559] < **gouro-*, MIr. *gúaire* 'hair' < **gourio-* and Av. *gaona-* n. 'hair' < **gouno-*.[560] The improbable connection with Gr. βεῦδος n. 'woman's dress' from a supposed root **g^{w}eud-* must be abolished.[561]

***mūhō*, **mukkaz* 'bunch'[562]**

- **mūhan-*: OE *mūwa* (*mūha*, *mūga*) m. 'mow, heap'[563] (→ OHG *mu(l)·werf*, MHG *mū(l)·werf, molt·werf(e)*[564], G *Maul·wurf* m. 'mole'[565]), E *mow* 'stack'

[557] Grimm 11, 306-7; Kluge/Mitzka 398.
[558] Kluge/Mitzka 410; Müller 4, 1656.
[559] Fraenkel 140.
[560] Cf. Pokorny 393-8.
[561] The connection is found in Fick/Falk/Torp 47 and Kluge/Mitzka 298. According to Lubotsky (2008), βεῦδος is a loanword from Old Phrygian *bevdos* 'statue, image'.
[562] RLGA 20, 268-9.
[563] Bosworth/Toller 700.
[564] Lexer 1, 2195.

- **mūga(n)-*, *-ōn-*: ON *(al·)múgi*, *·mugr* m. 'swath, crowd'[566], Icel. *múgi* m. 'pile, crowd'[567], Far. *múgvi* m., *múgva* f. 'crowd'[568], OSw. *(al·)moghe* m. 'crowd, people', Gutn. *måuä* m. 'pile, stack'[569]
- **mūk^{k}ōn-*: MLG, MDu. *mūke* 'blade of grass'[570]
- **mukōn-*: Nw. dial. *moke* f. 'pile'
- **mukka-*, *-ōn-*: Nw. dial. *mukke* f. 'pile'[571], Sw. Gutn. *måckå* f. 'id.'[572], Du. dial. *mok* 'whisp'
- **muggan-*: Nw. dial. *mugge* f. 'stack of 10 sheafs of corn'

The etymon under discussion has already been mentioned as an ablauting *n*-stem by Kauffmann and Schaffner (2001: 563-5). The ablaut pattern consists of a quantitative opposition of long and short **u* in the strong and weak cases correspondingly. In combination with the consonantal variation, it points to a North-West Germanic paradigm **mūhō*, **mukkaz*, **mugini*.

The full- and zero-grades are both combined with several different consonantisms. Long **ū* occurs in e.g. OE *mūwa* < **mūhan-*, ON *múgi* < **mūgan-* and MDu. *mūke* < **mūk^{k}an-*, short **ŭ* in e.g. Nw. dial. *moke* < **mukan-*, Du. dial. *mok* < **mukka-* and Nw. dial. *mugge* < **muggōn-*. The recombination of the ablaut and the consonant gradations implies that the original paradigm was split up into many different sub-types, e.g. 1) **mūkō*, **mukkaz*, 2) **mūgō*, **muggaz*, etc.

Within Germanic, the *n*-stem is related to ON *mostr* f. 'pile, bunch' < **muhstrō-*.[573] Beyond the Germanic horizon, the etymon has no cognates except for the remarkably close Hesychius gloss μύκων 'pile'.[574] Unfortunately, the length of the upsilon is unknown, so that it remains uncertain whether the root must be reconstructed as **muk-* or **muHk-*. Since the Germanic ablaut type **ū* : **ŭ* is completely analogical, there is no compelling reason to assume that the original root contained a laryngeal.

**mūhō*, **mukkaz* 'lump'

- **mūk^{k}ōn-*: MHG *mūche* f. 'malanders', G *Mauke*, *Mauche* f. 'id.'[575], MLG *mūke* 'id.'[576], MDu. *mūke* f. 'id.'[577], Du. *muik* f. 'malanders, chunk'[578]

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[565] Kluge/Seebold 606-7.
[566] De Vries 1962: 7, 394.
[567] Böðvarsson 659.
[568] Poulsen 794.
[569] Klintberg/Gustavson 713.
[570] Lübben 237; Verdam 371.
[571] I have not been able to retrieve Nw. dial. *mukka* m. as given by Schaffner (2001: 563, 564) from *Grunnmanuskriptet*.
[572] Klintberg/Gustavson 711.
[573] De Vries 393: "weiterbildung zur wzl von *múgi*."
[574] Cf. Pokorny 752.
[575] Grimm 12, 1771, 1781; Kluge/Seebold 606.
[576] Lübben 237.
[577] Verdam 371.

- **mukkan-*, *-ōn-*: MHG *mocke* m. 'chunk, fat person'[579], G *Mocke* 'id.', MLG *mucken* pl. 'dried sods'[580], Du. obs. *mok* f. 'equine condition, cooky, piece of wood'[581], dial. *mok* 'sod'[582], NFri. *mok* '*Mauke*'[583]
- **muggan-*: MLG *mugge* m. 'equine condition'[584], Du. dial. *mugge* 'whipping top'[585]

Kluge/Seebold (p. 606) hesitantly mentions the connection of *Mauke*, a Low Germanism, with Go. *muk-*, Swi. *mauch* 'weak'. Du. *muik* 'lump' speaks against this etymology, as it seems to have preserved a more basic meaning. It must consequently be assumed that a Proto-West Germanic word 'lump' acquired a more specialized meaning 'lump disease', i.e. 'malanders'. Du. *mok* has in fact preserved both meanings, which can only indicate that the semantic specialization took place at an early stage, presumably before the disintegration of an ablauting paradigm. With the consonantism of MLG *mugge* proving the secondary nature of the **k* in **mūkōn-*, the paradigm can probably be set to **mūgō*, **mukkaz*, **mugini*. If this reconstruction is correct, the *n*-stem is likely to be identical to **mūhō*, **mukkaz* 'bunch' (see p. 116).

****pūþō*, **puttaz* 'pout'?**

- **pūþa-*, *-ōn-*: G Swab. *pfaude* f. 'toad'[586], MDu. *puut* m. 'frog'[587], Du. dial. *puid* 'id.'[588], *poede* 'tadpole, eelpout'[589]
- **pūtʲa-*, **pūtʲōn-*: OE *ǣl·pūte* f. '*capito*', Kil. *puyt·ael*, *ael·puyt* 'eelpout', Du. *puit·aal* 'eelpout'
- **puþan-*: Du. *poon*, dial. *poo*, *pooi* 'sea robin'[590], *pooi·hoofd* 'tadpole'[591]
- **puddōn-*: MDu. *podde*, *pudde* f. 'toad, flab'[592], Kil. fri. *pudde* '*mustela piscis*', SFri. *budde* f. 'eel larva', Du. dial. *podde* 'mud, ooze, toad', *pudde* f. 'frog', WFri. *budde* 'burbot'[593]

  → **pudaka-*: OE *puduc* m. 'crop, tumor'[594], Scot. *puddock*[595], LG. *puddek* m. 'lump, pudding, saucage'

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578 Vercoullie 234; De Vries/Tollenaere 451.
579 Grimm 12, 2434.
580 Lübben 236.
581 WNT, sv *mok 4*, *5*; Vercoullie 230; De Vries/Tollenaere 451.
582 WLB I/18, 8-9.
583 Löfstedt 2, 74.
584 Schiller/Lübben 131.
585 Kocks/Vording 763.
586 Fischer/Taigel 76.
587 Verdam 478.
588 WVD III, 3, 114-121.
589 Kocks/Vording 952.
590 Philippa/De Brabandere/Quak 576.
591 WVD III, 3, 123.
592 Verdam 469.
593 WNT *podde*, *pudde*.
594 Holthausen 1934: 250.

• **puttan-*: LG *āl·putte* 'eelpout', Du. dial. *putte·kol* 'tadpole (lit. "toad-head")

The large complex of formations denoting 'toad' or 'frog' is etymologically obscure, and the initial **p* makes that the word is unlikely to be of Indo-European origin. The ablaut pattern is nevertheless compatible with other *n*-stems with **ū* ~ **u* alternations, and it is therefore at least theoretically possible that the word belonged to the same inflectional type. As a result, the question arises whether the original paradigm could have been **pūþō*, **puttaz*, **pudini*.

A form with long **ū* is supported by MDu. *puit*, Du. dial. *puid*, *poede*. The word seems to have a close correspondence in Swab. *pfaude* 'toad', a form that extends the spread of **pūþōn-* to the Upper German area. A long vowel is also present in OE *ǣl·pūte* '*capito*' as well as Du. *puit·aal* 'eelpout', and here it is combined with a (shortened) geminate. Gemination is also found in MDu. *podde* < **puddōn-* and direct cognates, but the original geminate can only be preserved by LG *āl·putte* 'eelpout' and Du. dial. *putte·kol* 'tadpole'.

Du. *poon*, dial. *poo*, *pooi* 'sea robin' is generally assumed to be without etymology[596], but since the fish makes a frog-like sound when caught[597], there are no strong objections against connecting it with Swab. *pfaude* and MDu. *podde*.[598] The same conclusion can be reached when we compare the Flemish dialect form *pooi·hoofd* 'tadpole', which seems to contain the same element. Formally, it can safely be reconstructed as MDu. **pode* < PGm. **puþan-*. Intervocalic *d* was regularly lost in most Dutch dialects, and the resulting hiatus was often resolved by the insertion of a palatal glide, thus rendering *pooi* (on the former island of Urk). In the dialects where this did not happen, the outcome would be monosyllabic, cf. *pao* (i.e. [pɔ̄]) in the coastal dialect of Katwijk. The final *n* of the Standard Dutch form is analogical from the oblique, e.g. acc. **pudanun*, or – as in *teen* 'toe' < **taihwō-* – from the plural.

In addition to the roots with **ū-* and **u*-vocalism, which point to a paradigm **pūþō*, **puttaz*, there is the common formation **paddōn-*, cf. ON *padda*, OE *padde*, MLG, MDu. *padde* f. 'toad', and an additional **jō*-stem **paddjōn-*, cf. G WPhal. *pedde* [599], MRhnl. *ped(de)*, MLG, MDu. *pedde*[600], Du. dial. *pedde* f. 'toad'. Since, however, these formations never show consonant gradation, they can hardly be related to the hypothetic *n*-stem **pūþō*, **puttaz*. Instead, **paddōn-* and **paddjōn-* must be regarded late derivations from the verb **paddōn-*: LG, Du. dial. *padden* 'to crawl'[601].

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[595] Jamieson 1825: 245.
[596] Franck/Van Wijk 516; Vercoullie 270; De Vries/Tollenaere 290.
[597] Cf. Philippa/De Brabandere/Quak 3, 576: "De rode poon wordt ook wel *knorhaan* genoemd vanwege het knorrende geluid dat hij maakt als hij uit het water wordt gehaald."
[598] Or perhaps the semantic field of MDu. *pudde* 'flab' and OE *puduc* 'crop, tumor' points to an original meaning 'flab', a *benennungsmotiv* for toads that occurs more often, cf. Kil. *quabbe* 'toad, frog', Du. *kwab* 'flab'.
[599] Woeste 1882: 196.
[600] Lübben 272; Verdam 461.
[601] Cornelissen 3, 932.

***rūbō*, **ruppaz* 'caterpillar'**

- **rūbbōn-*: MHG *rūp(p)e* f. 'eelpout, caterpillar'[602], G *Raupe* f. 'caterpillar', *Aal·raupe*[603], Pal. *raupe* f. 'id.'[604]
- **rūpᵖōn-*: MLG *rūpe* 'hairy maggot', Kil. *ruype* 'caterpillar', Du. dial. *ruip* 'id.'[605], WFri. *rûpert* 'rough-haired animal'
- **rubbōn-*: MHG *ruppe* f. 'caterpillar, eelpout'[606], G *Ruppe* f. 'eelpout'[607], Pal. *Ool·rapp*, *·ropp*, *·rupp*[608], *Ruppe* f. 'eelpout'[609], Thur. *roppe*, *ruppe* 'caterpillar'

The word for 'caterpillar' shows the kind of formal variation that is typical of ablauting *n*-stems. The material gives proof of a vocalic interchange of **ū* with **ŭ* and a consonantal interchange of **-bb-* with **-pp-*.

The variant **rūpᵖōn-* is found in the Low German speech area, and is supported by MLG *rūpe*, Kil. *ruype* and Du. dial. *ruip*. It superficially resembles the High German form *Raupe*, which therefore has been regarded a Low German intrusion.[610] The geminate of MHG *rūppe* nevertheless shows that *Raupe* must have developed out of **rūbbōn-*, which with its combination of a long vowel and a geminate looks like a typically High German *n*-stem, cf. Swab. *kauzen* m. 'entangled thread' < **kūttan-*, Pal. *schaupe* f. 'forelock' < **skūbbōn-*, etc. It can, at any rate, not be derived from **rūpōn-* or **rūbōn-*, because these forms would have yielded ***Raufe* and ***Raube* respectively. So, if interdialectal borrowing actually did take place, the direction must have been from High to Low German, not the other way around. Finally, G *Ruppe*, with its correspondences in e.g. Palatinate and Thuringian, seems to point to a variant **rubbōn-* with a short **ŭ*.

The attested polymorphism can be interpreted as deriving from a paradigm **rūbō*, **ruppaz* that was split up into 1) **rūpō*, **ruppaz* and 2) **rūbō*, **rubbaz*. I assume that it was derived from the IE root **reup-*, which in Germanic gave rise to a large verbal complex including an iterative opposition, cf. ON *rjúfa*, OE *rēofan* 'to break' < **reufan-* vs. MHG *ropfen* 'to pluck' ~ Icel. *rubba* 'to scrape', Als. *roppen* 'to pull, pluck' < **ruppōþi*, **rubunanþi*. The original meaning of the West Germanic *n*-stem therefore probably was "plucker".[611]

A slightly different etymology is given by De Vaan (2000). De Vaan argues that, given the widely attested meaning 'rough maggot', the *benennungsmotiv* for the word must have been "rough one". De Vaan further connects MDu. *robbe* 'seal, rabbit', Kil. *robbe(ken)*

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[602] Lexer 2, 554.
[603] Grimm 1, 5.
[604] Christmann 5, 415-6.
[605] Van Es 1989: 110.
[606] Lexer 2, 554.
[607] Grimm 14, 1533: "*das wort stammt aus lat.* rubeta".
[608] Christmann 1, 4: "rubēta = ahd. *rupta; dieses mit Assimilation von pt zu pp in mhd. Ruppe".
[609] Christmann 5, 662.
[610] Cf. Benecke (2, 821) on *rūpe*: "*wohl eig. niederdeutsch.*"
[611] Note that the presence of consonant gradation in the verbal complex opens the possibility that the polymorphism of 'caterpillar' is not due to its inflection as an *n*-stem, but rather the result of its derivation from the iterative. This explanation, however, has the disadvantage that the *n*-stem would need to have been coined several times to several different verbal roots. Furthermore, it does not account for the long **ū*.

‘rabbit’, Du. *rob* ‘seal’, MLG *rubbe*, LG *rabbe* m. ‘seal’, WFri. *robbe* ‘id.’, G *Robbe* mf. ‘id.’ < PGm. **rubba/ōn-*, because these animals are also “rough-haired”. Note that Matthias Kramer, in his German-Dutch dictionary of 1719 calls a *robbe* ‘*ein hartschuppiger seehund*’, i.e. ‘a rough-haired seal’.

Finally, Boutkan and Kossmann (1999) have sought to explain the formal variation as being the result of substrate influence. On the basis of Lat. *rēpō*, Lith. *rėplióti* and Latv. *rāpât*, all meaning ‘to creep, crawl’, they hypothesize that a non-Indo-European root **rŭ̄/āp-* ‘to crawl’ entered these languages at a relatively late date. Likewise, the same root would have been borrowed into Germanic, ultimately to surface as **rŭ̄p/bb-* ‘caterpillar’, i.e. “crawler”. This explanation, however, fails to recognize the principle of Germanic consonant and vowel gradation.

***skūbō*, **skuppaz* ‘brush’**

- **skūba(n)-*: ON *skúfr* m. ‘tassel’, Icel. *skúfur* m. ‘tassel, tuft’[612], Far. *skú(g)vur* m. ‘id.’[613], Nw. dial. *skuv(e)* m. ‘brush, tuft’
- **skūbbōn-*: G Pal. *Schaupe* f. ‘forelock’[614]
- **skuban-*: MDu. *schove* m. ‘sheaf, bundle’[615]
- **skubban-*: MLG *schobbe* m. ‘sheaf’[616], G *Schuppen* m. ‘tuft, shelter, barn’[617], Swi. Visp. *šuppo* m. ‘bunch’[618]
- **skuppa(n)-*: OHG *scopf* m. ‘lean-to’, MHG *schopf(e)* m. ‘hair of the head, shackle’[619], G *Schopf*, *Schupfe* m. ‘hair, shelter’[620], Du. dial. *schop* ‘lean-to’[621], OE *sceoppa* m. ‘shop, booth, shed’[622], E *shop*
- **skupa-*: OHG *scof* ‘shed’, MHG *schuff* m. ‘forelock’[623]
- **skupinō-*: OE *scypen* f. ‘cowshed’[624], E *shippon* ‘id.’[625]

- **skauba-*: ON *skauf* n., OHG *scoup* m., OE *scēaf* m. ‘sheaf’

In spite of the lack of formal differences, the dictionaries often differentiate between **skuppan-* ‘hair, tuft’, on the one hand, and **skuppan-* ‘shed’ on the other.[626] Etymologically,

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[612] Böðvarsson 887.
[613] Poulsen 1068.
[614] Christmann 5, 901.
[615] Verdam 524, 527.
[616] Lübben 330.
[617] Grimm 15, 2019.
[618] Wipf 90.
[619] Lexer 2, 770.
[620] Grimm 15, 1527-52; 15, 2005-6; Kluge/Seebold 823; Christmann 5, 1408-9.
[621] Kocks/Vording 1079.
[622] Bosworth/Toller 839.
[623] Lexer 2, 770.
[624] Bosworth/Toller 847-848.
[625] OED, s.v. *shippon*.
[626] Cf. Fick/Falk/Torp 469-70.

there is no reason for such a distinction, as both meanings can be connected with each other. I assume that the oldest meaning, which is found in both North and West Germanic, was 'tuft' or 'brush', and that it developed into 'underbrush', 'shelter', 'cowshed' and 'barn' in West Germanic. The physical context that gave rise to this semantic chain must have been the keeping of cows or other grazing animals in the open field, where a roof of foliage provided the only shelter against the elements.[627]

With the opposition of Nw. *skuve*, MHG *schopfe* and Visp. *šuppo*, the etymon displays the kind of root variation that is indicative of the ablauting *n*-stems. The underlying paradigm can consequently be established as **skūbō*, **skuppaz*. In prehistoric High German, this paradigm seems to have been split up into 1. **skūbō*, **skūbbaz* and 2. **skubō*, **skubbaz*. This can be observed from the Palatinate dialects, which have preserved the alternations particularly well. Thus we find Pal. *schopf* m. 'forelock, shed'[628] < **skupp-*, *schupp(en)* m. 'forelock'[629] < **skubb-* and even *schaupe* f. 'forelock' (ib.) < **skūbb-* with a full-grade. The full-grade form is of special importance, as it provides the missing link between North Germanic **skūban-* and the West Germanic **skuppan-* / **skubban-*. With this link in mind, it seems impossible to treat the different *n*-stems as independent formations.

According to Lühr, OE *scypen* 'cowshed' provides some evidence for an additional allomorph **skup-*, which may have sprouted from an analogical paradigm **skupō*, **skuppaz*: "Die Variante mit einem **p* bildet die Grundlage von ae. *scypen* < **skupiniio̯-*" (1988: 239). Fick/Falk/Torp, on the other hand, analyzes *scypen* as a diminutive to OE *scoppa*. It is conceivable, too, that it directly continues the locative **skupini* to the same *n*-stem **skūpō*, **skuppaz*. If so, we must assume that the original locative **skubini* < **skub^h-én-i* was replaced by **skupini*. Lühr (1988: 238) further argues that the root **skup-* may be directly attested in the OHG gloss *scof* 'shed', and MHG *schuff* 'forelock' can probably be added to this form.

Within Germanic, there are a number of cognates. OHG *scobar* m. 'haystack', MHG *schober* m. 'bush, tuft', G *Schober* represent the **ra*-derivative **skubra-*. OHG *scubil* m. 'bundle' < **skubila-* may be a diminutive. Similar formations are represented by OE *scyfele* f. and ON *skupla* f. 'woman's hood hiding the face', Icel. *skupla* f. 'scarf' < **skubilōn-* / **skupilōn-*, and they may have been derived from different root variants of the ablauting *n*-stem. A thematic formation is the pan-Germanic **skauba-*, which can be retrieved from e.g. ON *skauf* n., OHG *scoup* m., OE *scēaf* m. 'sheaf'. Fick/Falk/Torp (p. 470) further compares *s*-less forms, such as Nw. *koppe* 'crest', OE *coppod* 'crested', Du. *kuif* 'crest', Flem. *kobbe* 'plumage, hair', OHG *chuppa*, *chupfa*, which form a very similar pattern, suggestive of a paradigm **kūbo*, **kuppaz* 'crest'. Finally, there is Go. *skuft*, ON *skoft* and OHG *scuft* n. 'hair'. Parenthetically, all these cognates confirm the seniority of the meaning 'tuft' over 'shed'. The link with PGm. **skūban-*, **skeuban-* 'to shove' is not at all evident[630].

Possible extra-Germanic cognates are Ru. *čubъ*, *čupъ*, Cz. *čub*, *čup*, SCr. *čȕpa*, Cz. *čupa* 'shock'[631], which point to both **keub-* and **keup-*. Given the vacillation of the *b* and *p*,

[627] Alternatively, it can be assumed that sheafs of hay were uses as shelter (Kluge/Seebold 823), but this seems less evident to me.
[628] Christmann 5, 1408-9.
[629] Christmann 5, 1497.
[630] Cf. Kluge/Seebold 822.
[631] Pokorny 956.

however, it is more likely that the word was borrowed from Germanic, where the consonant gradation is innate.

***stūfō*, **stuppaz* 'stub'**

- **stūf/ba(n)-*: ON *stúfr* m. 'stub'[632], Nw. dial. *stuv(e)* m. 'trunk, tree-stump', MLG *stūve* m. 'stub'[633]
- **stūpᵖōn-*: MLG, MDu. *stūpe* f. 'pillary'[634]
- **stuf/ban-*: MDu. *stoof*, *stove* 'tree-stump'[635]
- **stubna/ō-*: ON *stofn* n. 'stub'[636], OE *stofn* f. 'tree-stump, shoot'[637]
- **stubba(n)-*: ON *stubbi*, *stubbr* m. 'tree-stump, small piece'[638], Nw. *stubb(e)* m. 'id.', MLG *stubbe* m. 'stub'[639], OE *stub*, *styb* m. 'stump'[640], MDu. *stobbe*, *stubbe* m. 'tree-stump'[641]
- **stuppōn-*: MHG *stupfe* f. 'stubble'[642], MLG, MDu. *stoppe* 'stubble'
  → OHG *stopfela*, *stupfula* f., MLG *stoppel* m. 'prickle'[643] (= G *Stoppel*[644]), MDu. *stoppel(e)* mf. 'stubble'[645]

The consonant variation in Germanic can be satisfactorily explained by the *n*-stem inflection, Kluge's law giving rise to a genitive **stuppaz* < **stup-n-ós* (cf. Fick/Falk/Torp; Lühr 1988: 246-7) and Verner's law to a locative **stubini* < **stup-én-i*. The root **stubb-* is a contamination of the otherwise regular forms **stupp-* and **stub-*. Its voiced geminate was probably introduced in the genitive (**stuppaz* >> **stubbaz*) or in the locative (**stubini* >> **stubbini*). Perhaps OE *styb*, with its umlaut, can be explained from the latter case variant: it is conceivable that, like in the paradigm of e.g. OHG *hano* m. 'rooster', dat. *henin*, the original locative ending survived until after the phonologization of front mutation, so as to yield an allomorph **stübb-*. If this is correct, it is no longer necessary to assume an additional formation **stubja-* for OE *styb* only.[646]

In addition to the consonant gradation, the paradigm must have had vowel gradation as well. Lühr further touches upon the issue in her discussion of the frequent interchange of *ū* and *ŭ* in pairs such as ON *stúfr* and *stubbi* 'tree-trunk', arguing that "das lange *ū* sich wahrscheinlich analogisch ausgebreitet hat". Lühr (1988: 20) nevertheless rejects the

[632] De Vries 1962: 555.
[633] Lübben 389.
[634] Lübben 388; Verdam 586.
[635] Verdam 580.
[636] De Vries 1962: 550.
[637] Bosworth/Toller 923-924.
[638] De Vries 1962: 555: "das *-bb-* ist lautmalende gemination".
[639] Lübben 387.
[640] Bosworth/Toller 931.
[641] Verdam 585.
[642] Lexer 2, 1274.
[643] Lübben 382.
[644] Kluge/Seebold 887.
[645] Verdam 581.
[646] Thus Fick/Falk/Torp.

possibility that the two variants once belonged to one and the same paradigm: "die jeweiligen u- und ū-Lautungen [dürften] kaum einem gemeinsamen Paradigma angehört haben, da man dann auch bei Wörtern mit Wurzelvokal *ī ein solches Nebeneinander erwarten würde." Without an ablauting paradigm, however, we are unable to account for the opposition of long and short *u in e.g. Nw. *stuv(e)* and *stubb(e)*, a pair that seems to reflect the original distribution between consonant and vowel gradation quite well. The Low German word *stūpe* combines a full-grade with a geminate, i.e. *stūp^{p}- (cf. Fick/Falk/Torp 496). If the word is related with the *n*-stem under discussion, which is not inconceivable, this recombination proves that the ablauting paradigm was still intact when the geminate from the genitive *stuppaz spread to the nominative *stūfō.

The most appropriate outer-Germanic cognates are Gr. στύπος 'stick', Latv. *stups* 'broom stump' and Ru. *stópka* 'peg'[647], which together point to a root *stup-. This means that the Germanic forms with *ū must be secondary. I assume that the *n*-stem *stúp-ōn, *stup-n-ós was reshaped into *stūfō, *stuppaz sometime in the North-West Germanic period.

It has been claimed that OHG *stopfela*, MLG, MDu. *stoppel* are loanwords from Late Latin *stipula* (> ?**stupula* > It. *stoppia*, OFr. *(e)stuble*) 'ear' (Franck/Van Wijk 672; OED, s.v. *stubble*, Kluge/Seebold). Since, however, the word fits in a wide Germanic morpohological context, this is highly improbable, as Lühr (1988: 247) convincingly argued; the formations with an *l*-suffix are simply diminutives to the *n*-stem reconstructed here. Likewise, E *stubble* does not have to continue OFr. *estoble*, *estouble*, as stated by the OED, but may be a similar diminutive to the secondary root variant *stubb-. This is all the more likely, because in Old English this variant prevailed anyway, cf. *stub*.[648]

***þūmō*, **þumenaz* 'thumb'**

- **þūman-*: OHG *dūmo* m. 'thumb', MHG *doume* m. 'id.', G *Daumen*, Swi. Visp. *düümo* m. 'id.', MDu. *dume* m. 'id.', Du. *duim* 'thumb, inch'[649], OFri. *thūma* m. 'id.', OE *þūma* m. 'id.'
  → **þūmila-*: OE *þȳmel* m. 'thimble'
- **þuman-*: OSw. *þume* m. 'thumb, inch', Sw. *tumme* 'id.'[650], ODa. *thumæ* m. 'thumb, inch'[651], Da., Nw. *tomme* 'inch, thumb', Far. *tummi* m. 'inch'[652]
  → **þumala-*: ON *þumall* m. 'thumb'[653], Icel. *þumall* m. 'thumb (of a glove)'[654], Far. *tummil* m. 'thumb (of a glove)'[655], Da., Nw. *tommel* 'id.'
- **þuma-*: OSw. *thum* n. 'inch', G dial. *dum* 'thumb', Kil. *dom* '*pollex*'

- **þauma-*: MHG *doum* m. 'peg, chock'

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[647] Cf. Fick/Falk/Torp 496; Franck/Van Wijk 671; Pokorny 1032-1034; Frisk 2, 813-814.
[648] A problem is posed by the vocalism of ON *stabbi* m. 'block', Nw. dial. *stabbe* 'stub, (chopping) block'.
[649] Franck/Van Wijk 141.
[650] Hellquist 1126.
[651] Falk/Torp 1270.
[652] Poulsen 1274.
[653] De Vries 1962: 626.
[654] Böðvarsson 1215.
[655] Poulsen 1274.

The alternation of West Germanic **dūman-*, as in OE *þūma*, OFri. *thūma*, OHG *dūmo*, with North Germanic **þuman-*, as found in OSw. *þume*, ODa. *thumæ* and the diminutive Far. *tummil*, points to an old neuter paradigm **dūmō*, **dūmenaz*, which crossed over to the masculine *n*-stems. The thematic formation **þauma-* may have been a split-off that received an *o*-grade due to thematization.

The occurrence of the forms with long **ū* has been ascribed to "expressive Dehnung im Westgermanischen"[656], but this explanation is difficult to falsify. The rise of the **ū* ~ **u* alternation can also be due to the operation of Dybo's law, by which any long vowel was shortened before a resonant when the next syllable was stressed. A paradigm **tuH-mn*, **tuH-mén-(o)s*, for instance, would have regularly developed into PGm. **þūmō*, **þŭmenaz*. It is possible that this phonetically regular paradigm provided a basis for the rise of the **ū* ~ **u* alternations, which happened to be parallel to the equally regular alternation of **ī* ~ **i* from PIE **ei* ~ **i*.

Etymologically, the word for 'thumb' is generally derived from a root **tuH-* 'to swell'.[657] This is not impossible, but the semantics of MHG *doum* 'chock', which can hardly be derived from 'thumb' or 'to swell', seem to be in conflict with this explanation. It is probably better to assume that the MHG verb *doumen* 'to stuff' preserved the oldest meaning, as 'chock' quite naturally follows from it (cf. *plug*). The semantic path from 'to stuff' to 'thumb' is more tricky, but the intermediate meaning may have been 'to push with the thumb', i.e. what is done in the act of stuffing. The Icel. verb *þuma* 'to feel, finger, knit'[658] (whence Icel. *þum(a)* f. 'thumb hole') can be regarded as the missing link between the two meanings, although there is no objection against the derivation of this verb from **þumi* 'thumb' (cf. Far. *tumla* 'to push with the thumb'[659]). The root **þŭ-* 'to push' can be related to OE *þȳwan*, OHG *dūhen*, MDu. *duwen* 'to push', if from **þūjan-*, but the underlying root is usually reconstructed with a velar, e.g. **þunhjan-*[660] or **þūh(w)jan-*.[661]

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[656] Kluge/Seebold 182.
[657] Cf. Falk/Torp 1270; De Vries 1962: l.c.; Franck/Van Wijk 141.
[658] Böðvarsson 1215.
[659] Poulsen 1274.
[660] Pokorny 1099-1100.
[661] Franck/Van Wijk 114.

Doubtful cases

***pūhō*, **pukkaz* 'bag'?**

- ?**pūkᵏan-*: ME *pouk(e)*, *powk(e)*, E *pouk* 'blister, sty'[662]
- **puhhan-*: OE *pohha* m. 'purse', E *pough* 'bag'
- **pukan-*, *-ōn-*: ON, Icel. *poki* m. 'bag, sack'[663], G *Pfoch* 'bag', *Pfoche* f. 'blister', MDu. *poke* 'bag (for wool)'[664], Kil. *poke* 'hairshirt, crop', Du. *pook*[665], E *poke* 'bag'
- **pukka(n)-*, *-ōn-*: OE *pocca* m. 'bag', *poc* m. 'pock'[666], MLG, MDu. *pocke* f. 'pimple, blister'[667], G *Pocke* f. 'pock'

  → **pukkila-*: Kil. *pockel*, *puckel*, Du. *pukkel* 'zit'

When we look at this particular *n*-stem, the consonant variation is evident. The oldest dialects have three different stem variants, viz. **pukkan-*, **puhhan-* and **pukan-*, and most of these variants are continued in modern languages. Together, the three variants point at an original paradigm **puhō*, **pukkaz*[668], which was split up into either **puhō*, **puhhaz* (= OE *puhha*) or **pukō* (= ON *poki*), **pukkaz* (= OE *pocca*). There is no reason to assume that the geminate **kk* is due to "intensivity", as suggested by Kluge/Seebold (p. 557), or that the fricative geminate **hh* has "lautnachahmende Funktion"[669].

The paradigm **puhō*, **pukkaz* seems to contain a root **buk-*, which is of obscure origin. It is often assumed that the word ultimately derives from a PIE root **bŭk-* 'inflate': W *bugad* 'bellowing', Lat. *bucca* 'inflated cheek, mouthful', Pol. *buczyć się* 'puff oneself up' and, with an onomatopoetic geminate, Skt. *búkkati* 'bark'[670]. Within Germanic, however, it is hard to disconnect Go. *puggs*, ON *pungr*[671], OHG *pfung*, OE *pung* m 'pouch' < **b(u)nk-í-*, even though these forms contain an unexplained nasal. Feist (1923: 290) therefore assumes the formation to be a "gemeingerm. Lehnwort aus unbekannter Quelle", which is not unlikely in view of the initial **p*. It must be stressed, though, that the consonant gradation can have arisen within Germanic.

Prenasalization has been interpreted as a substrate feature in Germanic (Kuiper 1995). Accordingly, one could set up a substrate root **buk-* ~ **bunk-*. In this particular case, however, there is a different solution to the vacillating nasal. If the root had been **bunk-*, the *n*-stem paradigm **bunk-ōn*, **bunk-n-ós* would have regularly become PGm. **pũhō*, **punkᵏaz*, with nasalization of the vowel before **h*. It is theoretically possible that this otherwise regular

[662] OED; Halliwell 1850: 641.
[663] De Vries 1962: 427; Böðvarsson 736.
[664] Verdam 470.
[665] De Vries/Tollenaere 539.
[666] Holthausen 1934: 248.
[667] Verdam 470.
[668] Cf. Fick/Falk/Torp (p. 219): 'pukk- aus ig. bŭkn-́'; Franck/Van Wijk (p. 514): 'De *kk* gaat op vóórgerm. *qn* of *gn* terug'.
[669] Lühr 1988: 271.
[670] Pokorny 98-102; EWDS 447; FW 514.
[671] De Vries 1962: 429.

paradigm was absorbed by the larger group of *n*-stems with *ū* ~ *u* ablaut after the analogical removal of the nasal in those cases where it had remained: **pũhō*, **punk^{k}az* >> **pūhō*, **pukkaz*. The long vowel can perhaps be retrieved from ME *pouk(e)*, *powk(e)*, E *pouk* 'blister, sty', which seem to continue an analogical root **pūk^k-*.

It is unclear whether MDu. *pūc* n. '(high quality) sheet(ing), MDu. *puik·goet* 'fine stuff', Du. *puik* 'fine' belong to the same etymon. Franck/Van Wijk (p. 526) calls the etymology of *puik* unclear, Kluge/Seebold (p. 702) derive it from MDu. *pūcken* 'to pick', assuming an intermediate meaning "selected". It is difficult, however, to disconnect the word from MLG *pūche*, *pūghe* f. 'blanket, cover(ing)', LG *pūch* 'bed'[672] and G dial. *pugge* f. 'cradle'[673] (< **puggōn-*). There also seems to be a link with Kil. *poke* 'hairshirt, bag, crop', Nw. dial. *poka* f. 'pigskin, sward, fatty layer under the skin'. This connection points to a root cluster of **pūk-*, **pūg-* and **puk-*, which is fairly close to the root variants belonging to **pūhō*, **pukkaz*. It is therefore possible that we are dealing with one and the same root here, not in the least because Kil. *poke* means both 'cilice, hairshirt for doing penance' and 'bag, bird's crop'. The original meaning of the word would then have been 'animal skin' or 'bag made of skin'.

**pūsō*, **pussaz* 'purse'?

- **pūsa(n)-*: ON *púss* m. 'pouch'[674], Icel. *púsi* m. 'bag'[675], Nw. *pus* m. 'protuberance'
- **pusan-*: ON *posi* m. 'pouch'[676], Icel. *posi* m. 'small bag'[677], Far. *posi* m. 'id.', Nw., Da. *pose*, Sw. *påse* 'id.'[678], OHG *pfoso* '*marsupium*, *bursa*'[679], MHG *pfose* m. 'purse'[680], OE *posa* m. 'bag'[681]

The vowel alternation of ON *púss*, Icel. *púsi* < **pūsa(n)-*, ON *posi*, OE *posa*, OHG *pfoso* < **pusan-* is in accordance with other ablauting *n*-stems of the same type, and thus the material may point to an original paradigm **pūsō*, **pussaz*. This reconstruction would certainly account for the given forms, but there are some problems. To start with, the etymology of the word is unclear. In spite of the customary connection with the root **pŭs-* 'to blow' (cf. MHG *pfūsen* 'to sniff'[682]), the only semantically attractive connection outside Germanic seems to be OIr. *búas* 'pouch, belly', as given by e.g. De Vries 1962: (p. 429). As a consequence, the Germanic *n*-stem can be considered a loanword from PCelt. **bousto-* (or Proto-British

[672] Cf. Mensing 1927: 342.
[673] Haas 1994: 263.
[674] De Vries 1962: 429.
[675] Böðvarsson 744.
[676] De Vries 1962: 427.
[677] Böðvarsson 737.
[678] Falk/Torp 844.
[679] Graff 3, 352.
[680] Lexer 2, 261.
[681] Holthausen 1934: 248.
[682] Cf. Falk/Torp l.c.; Pokorny l.c.

*bōss-?), just like *tassa- 'haystack' was borrowed from a cognate of OIr. *daiss* 'id.' < *dasti-. Still, if this is correct, it must be assumed that the zero-grade root *pus- was introduced analogically. All together, this seems like a long shot, especially since the root *pus- is found in North and West Germanic, while *pūs- occurs in West Norse only. Further note that the etymon is conspicuously similar to *pūhō, *pukkaz 'bag', which may be an indication that the two words have influenced each other.

***snūfō*, **snuppaz* 'sniffing, cold'?**

- **snūfa(n)-*: MLG *snūf*, *snūve* m. 'cold'[683] → Kil. *snuyfelen* pl. 'asthmatic condition'
- **snufa(n)-*: MLG *snove* m. 'cold, smell'[684], MDu. *snof* m. 'cold'[685], Kil. *snof*, *snuf* 'sniffing, cold'
  → **snufla-*: OE *snofl* 'snot'
- **snuppan-*, *-ōn-*: MHG *snupfe* m. 'cold'[686], G *Schnupfen* 'id.'[687], MLG *snoppe* m. 'snot'[688], MDu. *snop* m. 'cold'[689]

The co-existence of three different *n*-stems meaning 'cold', i.e. MLG *snūve* < **snūf/ban-*, MLG *snove* < **snuf/ban-* and MLG *snoppe* < **snuppan-*, could be interpreted as resulting from an old PGm. *n*-stem nom. **snūfō*, gen. **snuppaz*, dat. **snubini* related to MHG *snūfen*, G *schnauben*, *schnaufen*, MLG, MDu. *snūven*, Du. *snuiven* 'to snif' < **snūfan-* (**snūban-*) and G *schniefen* 'id.' < **sneufan-*.[690] Additionally, ON *snopa*, *snoppa* f. 'snout', though semantically more remote, can be derived from this *n*-stem by assuming that the original paradigm was remodeled into **snupō*, **snuppaz*, **snupini* according to the usual paradigmatic cross-contaminations.

There is, however, a better explanation, which consists of deriving the different variants from the verbal system. It is clear from G *schnupfen*, MDu. *snoppen* 'to sniff', Sw. dial. *snoppa* 'to snuff' that the strong verb **sneufan-* / **snūfan-* was accompanied by an iterative formation **snuppōn-* < **snuppōþi*, **snubunanþi* from a hypothetical **snup-néh₂-ti*, **snubunanþi*.[691] Franck/Van Wijk points to the alternation of OHG *snoffizen*, *snopfizen* < **snup(p)atjan-*, which, carrying the suffix **-atjan-* that is often added to original iteratives, demonstrates an analogical paradigm **snuppōþi*, **snupunanþi*. Conversely, E dial. *snob* 'to sob', Du. dial. *snobben* 'to suck'[692] must be derived from an equally secondary paradigm

[683] Lübben 361.
[684] Ibidem.
[685] Verdam 553.
[686] Lexer 2, 1046.
[687] Grimm 14, 1387-88.
[688] Lübben 360.
[689] Verdam 553.
[690] It has been claimed that the strong conjugation of *schnauben*, which is now obsolete in German is secondary (Kluge/Seebold: 817), but this can hardly be the case for *schniefen* < **sneufan-*.
[691] Grimm (15, 1388) on *schnupfen*: "*mit* schnaufen, schnauben *verwandt (ähnliche verhältnisse liegen vor bei* rupfen, raufen, rauben."
[692] Kocks/Vording 1135.

snubbōþi, **snubunanþi*. It is therefore far more likely that the nouns under discussion are all independent formations to the different verbal forms, than that they continue an old ablauting *n*-stem.

***sprūtō, *spruttaz 'sprout'?**

- **spreuta-*: OE *sprēot* m. 'stake'[693], MHG *spriuz*, MLG *sprēt* n., MDu. *spriet* m. 'stake, prong', Du. *spriet* 'blade, antenna'[694]
- **sprūtō(n)-*: MLG *sprūte*, MDu. *sprute* f. 'sprout', Du. *spruit* 'shoot'
- **spruta(n)-*, *-ōn-*: ON *sproti* m. 'twig', OE *sprota* m. 'shoot, nail', *sprot* n. 'sprout, plug', OHG *sprozzo* m., MHG *sproz(ze)*, *spruz(ze)* m 'shoot'[695], G *Spross(e)* 'shoot, rung'[696]
- **sprutōn-*: MHG *sprozze* f. 'rung'[697], MLG *sprote* f. 'id.', MDu. *sporte*, *sprote* 'id.', Du. *sport* 'id.'[698]
- **spruttōn-*: G Swi. *šprotza* 'rung'[699]

The formations **spreuta-*, **sprūtō(n)-*, **sprutan-* and **sprutōn-* are clearly in ablaut relationship with each other, and it can therefore be hypothesized that this vowel alternation results from an old *n*-stem. Still, it is problematic from this perspective that the expected consonant gradation is so marginal: the overwhelming majority of forms contains a single **t*, a geminate **tt* being only supported by Swi. *šprotza*. An additional, critical argument against reconstructing an ablauting paradigm is the morphological vicinity of the strong verb **spreutan-* (MHG *spriezen*) or **sprūtan-* (OFri. *sprūta*), with the characteristic competition of **eu* and **ū* as full-grade markers. It is likely that the different formations discussed here were independently derived from this strong verb. Note that the final **t* of **spreutan-* and **sprūtan-* is from the iterative **spruttōn-*, cf. Kil. *sprotten* 'to bud out, sprout' (see p. 52).

***strūpō, *strupini 'throat'?**

- **strūpan-*, **streupan-*, *-ōn-*: ON *str(j)úpi* m., *strjúpa* n. '(cut) throat'[700], Icel. *strjúpi* m. 'id.'[701], Far. *ranga·strúpi* m. "wrong throat"[702], Nw. *strupe* m. 'throat, small inlet', Sw. *strupe* 'throat', Da. *strube* 'id.'[703]
- **strūpa-*: Nw. dial. *strup* m. 'narrow hole'

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[693] Cf. Holthausen 1934: 313.
[694] Franck/Van Wijk 652.
[695] Lexer 2, 1122.
[696] Grimm 17, 150-6.
[697] Lexer 2, 1120.
[698] Franck/Van Wijk 650.
[699] Grimm 17, 154.
[700] De Vries 1962: 554; Jóhanesson 1956: 877.
[701] Böðvarsson 982.
[702] Poulsen 912.
[703] Falk/Torp 1183.

- **strupan-*: Nw. dial. *strop* n. 'mouth of a river', *strope* m. 'throat', Sw. dial. *stråpe* 'id.'[704]

The material contains at least three different stems, i.e. **streupan-* > ON *strjúpi*, **strūpan-*: ON *strúpi* , Nw., Sw. *strupe*, Da. *strube* and **strupan-*: Sw. dial. *stråpe*, to which we may also add Nw. dial. *strope*, which *Grunnmanuskriptet* cites in the expression *svelgja seg i stropa* and *eta seg i stropa* 'to have something go down the wrong way'. The status of Far. *strúpi* is unclear, because ON *jú* normally loses the palatal glide after consonants in this language (cf. Far. *rúka* = ON *rjúka* 'to smoke'). It is interesting, though, that the word is used in the same context as Nw. *strope*, i.e. in the expression *fáa eitthvørt í rangastrúpan* 'to have something go down the wrong way'. An additional stem **streupōn-* must be assumed for the neuter form ON *strjúpa*, which in origin is the same word as *strjúpi*, though incorporated into the lexical huddle of neuter *n*-stems denoting parts of the human body, cf. *hjarta* 'heart', *lunga* 'long', *eyra* 'ear', *auga* 'eye', etc.

The correlation between ON *strúpi* and *strjúpi* is clarified by the more general tendency in West Norse (Old Icelandic) to replace *ú* by *jú*, cf. ON *súga* ~ *sjúga* vs. Icel. *sjúga* or Icel. *hnúkur* ~ *hnjúkur* (see p. 114). It follows from this development that *strúpi* is the oldest form, something to which Nw., Sw. *strupe* and Da. *strube* attest as well.

The opposition of *strúpi* and *strope* can be explained by assuming an ablauting *n*-stem, e.g. nom. **strūpō*, loc. **strupini*. This solution is especially attractive in view of the semantic match between the two different ablaut grades. An objection to reconstructing an apophonic *n*-stem is that the expected consonant gradation is lacking. It can also be considered, therefore, to derive both formations from the Norwegian strong verb *strupe* 'to squeeze (of clothes), strangle' (with Nn. *stropen* 'choking' as the original past participle'). A reason to assume that the verb is primary, is that it bears the more general meaning 'to squeeze', which is inexplicable if one assumes that the verb was derived from the *n*-stem. Notably, the Norwegian verb also shifts between *strupe* and dial. *strjupa* (Sogn). As a consequence, it becomes more likely that it played a role at the introduction of *strjúpi*.

A close cognate of the forms mentioned in this context is Nw. *strøype* 'to strangle' < **straupjan-*, a causative formation to **strūpan-*. Nw. *strype* < **strūpjan-*, in turn, was probably derived from *strúpi*[705]. In addition, there is Nw. dial. *strype* n. 'narrow spot' from **strupja-*. Probably, this form, too, points to an original meaning 'to squeeze' or something similar[706]. The etymological dictionaries usually connect a whole range of West Germanic forms, e.g. MHG *strūben* 'to jut out', G *struppig* 'rough', MHG *struppe* 'shrub', Du. *struif* 'contents of an egg', and regard them as extenstions of the PIE **ster-* 'to be stiff' as in Gr. στερεός 'stiff, solid'[707]. This is all uncertain on the semantic side. Proponents of this etymology usually derive *strúpi* from a meaning 'to jut out', because the throat is a protrusion of the neck, but in view of the primary meaning 'narrow hole' or 'to squeeze', this suggestion must be rejected. Semantically, only the link with G *strupfen* 'to writhe'[708] can perhaps be

[704] Hellquist 882-3.
[705] Cf. Falk/Torp 1183.
[706] Torp (1919*:* 731): "kanske egtl. «trang aapning»".
[707] Cf. Fick/Falk/Torp 504; Pokorny 1022-27.
[708] Grimm 20, 137.

maintained. It is possible, for instance, that it represents an old iterative **struppōn-* to the strong verb **streupᵖan-* / **strūpᵖan-*. Other alleged extra-Germanic connections, such as Gr. στρῦφνός 'bitter, crusty' and Lith. *strùbas* 'short', are even more doubtful. MIr. *srub* 'snout' is a loanword from Old Norse.

****strūtō ~ *þrūtō, *struttaz ~ *þruttaz* 'throat'?**

- **þrūta-*: ON *þrútr* m. 'snout', Nw. *trut* m. 'mouth'
- **strūta-*: ON *strútr* 'pointed hood', Far. *strútur* m. 'spout, nozzle, snout', Nw. *strut* m. 'id.'
- **strutō(n)-*: OFri. *strot·bolla* 'Adam's apple', OS *strota* (asg. *strótun* '*tubam*') f. '*tubam*'[709], MLG *strote*, *strate* f. 'throat'[710], MDu. *strote* f. 'id.'[711], Du. dial. *stroot* 'id.'[712], MHG *strozze* f. 'id.'[713], G *Strosse*[714], Rhnl. *strosse* f. 'pharynx, throat'[715]
  - → **strutōjan-*: OS *stroton* (= pres. ptc. *stróthóndion* '*oris garruli vox inquieta*') 'to prattle'[716]
- **þrutōn-*: OE *þrote* f. 'throat', E *throat*, OFri. *throt·bolla* 'Adam's apple', OHG *drozza* f. 'throat', MHG *drozze* mf. 'id.'[717]
  - → **þrutla-*: E *throttle* 'throat (of a bottle), larynx', G *Drossel* 'windpipe'[718]
- **struttōn-*: MLG *strotte* f. 'throat'[719], MDu. *starte*, *sterte*, *strot(te)* f. 'id.'[720], Du. *strot* 'id.'[721]

The opposition of ON *þrútr* 'snout' with OE *þrota* 'throat', Far. *strútur* 'spout, snout' and OE *strota*, MLG *strotte* 'throat' can point to a paradigm **þrūtō*, **þruttaz* or – with *s* mobile – to **strūtō*, **struttaz*. An objection to the reconstruction of this ablaut is that the full-grade vocalism is restricted to thematic formations. An additional difficulty is that the etymology of the word is unclear. Perhaps there is a correlation with the root **þrŭt-* 'to bloat'[722], as in ON *þrútinn* 'swollen', OE *þrūtian* 'to puff up' < **þrūtējan-*[723], but it is also possible to connect the word with Lat. *strūma* f. 'crop' (< **stre/oud-meh₂-* or **struHd-meh₂-*). Neither of the two possibilities are self-evident, however.

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[709] Gallée 308.
[710] Lübben 387.
[711] Verwijs/Verdam 585.
[712] WBD III, 217.
[713] Lexer 2, 1251.
[714] Kluge/Seebold 892.
[715] Müller 8, 868-9.
[716] Gallée 309.
[717] Lexer 1, 469.
[718] Kluge/Seebold 217.
[719] Lübben 387.
[720] Verwijs/Verdam 585.
[721] Franck/Van Wijk 679.
[722] Pokorny 1022-1027.
[723] Cf. Lühr 1988: 256ff.

8.4 **ū ~ *u ~ *a* alternations

The *n*-stems in this section are a subcategory of the former type with **ū ~ *u* alternations, and they largely behave in the same way. The most important difference consists of a recurring incidence of related forms with unexpected *a*-vocalism. The origin of this unexpected vowel grade is not clear, but there are strong indications that it must be secondary. Since all the concerned *n*-stems have a root structure **knu-* + consonant, and they all have a meaning 'knot' or 'knob', it is highly probable that the roots are extensions to PIE **ǵnu-* 'knee, node'. It seems that under some particular circumstances, this **u* was replaced by **a* in the *n*-stems under discussion. This vocalism, by the way, is equally innovative as the introduction of **ū* in the strong cases, which also occurs in all the given cases. Perhaps the solution to the shifting vocalism, then, lies in a competition between two productive apophonic types, i.e. the **ū ~ *u* type and the **a ~ *u* type; it is not inconceivable that in this way, a primary paradigm **knuþō*, **knuttaz* < **ǵnu-tōn*, **ǵnu-tn-ós* gave rise to both **knūþō*, **knuttaz* and **knaþō*, **knuttaz* in Proto-North-West Germanic. Alternatively, the theoretical possibility exists that the three ablaut grades did belong to a single paradigm. If so, it may be compared with the paradigm of nsg. **bʰélǵʰ-ōn*, gsg. **bʰlǵʰ-n-ós*, apl. **bʰolǵʰ-n-ṇ̥s* 'beam' (see p. 136), which had three different ablaut grades. The **ū*, **u* and **a* may then have originated from the nominative, genitive and accusative plural.

****knūbō, knuppaz* 'knob'**

- **knūban-*, *-ōn-*: Icel. *hnúfa* f. 'knob, stub'[724], Nw. *knuv* m. 'bump', G Swab. *knaupe* m. 'bump, knot, gnarl'[725], Swi. Bern. *xnuupa* 'swelling'[726] (= **knūbbōn-*), SFri. *knuufe* m. 'lump'
- **knuban-* → **knubla-*: MDu. *cnovel* m. 'joint, ankle'[727]
- **knubba(n)-*: Far. *knubbi*, *-ur* m. 'tip, bud, stub'[728], Nn. *knubb* 'stub', MLG *knobbe*, *knubbe* 'gnarl, bump', E *knob*
- **knuppa(n)-*: Nw. *knupp* m. 'sprout', OE *cnoppa* m. 'bunch', OHG *chnopf* m. 'knot, knob', G *Knopf*, MDu. *knoppe* m. 'knot, bunch, bud', *knop* m. 'knob, knag', OFri. *ers·knop* m. 'coccyx', E *knop*

- **knaupᵖa-*: MHG *knouf* m. 'knob', MLG *knōp* m. 'knot, knob, gag', MDu. *cnoop* m. 'knot, knob'

- **knaban-*: Sw. dial. *knave* 'clasp, knob'[729], G dial. *knabe* m. 'peg'
- **knabba(n)-*: Far. *knabbi* m. 'tip, knob'[730], Nw. *knabb(e)* m. 'stub',

[724] Böðvarsson 393.
[725] Fischer/Taigel 279.
[726] Cf. Kluge 1884: 178 fn.
[727] Verdam 298.
[728] Poulsen 609.
[729] SAOB K1582.
[730] Poulsen 605.

- **knapan-*: Nw., Sw. dial. *knape* m. 'peg'
- **knappa(n)-*: ON *knappr* m. 'button', Far. *knappur* m. 'tip (of a stick)'[731], Nw. *knapp* 'knob', Sw. dial. *knappe* 'peg', OE *cnæp* m. 'top, broche', OFri. *knap* m. 'button'

Von Friesen (1897: 61) reconstructed an ablauting *n*-stem **knŭban-* on the basis of the opposition between the short **u* of e.g. Far. *knobbi*, OE *cnoppa* and the long **ū* of Swab. *knaupe* < **knūbban-*[732]. He further adduced ON *knýfill* 'short horn' < **knūbila-* as a proof of the Proto-Germanic nature of the full-grade **knūb-*. The original vowel length of Nw. *knuv* and SFri. *knuufe* is difficult to determine, and cannot be used to substantiate Von Friesen's reconstruction, but by adding Icel. *hnúfa* f. 'knob' to the evidence, the paradigm **knūbō*, **knuppaz* indeed gains credibility.

The reconstruction of such a paradigm is all the more attractive since the short vowel forms, i.e. **knubba-* and **knuppa-*, always have a geminate, which points to their origin in the oblique cases, whereas **knūbōn-*, the only form with a singulate contains a long vowel. The material thus seems to have retained the original distribution fairly well.

What is further in favor of **knūbō*, **knuppaz* is the *a*-stem **knaup^{p}a-* in West Germanic, since such *o*-grade thematizations usually occur beside the class 2 *n*-stems, cf. **klūþō*, **kluttaz* ~ **klaut^{t}a-* 'clod' (p. 112), **knūkō*, **knukkaz* ~ **knauk^{k}a-* 'summit' (p. 114), etc.

The reconstruction of **knūbō*, **knuppaz* is in conflict with the co-occurrence of forms with **a*-vocalism: Sw. dial. *knave* 'knob', Far. *knabbi* 'tip, knop', Nw. *knape* 'peg', OE *cnæp* 'top'. It is possible that this vowel grade arose due to interference from the **a* ~ **u* type. The apophonic bifurcation can be resolved by assuming a primary paradigm **knubō*, **knuppaz* < **ǵnú-b^{h}ōn*, **ǵnu-b^{h}n-ós*, which was incorporated into two different ablaut classes, so as to yield **knūbō*, **knuppaz* on the one hand, and **knabō*, **knuppaz* on the other. Alternatively, we may reconstruct a single, theoretical paradigm **knūbō*, gsg. **knuppaz*, apl. **knappuns*.

**knūþō*, **knuttaz* 'knot'

- **knūþa(n)-*: Icel. *hnúði*, *-ur* m. 'knob, hump'[733]
- **knūt^{t}ōn-*: Icel. *hnúta*, Far. *knúta* f. 'bone'[734]
- **knūt^{t}a-*: ON *knútr* m. 'knot, knag', Icel. *hnútur* m. 'knot'[735], Far. *knútur* m. 'knot, lump'[736]
- **knuttan-*: Icel. *hnotti* m. 'tussock, ball'[737] (→ *hnjóta* 'to stumble' → *hnjóti*, *-ur* m. 'bump'[738]) , MLG *knutte* m. 'knot (of flax)', MDu. *knutte* m. 'knot of flax', OE *cnotta* m. 'knot'

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[731] Poulsen 605.
[732] Von Friesen falsely reconstructs **knūppan-*.
[733] Böðvarsson 393.
[734] Poulsen 609.
[735] Böðvarsson 394.
[736] Poulsen 610.

→ **knuttjan-*: OE *cnyttan* w.v. 'knot', E *knit*

- **knuþan-*, *-ōn-*: Icel. *hnoði* m., *hnoða* n. 'ball, clew'[739], OHG *chnodo* m. 'knuckle', Swi. Ja. *xnɔdə*[740], Visp. *xnodo*[741] m. 'id.'
- **knuþþan-*: G Cimb. *knotto* m. 'rock'
- **knutōn-*: Icel. *hnota* 'clew, vertebra', Far. *knota* f. 'bone'
- **knudan-*: OHG *chnoto* m., G *Knoten*
- **knuddan-*: Kil. obs. *knodde* '*nodus*, *nexus*'

- **knattu-*: ON *knǫttr* m. 'ball, knob'

Most of the material points to a paradigm **knūþō*, **knuttaz*, **knudini*, which seems to be derived from PIE **ǵnu-* with the same **-ton*-suffix that must be reconstructed for e.g. **klīþō*, **klittaz* 'burdock' (p. 76) and **klūþō*, **kluttaz* (p. 112). The original nominative **knūþō* is directly continued by Icel. *hnúði* 'knob', the genitive **knuttaz* by Icel. *hnotti* 'tussock, ball', OE *cnotta* 'knot'. This original genitive was replaced by **knuddaz* in a secondary paradigm that underlies Kil. *knodde* 'node'. OHG *chnoto* 'knuckle' seems to preserve the consonantism of the locative **knudini*.

Fully parallel to other **ǵnu*-derivatives, the paradigm of **knūþō*, **knuttaz* may have competed with **knaþō*, **knuttaz* with **a*-vocalism as in ON *knǫttr* 'ball, knob'. This *u*-stem may have split off from the apl. **knattuns* < **ǵnot-n-ṇ̥s*, if such a proto-form actually existed. At any rate, this derivational pathway runs parallel to e.g. ON *bǫlkr* 'partition' < **balkᵏuns*, ON *hǫttr* 'hat' < **hattuns* and *kǫttr* 'cat' < **kattuns*.

An interesting morphological trail probably emerges from the relation between Icel. *hnotti* 'tussock' and *hnjóta* 'to stumble', the verb seemingly derived from the noun (cf. Du. *struik* 'shrub, stub' → *struikelen* 'to stumble'). If this is correct, the mechanism to derive strong verbs from nouns must have stayed productive up to a late stage in North Germanic. Icel. *hnjóti* 'bump' was again coined on the basis of the strong verb.

**knūsō*, **knuzzaz* 'gnarl'

- **knūsa-*: G Swab. *knaus* m. 'knobbly bump'[742], Swi. *xnuus* m. 'messy pile'[743]
- **knūza(n)-*: MHG *knūr(e)* m. 'knob, gnarl, summit'[744], G *Knauer* m. 'hard lump of stone, knob'[745]

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[737] Böðvarsson 393.
[738] Böðvarsson 392.
[739] Böðvarsson 392.
[740] Stucki 70.
[741] Wipf 41.
[742] Fischer/Taigel 279.
[743] Weber/Bechtold 1961: 46
[744] Lexer 1, 1656.
[745] Grimm 11, 1365-6.

- **knuzzan-*: MHG *knorre* m. 'bump, cartillage'[746], MLG *knorre* m. 'knob, bump'[747], G *Knorre(n)* m. 'gnarl'[748], MDu. *cnor(re)* f. 'bump'[749], Kil. *cnorre* '*tuber*', Du. *knor* 'bump'[750], ME *knorre*, *knurre*, E *knur*, 'gnarl'

- **knausa-*: ON *knauss* m. 'round summit'[751], Far. *kneysur* m. 'cliff'[752], Nw. *knaus* m. 'small summit', Sw. dial. *knös* m. 'hillock, gnarl, protuberance'[753], Da. *knøs* 'hill(top), skerry'

- **knasan-*: Far. *knasi* m. 'gnarl, bump'[754]
- **knazza(n)-*: Nw. dial. *knarre* m. 'stub' , LG *knar(re)* 'lump, stump', Du. *knar* 'skull, old person', ME *knarre*, E *knar* 'gnarl'

PGm. **knūsō*, **knuzzaz* seems to be yet another *n*-stem derived of PIE **ǵnu-* 'node', this time with an *s*-suffix. The pertaining material fully patterns with the other derivatives **knūþō*, **knuttaz* and **knūbō*, **knuppaz*; a nominative allomorph **knūsō* is supported by Swi. *xnuus* 'gnarl', while MHG *knorre* 'bump' presupposes a geminated genitive **knuzzaz*. It must be stressed that this long **-zz-* cannot be regular, as Kluge's law did not affect PIE **s* (cf. ON *ǫnn* f. 'harvest' < **aznō-* < **$h_2$es-néh$_2$-*). This means that the introduction of the long voiced sibilant must be completely analogical, a development that can only be understood from the morphophonological nature of length in the *n*-stem paradigm.

The usual *o*-grade thematization is represented by ON *knauss* m. 'round summit' and related forms in the Nordic languages.

Like the other **ǵnu*-derivatives, **knūsō*, **knuzzaz* is accompanied by related *n*-stems with *a*-vocalism, e.g. Far. *knasi* 'gnarl, bump' < **knasan-*, LG *knar(re)* 'stump' < **knazzan-*. This ablaut "derailment" can again be explained by assuming that an originally non-apophonic paradigm **knusō*, **knuzzaz* < **ǵnú-sōn*, **ǵnu-sn-ós* was apophonized as both **knūsō*, **knuzzaz* and **knasō*, **knuzzaz*. The *n*-stem **knagō*, **knakkaz*, based on Sw. *knagg(e)* 'pin, knob'[755], Da. *knag* 'knob, handle'[756], MLG *knagge* 'knob, piece of wood'[757], Du. *knaak*, *knag* 'big coin'[758], dial. *knaag*, *knag(ge)* 'notch on a stick'[759], may have played an additional role. We may perhaps alternatively also consider a unifying reconstruction **knūsō*, gsg. **knuzzaz*, apl. **knazzuns*.

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[746] Lexer 1, 1653.
[747] Lübben 180.
[748] Kluge/Seebold 505: "Alles Bildungen mit der Bedeutung »verdickter Gegenstand« und Anlaut *kn-*."
[749] Verdam 298.
[750] Franck/Van Wijk 327.
[751] De Vries 1962: 320.
[752] Poulsen 608.
[753] Rietz 342.
[754] Poulsen 606.
[755] SAOB K1535.
[756] Falk/Torp 543.
[757] Lübben 178.
[758] WNT, s.v. *knag*, *knaak*.
[759] Kocks/Vording 571.

8.5 *e ~ *u alternations

The *e ~ *u alternations displayed by the *n*-stems below belong to the most straightforward type, continuing PIE *e : *u ablaut. The evidence for this type is limited in comparison to, for instance, the alternation *ī ~ *i, but the material is nevertheless substantial. Notably, two ablauting *m*-stems can be added to the corpus, i.e. *elm, *ulmaz 'elm' and *helm, hulmaz 'cane, blade (of grass)'.

***belkō, *bulkᵏaz 'beam'**

- *belkᵏan-: ON *bjalki* m. 'beam'[760], OSw. *biælke* m. 'id.'
- *balkᵏan-: OE *bealca* m. 'id.', E *balk*, *bawk*, OFri. *balka* m. 'id.', OS *balko* m. 'plank', MLG *balke* m. 'beam', MDu. *balk(e)* m. 'id.', Du. *balk*, OHG *balcho* m. 'id.', MHG *balke* m. 'id.', G *Balken*
- *balkᵏu-: ON *bǫlkr* m. 'partition'[761], OSw. *balker* m. 'beam'
- *bulkᵏan-: OE *bolca* m. 'gangway, duckboard'[762], OHG *bolcho* m. 'gang board'[763]

The individual Germanic dialects contain evidence for three different ablaut grades for this PGm. *n*-stem. An *e*-grade is found in ON *bjalki*, which displays regular *a*-breaking. In West Germanic the *a*-grade is the dominant ablaut form, represented by the wide-spread *n*-stem *balkᵏan-. The *a*-grade, however, is not restricted to West Germanic, as is shown by the ON *u*-stem *bǫlkr* < *balkᵏu-. The zero-grade *bulkᵏ- is attested by OE *bolca*, which bears the slightly differentiated meaning 'duckboard'.

The consonantism is stable in all Germanic dialects.[764] This could mean that the root-final *k regularly continues PIE *ǵ. It is possible, too, that this *k reflects an oblique geminate that was generalized at an early stage. In that case, the original articulation of the root-final consonant cannot be determined on the basis of the Germanic evidence. Indeed, the Balto-Slavic correspondences indicate that the PIE root was *bʰolǵʰ- rather than *bʰolǵ-, as follows from the accentuation of e.g. Lith. *balžíenas* m. 'cross-beam' and Ru. *bólozno* 'thick plank'[765] (Winter's law did not operate). The only way to reconcile the Balto-Slavic material with the Germanic *n*-stem, therefore, is to derive the root-final *k from a geminate produced by Kluge's law.

The North Germanic stem *balkᵏu- sheds more light on the exact inflection of the original *n*-stem. It appears to be completely parallel to other *u*-stems with geminates, such as *knǫttr* 'ball' and *hǫttr* 'hat', which all evolved out of old plural accusatives in *-n-ṇ̥s[766]. As a

[760] De Vries 1962: 38.
[761] De Vries 1962: 70.
[762] Holthausen 1934: 30.
[763] EWA 229: "Viell. ist das erst spät bezeugte ahd./mhd. Wort aus dem Ae. entlehnt?"
[764] Note that the case of *hnekkōn 'neck' (see p. 147) is highly comparable in this respect.
[765] Stang 1971: 11; Derksen 2008: 54.
[766] Lühr 1988: 208.

result, we can probably reconstruct the original paradigm as *b^hélǵ^h-ōn*, gsg. *b^hl̥ǵ^h-n-ós*, apl. *b^holǵ^h-n-ń̥s*. This paradigm seems to have involved triple ablaut. The *e*- and zero-grade probably belonged to the nominative and genitive correspondingly. The *o*-grade was apparently situated in the accusative case.

A couple of etymological dictionaries[767] raise the question whether PGm. **bluka*- 'block' belongs here. This is unlikely, because the Balto-Slavic evidence show that the original root was *b^helǵ^h-, not *b^hleǵ^h-.

***brezdō*, *burzdini* 'edge, board'**

- **brezda(n)*-: Far. *breddi* m. 'edge, side'[768], OSw. *brædder* m. 'id.', Nw. *bredd*, dial. *bredde* m. 'id.'
- **bruzda(n)*-: ON *broddr* m. 'tip, edge, shoot'[769], Nw. *brodd* m. 'tip, shoot, sting, elk hair', Nw. *brodde* m. 'tip', OE *brord* m. 'tip, shoot, blad', OHG *brort* m. 'edge, shield', MHG *brort* m. 'id.'[770]
- **burzda*-: ON *borð* n. 'edge, table, (ship)board'[771], OE *bord* n. 'board, plank', MHG *bort* mn. 'edge, board'[772], OS *bord* 'board, shield',

  → **burzdan*-, *-ōn*-: ON *borði* m. 'tapestry'[773], OHG *borto* m. 'seam', MLG *borde,* OE *borda* m. 'seam, embroidery', *borde* f. 'table'

- **brazda*-: Icel. *bradd* n. 'edge'[774], Nw. dial. *bradd* mf. 'shore, side', OHG *brart* m. 'edge', MHG *brart* m. 'edge, board', OE *brerd*, *breard*, *breord* m. 'brim, margin, border'
- **barzda*-: ON, Icel. *barð* n. 'edge, prow', Nw. *bard* m. 'side, edge'

The ablaut of such forms as Far. *breddi* < **brezdan*- and ON *borð* < **burzda*- can be accounted for by reconstructing an *n*-stem **brezdō*, **burzdiniz*. Alternatively, we may consider an apophonic root noun **brezd-z*, **burzd-az* in view of 1) the scarcity of *n*-stems and 2) the lack of geminated roots in the material. It is clear, at any rate, that the full-grade **brezd*- and the zero-grade **burzd*- cannot be separated from each other.[775] This follows from the leveling of the schwebeablaut by the introduction of a secondary zero-grade **bruzd*-, cf. ON *broddr*, OE *brord*, OHG *brort*. It competed with older **burzd*-, which developed into **burd*- in North and West Germanic after the rhotacism of **z*.

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[767] Vercoullie: 40; De Vries/Tollenaere: 86; Franck/Van Wijk: 73.
[768] Poulsen 140.
[769] De Vries 1962: 58.
[770] Lexer 1, 359.
[771] De Vries 1962: 50.
[772] Lexer 1, 329: "*durch ausfall des* r *aus ahd.* prort, *rand, vorderteil des schiffes*."
[773] De Vries 1962: 50.
[774] Böðvarsson 98.
[775] Note that Fick/Falk/Torp (1909: 264, 266) already tentatively suggest that PGm. **burda*- 'side, board' etymologically belonged to the cluster of **brezd*-.

As in many other cases, the *o*-grade is found in some closely related thematic formations, viz. Icel. *bradd* n. 'edge'[776], OHG *brart* m. 'id' < **brazda-* and ON, Icel. *barð* n. 'edge, prow' < **barzda-*. The former formation is strikingly similar to OIr. *brot* 'prickle' < **b^{h}rozd^h-o-*, and must therefore be very old. The latter formation, **barzda-*, seems to have been adapted to the vowel slot of the zero-grade root **burzd-*. This proves that the process leading to *o*-grade thematizations remained productive until after the vocalization of the resonants in Proto-Germanic.

Ultimately, the root **brezd-* may be an extension of the PIE root **b^{h}rs-* as found in Skt. *bhr̥ṣṭí-* f. 'tip, edge' and cognates[777], but this word is usually reconstructed as **b^{h}rḱ-ti-*. Kluge/Mitzka (1967: 99) mention PGm. **breda-* 'board' as "eine ablautende Nebenform zu *Bord*". Holthausen (1934: 33) considered it to be related to **braida-* 'broad', cf. OHG *breta*, OE *hand·brede* f. 'palm of the hand' < **bridōn-*. Can it be a dissimilatory form of **brerter* < **brezdizō*, the plural of neuter **brezdan*?

Finally, there is the question whether the formations under discussion are related to the Germanic word for 'beard', cf. ON *barð*, OE *beard*, OFri. *berd*, OHG *bart* m. 'beard'. This is not at all implausible in view of the relatively small semantic difference between the original meaning 'prickle' (cf. OIr. *brot*) and 'beard'. Admittedly, the reconstruction of the word as **barzda-* has rather great consequences. It implies, for instance, that Lith. *barzdà* and OCS *brada* 'beard', which apparently reflect **b^{h}orzd^h-eh$_2$-*, are loanwords from Germanic, the vowel slot of **barzd-* being a purely Germanic innovation. The same can be said about Lat. *barba*, which cannot be derived from **b^{h}orzd^h-eh$_2$-* anyway, because the outcome would have been ***forba*. It is therefore not improbable that the Latin word indeed is a loanword. However, it is unclear how and why the Germanic word should have spread to Balto-Slavic and Italic at such an early stage.

***drenō*, *durraz* 'drone'**

- **drena(n)-*, *-ōn-*: OHG *treno* '*apis*, *fucus*'[778], MHG *tren* m. 'drone, bee'[779], Swi. App. *tree* f.[780], Ja. *trɛnə* m. 'id.'[781], OS *dreno* '*apis*'[782], MLG **drene* (= EDa. obs. *drene* 'drone'[783]), Du. dial. *drene* 'drone'[784])
- **drana-*, *-ōn-*: OE *dran*, *drane*, *dræn* '*fucus*'[785], ME *drane*, E dial. *drane*, OS *drana*, *drano* '*fucus*', *drani* '*fuci*'[786], G obs. *Tran*

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[776] Böðvarsson 98.
[777] Pokorny 109-110.
[778] Graff 5, 533.
[779] Lexer 2, 1503.
[780] Vetsch 105. In the Swiss dialect of Appenzell [ɛ] < PGm. **e* was raised to a low [e] in front of a nasal.
[781] Stucki 123 = §69,2: 'Die nasalierten *e*-Laute erscheinen alle als *ɛ̨*'.
[782] Graff 5, 533.
[783] Kalkar 380.
[784] Weijnen 36; WLD II.6, 5.
[785] OEC 0614, 0043, 0562.
[786] Gallée 47.

- **druna-*, *-ōn-*: MLG *drone*, *drane* m. 'drone, slacker'[787], G *Drohne*[788], MDu. *darne*, *dorne* f. 'some kind of bee'[789], Du. *dar* 'drone'[790], SFri. *droane* f. 'id.', E *drone*
- **duran-*: OE *dora* m. 'bumble-bee'[791], ME *dorre* 'drone', E obs. *dor* 'buzzing bee'[792]

An *e*-grade is found in OHG *treno*, MHG *tren(e)* and in the Swiss dialects. The Appenzell form *tree* is of some importance, because this dialect has retained the distinction between [ɛ] < PGm. **e* and the primary and secondary umlaut products [e] (OHG **ä₁*) and [æ] (OHG **ä₂*) < PGm. **a*. According to Vetsch's historical grammar, App. [æ] and [ɛ] were raised to [ɛ] and [e] before a nasal, which means that *tree* poins to PGm. **drenōn-* with **e* rather than umlautet **a*. The formation is not attested in Middle Low German, but the Trier gloss *dreno*, the Dutch Limburgian form *dreen* and the obsolete Danish form *drene* 'drone' provide sufficient evidence for the continuation of PGm. **drenan-* in the Low German area.

A zero-grade form **drunan-*, **drunōn-* is found in MLG *drone*, *drane*, MDu. *darne*, *dorne*, SFri. *droane* and E *drone*. In MLG, the vacillation between *a* and *o* is the usual outcome of PGm. **u* in open syllables. MDu. *darne* goes back to the zero-grade as well, the shifting vocalism being the result of the common methathesis of *r*, as in e.g. MDu. *barne*, *borne* 'spring' < **brunnan-* and MDu. *starte*, *storte* 'throat' < **strut(t)an-* (Van Loey §58). Vercoullie (p. 60) and Philippa/De Brabandere/Quak (p. 521) assume that Dutch *dar* arose from **darne* by assimilation of the *n*, but given the (late) 19th century attestations of the plural *darns*, *darnen* (l.c.), such a phonetic explanation seems unwarranted. I assume that *dar* is a backformation from an apocopated form **darn*, which would have received epenthetic ə between the *r* and the *n*. The resulting **dărən* was probably interpreted as a plural form with the suffix *-en*, and the subsequent removal of this suffix yielded the MoDu. singular form *dar*. Another zero-grade is evidenced by OE *dora* 'bumble-bee', ME *dorre* 'drone' < **duran-*.

The OE glosses *dran(e)* and *dræn* are often assumed to have had long vowels, i.e. *drān* and *drǣn* < PGm. **drēn(i)-* or **drain(i)-*. The problem, however, is that the root **drain-* with its diphthong makes no sense etymologically, and that the root **drēn-* would have developed into OE ***drōn* with labialization before *n* as in *mōna* m. 'moon' < **mēnan-*. The OED therefore rightly starts from PGm. *dran-* with a short vowel, by which also ME and E dial. *drane* receive a natural explanation.

Just like the Old English forms, the OS glosses *dran* (sg.) and *drani* (pl.) are often cited with long vowels.[793] The reason for this is that G *Drohne* is believed to have developed out of PGm. **drēn-* with the incidental labialization of *ā* as in *Mond* 'moon' < **mēna-* and *Ton* 'clay' = MHG *dāhe*, *-n* f. < **þāhōn-*. In view of the initial *d*, however, it is more likely that *Drohne* was borrowed from Low German *drone* < **drunan-*. The form **drēn-* is also

[787] Lübben 84.
[788] Kluge/Seebold 216.
[789] Verdam 148.
[790] Vercoullie 60; Philippa/De Brabandere/Quak 520-1.
[791] Bosworth/Toller 209.
[792] Cf. also EMoE *dorre* 'drone' (P. Levens (1570): *Manipulus Vocabulorum*).
[793] Fick/Falk/Torp 211; Pokorny 255-256; Kluge/Mitzka 143; Philippa/De Brabandere/Quak 520-1.

excluded by the Saterlandic Frisian form *droane* from the same zero-grade. Had the root been **drēn-*, this dialect would have shown the form ***dräine* (cf. *äil* 'eel' < **ēla-*). Consequently, the Old Saxon as much as the Old English material points to **dran-* rather than **drēn-*.

Everything considered, we arrive at the following stem variants: **drenan*, **dran-*, **drunan-* and **duran-*. To my mind, the best way to account for this polymorphism is to reconstruct the original paradigm as **drēn*, **durraz*, **dreni*, **dranun* from a paradigm PIE **d^{h}r-ḗn*, **d^{h}r-n-ós*, **d^{h}r-én-i*, **d^{h}r-ón-m* without root ablaut. This paradigm can account for the variants **dren-* and **dran-* directly: these roots probably arose in the original locative and accusative. I further assume that the genitive **durraz* somehow gave rise to OE *dora* < **duran-*, probably through the creation of a secondary paradigm **durō*, **durraz*. Now only the stem **drunan-* remains. Since there seems to be no way to explain this variant in a regular way, I suppose that it arose as an analogical zero-grade to the roots **dren-* and **dran-*.

The Greek material, too, may have developed from a formation **d^{h}r-ḗn* or **d^h(é)r-ōn*. The simplest form is Laconic θρώναξ 'bee' (Hes.). Then there are the reduplicated forms τενθρήνη 'hornet' (Nic.) and τενθρήνιον (Arist.), which perhaps presuppose an unreduplicated form **θρήνη. The form ἀνθρήνη 'bee, wasp' (Ar., Arist.) is influenced by ἄνθος 'flower'. This is clear from ἀνθηδών 'bee', which synchronically can be analyzed as ἀνθ- with the suffix -ηδών as in ἀ-ηδών 'nightingale', τερ-ηδών 'shipworm', Κηλ-ηδόνες 'Sirens', ἀχθ-ηδών 'load', ἀλγ-ηδών 'sorrow', ἐδ-ηδών 'tumor'.[794] Further contaminations are ἀνθρηδών 'hornet' and τενθρηδών (Arist., Dsc.). Still problematic is πεμφρηδών 'wasp', handed down to us by Nicander of Colophon. The variation of θρην- and φρην- does not imply that the original root was **g^{wh}rēn-*. It is more probable that πεμφρηδών is a more recent coinage, perhaps a derivation of Gr. **πεμφερος (cf. Skt. *bambhara-* m. 'bee') with the same suffix -ηδών.

The Balto-Slavic material has an unexpected initial **t*: Lith. *trãnas* m., Latv. *tran(i)s*[795] < **tron-*, Ru. *trúten'* m. 'drone, parasite', SCr. *trût* m. 'wasp', Slov. *trǫ̑t* m. 'parasite' < **tron-t-*.

**elm*, **ulmaz* 'elm (tree)'

- **elma-*: OHG *elm(o)* m. 'id.'[796], OHG, MHG *elm·boum* 'id.'[797], MLG *elm* 'id.'[798] (= Da. *elm*[799]), OE *elm* m. 'id.'[800], E *elm*
  - → **elmjō-*: OHG *ilma* f. 'id.', MHG *ilme* f. 'id.'[801] (= Ru. *ílem*)
- **ulma-*: OE *ulm·trēow* 'id.'[802], MHG *ulm·boum* 'id.'[803], G *Ulme*[804], MLG *olm* 'id.'[805], MDu. *olme* 'id.'[806], Du. *olm*[807]

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[794] Schwyzer 529 fn.
[795] Latv. *dran(i)s* may be influenced by Low German (Fraenkel 1010-1).
[796] EWA 3, 1056-9: "Während ahd. *elm(o)*
[797] Graff 3, 118; Lexer 1, 541.
[798] Lübben 95.
[799] Falk/Torp 21: "Im dän. is der vokal aus dem kollektiven anord. *elmi* n. (Sw. dial. *älme*) entlehnt [...]. Oder die form ist entlehnt dem mnd. *elm*[...]."
[800] Bosworth/Toller 247.
[801] Benecke 1, 429.

- **alma-*: ON *almr* m. 'id.'[808], Icel., Far. *álmur* m. 'id.'[809], Nw., Sw. *alm* m. 'id.'[810]

  → **almja-*: ?ON (top.) *Elmi·kjarr*[811], Sw. dial. *älme* n. 'alm grove'[812] (= Gutn. *älmä* 'id.'[813]?)

  → **almjō-*: Sw. dial. *älm* f. 'elm'[814]

An ablauting paradigm is supported by the opposition of the *e*-grade forms OHG *elm(o)*, MLG *elm* with the zero-grade form OE *ulm·trēow*. Unlike West Germanic forms with the same vocalism, this *ulm·trēow* is attested too early to be borrowed from Lat. *ulmus* or Old French *olme*[815]. There are two additional arguments in favor of an ablauting paradigm. First, there is the ablauting North Germanic form **alma-*, which is competely parallel to other *o*-grade thematizations of apophonic *n*-stems. Second, the zero-grade has a certain base in Italo-Celtic with Lat. *ulmus*, MIr. *lem*, Ir. *leamh-an* 'elm' < **l̥m-o-*.

The reconstruction of the original paradigm is not without difficulties, as we have to decide whether it was an *n*-stem or an *m*-stem. The vacillation of OHG *elm(o)* between an *n*-stem and an *a*-stem can be interpreted as being in favor of an *n*-stem. This is, in fact, the solution that we find in EWA (p. 1059): "Sofern daneben für das Germ. eine Ablautstufe **l̥mo-* anzunehmen ist, könnte diese aus einem *n*-stämmigen vorurgerm. **elm-on-*, *l̥m-n-* hervorgegangen sein, wobei zu *l̥m-n-* über *l̥m-on-* sekundär ein *o*-Stamm rückgebildet werden konnte [...]." Since, however, the original zero-grade genitive **(h₁)lm-n-ós* of such a paradigm may have regularly given PGm. **lummaz*, cf. ON *luma* 'to let go', Nw. dial. *luma* 'to relax', Lith. *lìmti* 'to succumb' < **l̥mH-*, the reconstruction of an old *m*-stem appears to be more appropriate. I therefore tentatively propose a paradigm **(h₁)él-m*, **h₁l-m-ós*, comparable to e.g. **h₂érh₂-m*, **h₂rh₂-m-ós* 'arm' (cf. Lat. *armus* 'upper arm, shoulder', *rāmus* 'branch', Skt. *īrmá-*, etc.).

Incidentally, the reconstruction of an ablauting *m*-stem also offers an explanation for the unexpected formation W *llwyf* 'elm' < **leim-*. This form is best understood as a secondary full-grade that arose in Celtic after the vocalization of the *l* in the zero-grade **lim-* > MIr. *lem*. Apparently, the apophony of **h₁él-m*, **h₁l-m-ós* was retained and subsequently remodeled

[802] Bosworth/Toller 1088.
[803] Lexer l.c.
[804] Kluge/Seebold 940: "In dieser Form bezeugt seit dem 15. Jh. [...], und zwar entlehnt aus l. *ulmus*[...]."
[805] Lübben l.c.
[806] Verdam 391.
[807] Franck/Van Wijk 468: "Uit lat. *ulmus* [...] of uit ofr. *olme*, bijvorm van *orme* (uit lat. *ulmus*)."
[808] De Vries 1962: 7: "daneben abl. ae. *ulm-treow*, mhd. *ulmboum*, nhd. *ulme*, mnd., nnl. *olm*."
[809] Böðvarsson 23; Poulsen 71.
[810] Falk/Torp l.c.; SAOB A1123.
[811] Heggstad 124.
[812] Rietz 845
[813] Klintberg/Gustavson 1791.
[814] Rietz l.c.
[815] Cf. Pokorny 302-304.

into early Celtic **leim*, **limos*, so as to harmonize it with the innovations caused by regular sound change.[816]

***helm, ?*hulmaz 'blade, cane, reed'**

- **helma(n)-*: ON *hjalmr* m. 'helm, tiller', OE *helma* m. 'helm', MLG, MDu. *helm* 'id.'[817]
- **helma-*: ON ?*hjalmr* m. 'plant name'[818], Sw. dial. *hjelm* m. 'ear'[819], Kil. *helm* '*carex*', Du. *helm* 'marram grass'[820]

- **halma-*: ON *halmr* m. 'straw'[821], OHG *halm* m. 'blade', OE *healm* m. 'id.'
  → **halmjōn-*: ON *ax·helma* f. 'stalk and ear of grain'[822], Icel. *helma* f. 'stalk'[823], Nw. dial. *helme* f. 'grain stub'

Although OE *helma* 'helm' emerges as an *n*-stem, the larger part of the evidence from Germanic and other Indo-European languages unambiguously points to an ablauting *m*-stem, as was pointed out by Beekes (1985: 43-4). An *e*-grade **ḱelh₂-m-* must be reconstructed for Lith. *kélmas* m. 'tree-trunk'[824], ON *hjalmr* m. 'helm, tiller', OE *helma* m. 'helm', and probably also for Du. *helm* 'marram grass'[825]. Gr. καλάμη, κάλαμος 'cane', on the other hand, has a zero-grade of the root and a full-grade of the suffix: **ḱlh₂-em-*[826]. W *calaf* f. 'reed, stalk' may be from the same stem, but it is also possible that it was adopted from Latin *calamus*[827], which in turn is a loanword from Greek. The genuine Latin form *culmus* m. 'blade' as well as ON *halmr*, OHG *halm* reflect PIE **ḱolh₂-mo-*. The *o*-grade is also present in the Balto-Slavic feminine OCS *slama*, Ru. *solóma,* Latv. *salẽms* 'straw'.

All the evidence taken together, it seems best to start from a PIE paradigm nsg. **ḱélh₂-m*, gsg. **ḱlh₂-m-ós*, lsg. **ḱlh₂-ém-i*. Beekes (l.c.) reconstructs the paradigm differently as nsg. **ḱolh₂-m*, asg. **ḱlh₂-ém-m*, but this configuration offers no explanation for the *e*-grades in Germanic and Lithuanian. As in many other cases, the *o*-grade (ON *halmr*, OCS *slama*, Lat. *culmus*) is restricted to thematic formations. I therefore assume that it arose independently of the original *m*-stem paradigm.[828]

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[816] The secondary ablaut as proposed here removes the necessity to assume that the word originates from a substrate language (thus Schrijver 1997: 311).
[817] Lübben 140.
[818] De Vries 1962: 231.
[819] Rietz 280.
[820] De Vries/Tollenaere 249; Franck/Van Wijk 244.
[821] De Vries 1962: 206.
[822] De Vries 1962: 221.
[823] Böðvarsson 360.
[824] For expected ***šélmas*. The **ḱ* was depalatalized by the following *l* in the zero-grade.
[825] Lübben 140.
[826] Not from *κόλαμος by assimilation (pace Pokorny 612).
[827] Pokorny 612.
[828] Similarly, I assume that the *o*-grade of OHG *hama* f. 'ham' < **ḱonh₂-m-eh₂-*, related to Gr. κνήμη f. 'shinbone', OIr. *cnáim* m. 'bone' < **ḱnh₂-meh₂-*, is due to thematization. If so, Beekes' reconstruction **ḱónh₂-m*, **ḱnh₂-ém-m* must likewise be replaced by **ḱénh₂-m*, **ḱnh₂-m-ós*, **ḱnh₂-ém-i*.

***hemō*, *humnaz* 'heaven'**

- **hemina-*: Go. *himins* m. 'heaven', ON *himinn* m. 'id.'
- **hemna-*: OS *heþan* m. 'id.', OE *he(o)fen* m. 'id.'
- **hemila-*, ?**humela-*: OHG *himil*, *humel*[829] m. 'id.', OS *himil* m. 'id.', OFri. *himul*, *himel* m. 'id.'

The PGm. word for 'heaven' at first sight does not look like an ablauting paradigm, but its apophonic nature is revealed by the different suffixation of Go. *himins*, ON *himinn* < **hemina-* and OE *he(o)fen*, OS *heþan* < **hemna-*. The two formations apparently continue the original dative and genitive of an *n*-stem **hemō*, **hemnaz*, **hemini*.

The etymology of PGm. 'heaven' points to old ablaut, too. The word is usually connected with Skt. *áśman-* m. 'stone, sky', Gk. ἄκμων m. 'anvil, meteorite, sky', Lith. *akmuõ* m. 'stone'.[830] The problem with this connection is that the PGm. full-grade is not where it is expected, representing a quasi-PIE form **h_2ḱem-on-* instead of the usual **h_2eḱ-mon-*. Since, however, the similarities between the Germanic and extra-Germanic forms are too great to be discarded, it is likely that the Germanic full-grade arose through some kind of analogy that was triggered by the irregular outcome of the paradigm in Proto-Germanic.

Assuming that the original inflection of the word had an amphidynamic ablaut pattern, i.e. **h_2éḱ-mōn*, **h_2ḱ-(m)n-ós*, **h_2ḱ-mén(-i)* (cf. Skt. *áśmā*, *áśnaḥ, áśman(i)*)[831], the phonetically regular outcome of the paradigm would be **ahmō*, **humnaz*, **hmeni* in Proto-Germanic. The irregularity of this paradigm may have been resolved by reshaping it into **hemō*, **humnaz* by introducing the full-grade in the zero-grade slot of the genitive.[832] The assumed zero-grade root can perhaps be retrieved from OHG *humel*, which is a variant of the usual OHG form *himil*. It appears twice in the Cambridge Songs manuscipt (Carmen XXVII), in which a monk and a nun (*Clericus et Nunna*) engage in a dialogue.[833] Yet the original vowel quality of these forms is ambiguous, as <u> may have been used to indicate a secondarily rounded front vowel [y], cf. Cimb. *hüm(m)el* m. 'heaven'.[834]

It has been claimed that the *l*-suffixed forms, such as OHG *himil*, *humel*, in combination with the *n*-suffixed stems **hemna-*, **hemina-* point to an old heteroclitic *l/n*-paradigm.[835] Since, however, such an *ml/n*-stem is unparalleled, it is probably better to assume that the *l*-forms are secondary, i.e. due to the influence of **sō(el)*, **sun(n)az* 'sun'.[836]

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[829] Noreen 1894: 62; Schützeichel 83. Pokorny (556-557) calls the form "mitteldeutsch", a characterization that is based on the mixture of High and Low German features that is displayed by the manuscript in which *humel* occurs.

[830] Cf. Reichelt 1913; Maher 1973.

[831] Lühr (2000: 70): **$h_2$akmõ̃*, **h_2ḱ-mn-és*, **h_2ḱ-mén(-i)*, **$h_2$ak-món-m̥*.

[832] Differently Wachter (1997: 18 fn.): "Das Paradigma lautete wohl etwa Nom. **$h_2$ék-mōn*, Gen. **h_2k_e-mn-ós*, und von hier aus würde such **kemen-os* mit der v.a. bei germanischen Thematisierungen üblichen *e*-Stufe [...] leicht verstehen lassen."

[833] 8) hoc evanescet omne | also uuolcan in themo *humele*; solum Christi regnum | thaz bilibit uns in evun; 9) quod ipse regnat credo | in *humele* so scono; non recusat dare | thaz geleistit her ze uuare.

[834] Schmeller/Bergmann 1855: 132 [194].

[835] Pedersen 1893: 145, Noreen 1894: 142.

[836] Kluge (1886:332) already assumed an analogical origin. Braune (1891:94) proposed dissimilation of **himin-* to **himil-*, which is an attractive idea. Wachter (1997: 18): "Für den nur im Germanischen bezeugten, *l*-haltigen Stamm **himila-* aber genügt es vollkommen, eine Analogie zum alten Wort für 'Sonne', germ. **sāwil(a)-*,

It must be stressed, in this respect, that the *l*-form *himil* seems to be of purely High German origin. It probably penetrated into the other Germanic dialects along with the Christianization of North Europe. In the Old Saxon Heliand, for instance, *heþan* only occurs as the first member of compounds (e.g. *heþan·cuning*) or in fixed clauses (e.g. *heþenes cuning*), whereas *himil* occurs freely both in compounds and as a simplex. The simplest way to account for this distribution is to assume that in Old Saxon *heþan* was in the process of being supplanted by *himil*, but that it was able to hold ground in bound position. The intrusion of *himil* was obviously posterior to the Anglo-Saxon emigration to Britain, because Old English only has **hemna-*.

The position of ON *hamarr* m. 'hammer, back of an axe, crag', OHG *hamar*, OE *hamar* (etc.) < **hamar-* is unclear. PIE did have *mr/n*-stems, e.g. Gr. τέκμαρ, -ωρ 'sign' < **k^{w}eḱ-mōr*, *-mr* or **g^{h}éh$_2$-mr* 'palate' (see. p. 198), and it is therefore theoretically possible to assume that it developed out of a form **h$_2$ḱ-mor-* by metathesis[837], i.e. **ḱh̥$_2$-mor-*. Such a conjecture is nonetheless difficult to falsify: since Skt. *aśmará-* 'made of stone' probably reflects **h$_2$eḱ-mn̥-ró-* rather than **h$_2$eḱ-mer-ó*, the indications for a heteroclitic paradigm remain strictly Germanic. This means that, in the end, little can be said in favor of a reconstruction **h$_2$éḱ-mōr*, **h$_2$ḱ-mn-ós*, **h$_2$ḱ-mén-i*.

**hersō*, **hurznaz* 'brain'

- **hersan-*: ON *hjarsi*, *hjassi* m. 'crown', Nn. *hjasse* 'crown', Sw. *hjässa*, ODa. *jessæ*, Da. *isse* 'skull, crown'[838]
- **herzan-*: Nw. dial. *hjar(r)e* m. 'brain'
  → **(ga-)herznja-*: OHG *hirni* n., MHG *hirn(e)* n.[839], G *Gehirn*, *Hirn*, MLG *herne*, *harne* nf.[840] (= East MDu. *herne* nf.[841])
- **hers(n)an-*: MDu. *hersene*, *harsen* pl.[842], Kil. *herssen*, Du. *hersenen*, *-ens* pl.[843]
- **herzna(n)-*: ON *hjarn(i)* m. 'brain'[844], Nw., Da. *hjerne*, Sw. *hjärna*, ME *hernes* pl., E *harns*
- ?**hurzna-*: Du. *hoorn·dol*, *hoorn·woedig* 'crazy'[845]

The PIE root **ḱerh$_2$s-* 'head' is inflected as an *n*-stem in Germanic (**hersan-*). Since the *n*-stems were accentually mobile, the material contains both forms with and without the effects

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anzunehmen zu einer Zeit, da dessen *l/n*-Wechsel im Sprachbewußtsein der frühen Germanen noch lebendig war."

[837] Cf. OCS *kamy* 'stone' < **keh$_2$-mōn*.
[838] Falk/Torp 469.
[839] Lexer 1, 1303.
[840] Lübben 143.
[841] Verdam 248.
[842] Verdam 249.
[843] Franck/Van Wijk 248.
[844] Falk/Torp 410.
[845] Vercoullie 137; WNT.

of Verner's law[846], and "each of the alternative stem forms has been generalized to form an *n*-stem paradigm of its own" (Benediktsson 1968: 110). On the one hand, there is ON *hjarsi*, representing the original nominative **hersō* < **ḱérh₂s-ōn*. ON *hjarni*, on the other hand, clearly generalized the oblique stem as in, for instance, the gen. **herznaz* < **ḱerh₂s-n-ós*. All other formations are due to analogy: Nw. *hjarre* < **herzan-* looks like a nominative **hersō* that adopted the **z* from the oblique. Conversely, Du. *hersens* < **hersnan-* is best explained from an oblique form **herznaz* that assumed the **s* from the nominative. G *Gehirn* and *Hirn* are derived from the stem **herzn-*. They constitute a collective formation **(ga-)herzn-ja-*[847], and not a substantivized adjective **herznja-* 'belonging to the skull', as has been claimed by Nussbaum (1986: 192).

There is only marginal evidence for a zero-grade **hurzn-*, which can theoretically be established on the basis of Du. *hoorn·dol* 'frenzied'. Superficially, the word looks like a compound of *hoorn* 'horn' and *dol* 'mad', which would refer to animals poking with their horns. Yet the new *Etymologisch woordenboek van het Nederlands* – amongst others – points at the possibility that this association is due to folk etymology, the first member being some kind of corruption of an entirely different word. As a suggestion, the dictionary mentions MHG *hirn·wüetec* 'delirious'[848], i.e. "brain-raging", which makes sense in view of the symmetrical opposition of Du. *hoorn·woedig* and G *hirn·toll* 'frantic'.[849] Perhaps, then, the first elements of *hoorn·dol* and *hoorn·woedig* are not corruptions. In view of very similar formations such as Kil. *herssen·woedig* '*phreneticus*, *cerebrosus*' and ME *brain·wōd* 'frenzied' it is conceivable that they continue the original zero-grade allomorph **hurzna-* to **hersō* 'brain'.

It has been suggested by Nussbaum (1986: 191-4) that the Germanic masculine *n*-stem **hersan-* sprang from the oblique cases of the irregular neuter paradigm, which is preserved as Sanskrit *śíraḥ*, gen. *śīrṣṇáḥ*, loc. *śīrṣán* 'head' < **ḱŕh₂-os*, **ḱrh₂-s-nós*, **ḱrh₂s-én*. This, of course, raises the problem why the Germanic *n*-stem has an *e*-grade, and not simply a zero-grade. In order to explain this, Nussbaum refers to the apparently innovatory full-grades of the kind found in OS *ambo* 'stomach' < **h₃embʰ-on-* and Lat. *homo* 'man' <**dʰǵʰem-on-*. This suggestion is elaborated by Schaffner (2001: 549), who assumes that the *e*-grade could have been introduced analogically after the model of other PIE ablauting paradigms. The alternative is to assume that a paradigm **ḱérh₂s-ōn*, **ḱrh₂s-n-ós* was actually *preserved* by Germanic, which, to my mind, is the most straightforward solution; the accentual mobility presupposed by the opposition of **hersan-* : **herzan-* points to old ablaut anyway, and, as I have tried to argue, it is possible that the old zero-grade is attested in Du. *hoorn·dol*.

**hesō*, **haznaz* 'hare'

- **hesan-*: Nn. *jase* m. 'id.'

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[846] Cf. Schaffner 2001: 546-9.
[847] Franck/Van Wijk 248.
[848] Lexer 1, 1304.
[849] Cf. Cutter 1879: 113; Höfler (1899: 738): '*haupt*-töbig = hirntoll im Gegensatze zum Muttertoben oder Furor uterinus'.

- **hezan-*: Icel. *héri* (= *hjeri*) m. 'id.'
- **hasan-*: OHG *haso* m. 'id.', MHG *hase* m. 'id.', G *Hase*, MLG *hase* m. 'id.', MDu. *hase* 'id.', Du. *haas*[850], OFri. *has·mūled* 'hare-mouthed'
- **hazan-*, *-ōn-*: ON *heri* m. 'id.', OSw. *hare*, *hære* m. 'id.', Sw., Nw., Da. *hare* 'id.'[851], OGutn. *heri* 'id.', Far. *hara* f. 'id.', OE *hara* m. 'id.'

The word for 'hare' cannot be traced back to a single Proto-European form. Both in North and West Germanic, there is evidence of Verner variation, a reason for Schaffner to discuss the word in his *Vernersche Gesetz*. In addition, North Germanic has vowel gradation.

With the exception of OE *hara* < **hazan-*, all West Germanic dialects have forms that go back to PGm. **hasan-*, e.g. OHG *haso*, MDu. *hase*, OFri. *has·mūled*. This Verner alternation is projected back into the Proto-Germanic paradigm by Schaffner (2001: 544-6), who convincingly argues that the original paradigm **hasō*, **hazini* was leveled as both 1) **hasō*, **hasini* and 2) **hazō*, **hazini* in the West Germanic dialects. He explains the accentual mobility by reconstructing an "amphikinetic" paradigm nom. **ḱásō*, gen. **ḱas-n-és*, loc. **ḱas-én-i*.

In addition to the interchange of **s* and **z*, the North Germanic evidence shows a salient interchange of *e* and *a* in the root: OSw. *hare* and Far. *hara* reflect **hazan-* and **hazōn-* with PGm. **a*, but Nn. *jase* unambiguously points to a proto-form **hesan-* (cf. Pokorny 533), as it has *a*-breaking of *-e-* to *-ja-*. The *e*-grade must also be reconstructed for Icel. *héri*. In Icelandic orthography, the initial phone [ç] is usually represented as *hj*. However, in front of *é* [je], the *j* is omitted, cf. *hér* 'here' = [çe:r]. Since the usual derivation of ON and Icel. *é* from PGm. **$ē_2$* is impossible in this case, we must assume that *héri* is a "wrong" spelling for *hjeri*. In this form, the word can have regularly developed out of PGm. **hezan-* by 1) *a*-breaking of **e* to **ja*, 2) *z*-fronting of **-az-* to **-ez-*, and 3) rhotacism of **z* to **r*. It cannot possibly be derived from **hazan-*, as Schaffner (2001: 545 fn.) explicitly claims, because this would have become Icel. ***heri* (cf. *ker* 'tub' < **kaza-*).

Now that it has become clear that Icel. *héri* reflects **hezan-*, I assume that ON *heri* does so, too. It must be standardized as *héri* or rather *hjeri*. It probably did not develop out of **hazan-* with *z*-fronting. OSw. *hære* and OGutn. *heri* probably have secondary fronting (vowel harmony?). OSw. *hare* and modern Sw. *hare* are the expected outcomes of **hazan-*.

All things considered, the four different stems **hesan-*, **hezan-*, **hasan-* and **hazan-* point to a paradigm **hesō*, **haznaz*, **hazini* with ablaut of the root and the suffix. This paradigm fits relatively well into the Proto-Germanic system of the ablauting *n*-stems.

The reconstruction of the Proto-Indo-European paradigm, on the other hand, is disputed. Lat. *cānus* 'hare' < **ḱasno-,* MW *ceinach* 'female hare' < **ḱasnikā-*, OPru. *sasins* and Skt. *śáśa-*[852] are usually reconstructed with a root **ḱas-* with **a*.[853] This **a* is problematic, not just because it was a marginal phone in PIE, but more particularly because the ablaut **e* ~ **a* cannot possibly have been Proto-Indo-European. Lubotsky (1989: 56-7)

[850] De Vries/Tollenaere 230.
[851] SAOB H440.
[852] From **śása-* by assimilation of the second **s* to the preceding *ś*.
[853] Cf. Pokorny 533.

therefore proposed a stem *ḱh₁-s-, which indeed explains the Latin *a* (cf. Schrijver 1991: 91). Likewise, the Germanic *n*-stem can be reconstructed as *ḱh₁és-ōn, *ḱh̥₁s-n-ós, *ḱh̥₁s-én-i.[854]

The *n*-stem formation can be considerably old since the root *ḱh₁s- is attested with an *n*-suffix in Germanic, Baltic and Italo-Celtic. Traditionally, the *n*-stem is derived from an adjective meaning 'grey', i.e. OHG *haso*, ON *hǫss* 'grey' < *ḱh₁s-uo- and Lat. *cānus* 'grey' (~ OHG *hasan* 'polished'?) < *ḱh₁s-no-[855] (cf. Lith. *pìlkas* 'grey' → *pìlkšis* 'hare, horse', with similar meanings: *širvas* → *širvis*[856]). However, Lat. *cānus* 'grey' can just as well be derived from the *n*-stem. Similarly, ON *hǫss*, OHG *haso* 'grey' may represent a derivative from the word for 'hare', as the color suffix *-*wa*- was productive in Germanic.

***hnekkō*, *hnukkaz 'neck'**

- **hnekkan-*: OE *hnecca* m., E *neck*, OFri. *hnekka* m., SFri. *näkke* f., MLG *necke*, MDu. *necke*, Du. *nek*, dial. *näk*[857]
  → **ga-hnekkja-*: G *Genick* n. 'neck'
- **hnakka(n)-*: ON *hnakki* m. 'neck', Far. *nakki* m. 'id.', *nakkur* m. 'steep rock', Nw. *nakke* m. 'neck, peak, hook', *nakk* n. 'peak', OHG *hnach* m. 'summit, crown, neck', G *Nacken* 'neck'[858], G Tyr. *genagge*, *gnaggn* n. 'neck'[859], MLG *nacke* m. 'id.'
- **hnukka(n)-*: ON *hnokki* m. 'iron hook', Far. *nokki* m. 'crook, bar in the loom, top of the yard', Nw. *nokk(e)* m. 'top of the yard, metal books on a bobbin', OE *hnoc* m. 'hook', MLG *nocke* 'notch on an arrow tip', LG *nock(e)* 'tip', Tyr. *nok* m. 'knoll, rock'[860], MDu. *nocke* mf. 'tip', Kil. *nocke* 'collar beam, neck, spine', Du. *nok* c. 'roof ridge'

The ablaut relationship between ON *hnakki* and OE *hnecca* has been acknowledged by many scholars[861]. Already Kauffmann (1887: 515) mentioned the word pair as an example of an ablauting *n*-stem. An alternative solution is offered by Lühr (1988: 219): "da die *e*-stufigen Wörter nicht mit den *a*-lautigen Bildungen unter einem Paradigma vereinbar sind, ist eine Verbalwurzel *χnek- ‚zusammendrücken' zu erwägen, von der urgerm. *χnekkan- sein *e bezogen haben könnte." Since, however, there are hardly any potential verbal cognates – I only know of MHG *nücken* 'to nod, doze off'[862] – the question remains whether the strong ablaut of OE *hnecca*, ON *hnakki* and Kil. *nocke* is not of nominal origin.

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[854] The alternative is to assume that **hesan-* is "eine Ablautsneubildung", as Pokorny states. Either way, we end up with Germanic ablaut, because the latter solution implies that the ablaut had remained productive in (North) Germanic.
[855] Cf. Heidermanns 1993: 283-4.
[856] Fraenkel 591, 989-990; Derksen 1996: 88.
[857] De Bont 1962: 32.
[858] Kluge/Seebold 643.
[859] Schatz/Finsterwalder 216.
[860] Schatz/Finsterwalder 454.
[861] Brugmann II, 1, 307; Van Wijk 1912: 461; Vercoullie 1925: 422-3.
[862] Lexer 2, 118.

Of the three vowel grades, the *a*-grade is prevalent, being attested throughout the North-West Germanic area, e.g. ON *hnakki* 'neck', Nw. *nakke* 'peak, neck, hook', OHG *hnach* 'summit, neck'. On the basis of these forms, I assume that the meaning '(overhanging) protrusion' is ancient. The zero-grade forms seem to be in accordance with this meaning, cf. ON *hnokki* 'hook', Tyr. *nock* 'knoll'[863], OE *hnoc* 'hook', Kil. *nocke* 'collar beam', Du. *nok* 'roof ridge, tip', but it apparently meant 'neck' as well. This is demonstrated by Kil. *nocke*, and the Romance loanwords Fr. *nuque*, It., Spa. *nuca* f. 'nape of the neck'.[864] The *e*-grade forms, which predominantly occur in the Ingvaeonic languages as OE *hnecca*, OFri. *nekka*, MLG, MDu. *necke* 'neck', all exclusively mean 'neck'. As such, the stem **hnekkan-* may fit into a larger a larger group of *n*-stems denoting body parts, e.g. OHG *herza* n. 'heart' < **hertōn-*, ON *sefi* m. 'mind' < **sefan-*, ON *hjarsi* m. 'crown' < **hersan-*, etc. The *e*-grade is further found in the collective **ga-hnekk-ja-* underlying MHG *genic(ke)*, G *Genick*, Visp. *gnikk*.

In view of the triple ablaut of this *n*-stem, it can be compared to the paradigm **belkō*, gsg. **bulk^{k}az*, apl. **balk^{k}uns* 'beam' < **b^{h}élǵ^h-ōn*, **b^{h}l̥ǵ^h-n-ós*, **b^{h}olǵ^h-n-ń̥s* (see p. 136). However, when we reconstruct the paradigm as **hnekkō*, gsg. **hnukkaz*, apl. **hnakkuns*, several problems emerge. The reconstruction presupposes an earlier, more regular paradigm **hnehō*, **hunk^{k}az*, **hnakkuns* from Pre-Germanic **knék-ōn*, **kn̥k-n-ós*, **knok-n-ń̥s*, and it seems uncertain that this paradigm could have been restructured in such a way that it ultimately surfaced as **hnekkō*, **hnukkaz*, **hnakkuns*. It would require 1) the generalization of the geminate, and 2) the removal of the schwebeablaut in the zero-grade. It is possible, however, that this restructuring was provoked by the regular genitive **hunk^{k}az*. Possible vestiges of this genitive form are MDu. *honc* 'corner, base', Du. *honk* 'id.', WFri. *honk* 'id.', SFri. *hunk* 'id.', G *Hunke* 'hillock'.[865] In view of the Dutch and German meanings, I assume that the word originally denoted a small hill or – more specifically – a hillock that was used as a boundary mark.

As to the etymology of the word, OIr. *cnoc* m. 'hill', W *cnwch* m. 'id. < **knokko-* / **knukko-* are generally believed to be related[866]. Since, however, the Celtic geminate is difficult to explain[867], while the Germanic geminate is the logical outcome of the *n*-stem paradigm, it seems probable that the Celtic word was borrowed from Germanic. A Celtic origin is further unlikely, because PGm. **hnukka-* is part of a very elaborate derivational cluster in Germanic, whereas in Celtic, **knukko-* seems to be isolated. This leaves us with To. (A) *kñuk* 'neck', which has been adduced by Pedersen (1944: 29).[868] As this form may continue an *n*-stem **knek-on-* (Michaël Peyrot, p.c.), it can theoretically be equated with the Germanic forms.

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[863] Taken from Lühr 1988: 219.
[864] Falk/Torp 769; Vercoullie 242-3.
[865] The German word is found in e.g. Hietzinger's *Statistik der militärgrenze des österreichischen Kaiserthums* (1817: 54): "Beinahe überall wo das Gebiet der Militärgränze abgeschlossen ist, sind die Gränzmarken genau bestimmt, und in Ermanglung natürlicher, durch die Kunst, gröstentheils durch Hügel (H u n k e n) bezeichnet."
[866] Cf. Kluge/Seebold 643: "Außergermanisch wird verglichen air. *cnocc*, kymr. *cnwch* »Buckel, Hügel«, toch. A *kñuk* »Hals, Nacken«."
[867] Whitley Stokes' (1893) suggestion of a Kluge's law in Celtic cannot be maintained.
[868] Hilmarsson (1996: 162-3) has dismissed the comparison on formal grounds: To. (A) *kñuk* can go back to either **KneuK-o-* or **KneK^w-o-*, both of which he thought to be irreconcilable with PGm. **hnVkk-*.

***hnellō*, **hnullaz* 'bump'**

- **hnella(n)-*, *-ōn-*: OHG *hnel* '*haupites testa*, hill', *nella* '*vertex*', *aftir·nel* '*occiput*'[869], MHG *nel(le)* m. 'peak, top', G Car. *(n)élle* n. 'nape'[870] (= **hnel-līn-*?), Cimb. *(n)ello* m. 'id.'[871], Tyr. *nalle* f. neck'[872]
- **hnulla(n)-*: Icel. *hnullóttur* 'round, fat', Nw. dial. *null(e)* m. 'small ball, bundle', OHG *hnol* '*culmen*, *vertex*', *nollo* '*collis*'[873], G *Nollen* 'mountain crest'[874], MDu. *nol(le)* mf. 'back of the head, tip of a dike, dune', MHG *nol* m. 'peak, top', *vude·nol* m. '*mons veneris*', OE *hnoll* m. 'crown', ME *nol* 'back of the head, nape of the neck, pole'

The *n*-stem **hnullan-* and the thematic variant **hnulla-* are found throughout the West Germanic dialects, cf. OHG *nollo*, MDu. *nolle*, OE *hnoll*, its meaning ranging from 'crest' to 'crown'. The appurtenance of NW. *null(e)* 'ball, bundle' and Icel. *hnullóttur* 'round' is less certain because of the deviating semantics. In High German, there are also forms with *e*-vocalism such as OHG *nel* 'crown, hill', *nella* 'crown' and MHG *nelle* 'peak'. On the basis of this material an ablauting root **hnell-* has been reconstructed[875]. With these different roots, it is attractive to derive all the different forms from an originally apophonic paradigm **hnelō*, **hnullaz*, even though the material does not show any signs of consonant gradation.

Given the limitation of the root **hnell-* to the Upper German speech area, the question arises whether the *e* represents unrounded OHG **ö*. This **ö* may have arisen in the plural where secondary umlaut was productive (see chapter 9). However, the attestation of *nello* in the Cimbrian dialects, where unrounding has never taken place, proves that such a scenario is impossible in this particular case. Likewise, Tyr. *nalle* seems to represent **nálle* from **hnellan-*, and thus amounts to the same conclusion.

The root **hnull-* has no etymology. Some dictionaries compare PWGm. **knulla(n)-*: ON *knollr* m. 'knoll', OE *cnoll* m. 'id.', MHG *knolle* m. 'lump', Kil. *knolle* 'id.'[876], but the original meaning of **hnull-* is not 'lump', but 'crest', i.e. an overgrown hill-top, cf. MHG *vude-nol* '*mons veneris*'.

***kelkō*, **kulkᵏaz* 'jaw, throat'**

- **kelka(n)-*: ON *kjalki* m. 'jaw, sledge', Icel. *kjálki*, *-ur* m. 'jaw, bar (on a sledge or loom)'[877], Far. *kjálki* m. 'cheek-bone'[878], Nw. *kjelke* m. 'small

[869] Graff 3, 1131.
[870] Lexer 1862: 198.
[871] Schmeller/Bergmann 149.
[872] Schöpf/Hofer 458.
[873] Graff 3, 1131.
[874] Grimm 13, 879.
[875] Fick/Falk/Torp 98.
[876] Kluge/Mitzka 384; Franck/Van Wijk 326.
[877] Böðvarsson 497.
[878] Poulsen 590.

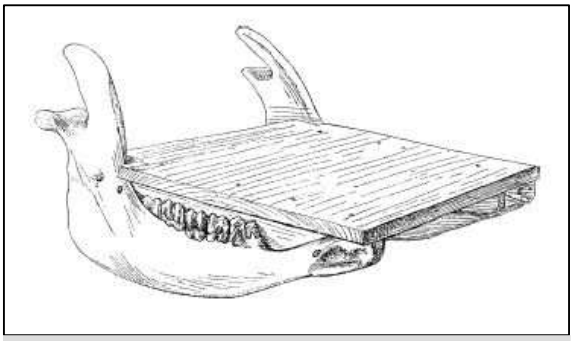
sledge, *dial.* Adam's apple', dial. *kjelk* m. 'cheek', Sw. *kälke* 'sledge'[879], OHG *chelah*, *-uh* m. 'crop, tumor in the neck', MHG *kelch* m. 'crop, double chin'

- **kulka-*: Sw. dial. *kolk*, Da. *kulk* 'gullet, *dial.* throat, Adam's apple'[880]
  →**kulkōjan-*: Far. *kulka* 'to gulge, swallow'[881]

- **kalka-*: Icel. *kálkur* m. 'sledge, bar on a sledge'[882]

The North Germanic dialects provide substantial evidence for the reconstruction of an apophonic *n*-stem **kelkō*, **kulk*$^{(ʷ)}$*az*. The full-grade stem **kelkan-* is supported by ON *kjalki* 'jaw, sledge', Icel., Far. *kjálki* 'jaw, cheek, runner', Nw. *kjelke* and Sw. *kälke* 'sledge'[883]. A thematic formation with the same vocalism must be reconstructed on the basis of Icel. *kjálkur* 'jaw, runner', Nw. dial. *kjelk* 'cheek'. Icel. *kálkur*, bearing the same meaning as the *e*-grade forms, presupposes an *a*-grade **kalka-*. As is often the case, the *a*-grade is restricted to a thematic formation, which again raises the suspection that this vowel grade was triggered by thematization. Finally, a zero-grade formation is supported by Sw. dial. *kolk*, Da. *kulk* 'gullet, *dial.* Adam's apple'.

The whole cluster of forms with *e*- and *a*-grade of the root shows a remarkable semantic split between 'jaw' and 'sledge'. One of the most probable ways of dealing with this problem is to assume that cattle jaws were used as sledge runners.[884] Such use of animal mandibles is confirmed by Stopp and Kunst (2005), who on the basis of archaeological and ethnological data argue that jaw-sledges were employed in that way from Late Iron Age Switzerland to 19th century Prussia (see image). The semantic evolution of the Nordic etymon suggests that this practice was known in the North as well. Presumably, the jawbone skids became the *benennungsmotiv* for the sledge in which they were used. We must then regard the meaning 'sledge' as a *pars pro toto* formation, so as to explain why the semantic starting point 'jawbone' was preserved as well. Note, however, that Nw. *kjelke* dialectally also means 'Adam's apple', a meaning that is matched by the Danish zero-grade *kulk*.



A 19th century depiction of a Pomeranian sledge with runners made of cattle mandibles ('Kieferschlitten') from Stopp/Kunst, p. 194.

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[879] SAOB K3612.
[880] Perhaps also MLG *kolk*, *kulk* m. 'water hole', G *Kolk* 'hole', MDu. *colc* m. 'water hole', Du. *kolk* 'whirl', OFri. *kolk* m. 'hole, pit', OE *wīn·colc* m. 'wine barrel', *ōden·colc* 'hole in the floor'.
[881] Poulsen 642-3.
[882] De Vries 1962: 311; Böðvarsson 479.
[883] Cf. Falk/Torp 516; De Vries 1962: 310-11.
[884] Cf. De Vries 1962: 311.

The word has no extra-Germanic etymology. The closest cognate is OHG *chelah* 'crop, tumor in the neck'. This formation looks like a *k*-diminutive[885] to OE *ceole*, OHG *chela* f. 'throat' < PGm. **kelōn-*.

***klewō*, ?*klunaz* 'clew'**

- **klewa(n)-*: ON *klé*, gsg. *kljá* m. 'loom weight', Icel. *klé* m., *kljá* n. 'loom weight, bob'[886], Far. *klíggja·steinur* 'loom weight, stone for weighting haystacks'[887], Nw. *kljå(·stein)* m. 'loom weight, bob'
- **klewōn-*: OHG *chli(u)wa* f. 'clew' (→ **klewō-kīn-*: Swi. Visp. *xlüüxji* 'id.')
  → **klewila-*: MHG *kliuwel* n. 'id.', G *Knäuel* 'id.'[888]
- **klewīn-*: OE *clēowen*, *clīowen*, WS *clī(e)wen* n. 'clew, ball, strand'[889], OS *klewin* '*offam*'[890], MDu. *clouwen*, *clu(w)en* n., Du. *kluwen*, dial. *klouwen*, *kloen* 'clew'[891] (= Da. *klyne* 'lump (of peat)'[892]), OHG *chliuwi* n. 'id.', MHG *kliuwe* n. 'id.'
- **kluni-*: OE *clyne* m. 'lump (of metal)'[893]

The West Germanic languages show a variety of forms. The oldest formation is OHG *chliuwa* < **klewōn-*, which can be directly related to ON *klé*, obs. *kljá* < **klewan-*[894]. On the basis of **klewōn-* a diminutive **klew-īn-* was created, which is found as e.g. OE *clēowen*, *clīowen*, WS *clī(e)wen*[895], E *clew*, OS *kliuwin*, Du. *kluwen*. MHG *kliuwel* is another diminutive from **klew-ila-*. The modern German form *Knäuel* derives from the same word by dissimilation of the first *l* (Kluge/Seebold). An entirely different root form is indicated by OE *clyne* 'lump', which in meaning is close to OS *cliuwin* and ON *klé*. On the basis of this root **klun-*, Fick/Falk/Torp (p. 58) reconstruct an underlying paradigm **kluwan*, **klŭniz*, but this may very well have been **klewō*, **klunaz* instead. The often adduced Sw. *klunn*[896], on the other hand, does not belong here. It has a variant *klund* and should therefore be reconstructed as **klunda-*.

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[885] Hellquist 25.
[886] Böðvarsson 502, 504.
[887] FDO 182-3; Poulsen 598.
[888] Kluge/Seebold 502.
[889] Bosforth/Toller 158-9; Holthausen 1934: 51.
[890] Gallée 178.
[891] Franck/Van Wijk 321.
[892] Falk/Torp 539; ODS, s.v. *klyne*.
[893] Holthausen (p. 53) mentions Sw. *kluns*.
[894] Far. *klavi* m. 'piece of rope', seemingly from an *o*-grade form **klawan-*, is bound to be a loanword from MLG *klove*, *klave* 'cleft, clew' < **kluban-*. PGm. **klawan-* would have yielded Far. ***kláí*.
[895] The vowel length in *cliwen* and *cleowen* is called uncertain by the OED, but long diphthongs must be supposed here. PGm. **-ew-* developed into **-euw-*, **-iuw-* in West Germanic, emerging as either *-īo-* or *-ēo-* in the Old English manuscripts. In West Saxon the diphthong was affected by front mutation (Wright 52), which explains the form *clī(e)wen*. Similarly, we find WS *hīew*, *hīw* 'hew' < PGm. **hewja-* as opposed to *hēow*, *hīow* elsewhere.
[896] Fick/Falk/Torp 58; SAOB K1420.

The Germanic forms are clearly related to OCS *žely, žьly* 'tumor' < **gelH-uh$_2$*, **glH-uéh$_2$-s*[897] and Skt. *glau-* f. 'ball, lump' < **gleHu-*[898]. The Germanic paradigm does not necessarily require a laryngeal in the root, and can straightforwardly be reconstructed as **gléu-ōn*, **glu-n-ós*. If there was a laryngeal, it must have been in root-final position, viz. **gléuH-ōn*, **gluH-n-ós*. From this paradigm, the short vowel of the root **klun-* can then be explained from **klūnós* by Dybo's law. Evidence of a long vowel is found in the undoubtedly related formation MLG *klūs* 'lump', Kil. *kluysken loocks* '*caput allij*, *nucleus allij*' < **klūsa-* and **klū-þan-* 'lump' (see p. 112), but at least the latter instance of **ū* can be explained as an analogical full-grade.

***krebō, *kurpᵖaz 'basket'**

- **kreban-*: MHG *krebe* m. 'crib', G *Krebe*[899], Swab. *kreb*^{ə} [ę̆] m. 'wicker basket, wicker car carriage, sty'[900], SFri. *krääf*, *krääwe* m. 'trough, crib'
- **krebbōn-*: MHG *kreppe* f. 'id.'[901]

  → **kreb(b)jō(n)-*: OHG *chrippa* 'basket, crib' , G *Krippe*, Swi. App. *xrep* 'id.'[902], OS *kribbia* f. 'id.', Du. *krib(be)* 'manger, crib'[903]
- **kreppan-* → **kreppjō(n)-:* OHG *chripfa* f., MHG *kripfe* f., Swi. Visp. *xripfa* f. 'crib'
- **kerba(n)-*, *-ōn-*: ON *kjarf*, *kerf* n. 'bundle', OSw. *kærve* m. 'id.'[904], MLG *karve* (= Icel. *karfa* f. 'basket, hamper'[905]), *kerve* f. 'creel'[906]
- **kruppa-*, *-ōn-*: MHG *krupfe* f. 'basket', G *Krupfe*[907]

  → **kruppjō(n)-*: G *Krüpfe* 'id.'
- **krubbōn-*: Icel. *krubba* f. 'jug, pen, sty'[908], Nw. dial. *krubbe* f. 'box, small sledge', MHG *kroppe*, *kruppe* f. 'crib'[909]

  → **krub(b)jō(n)-*: G *Krüppe*, OE *cryb* f. 'crib'
- **kurba(n)-*, *-ōn-*: OHG *chorb*, *churb* m. 'basket', MHG *korb(e)*, *karb* m. 'id.'[910], Cimb. *korba* f. 'id.'[911], MDu. *corf* m. 'basket, cage'[912], Du. *korf* 'basket'[913]

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[897] Derksen 2008.
[898] Mayrhofer 1, 511.
[899] Lexer 1, 1714; Grimm 11, 2126.
[900] Fischer/Taigel 285.
[901] Lexer 1, 1722, 1734.
[902] Vetsch 63.
[903] Franck/Van Wijk 348: "echter is *gr$_e$bh-*, ablautend met *grebh-*, waarschijnlijker."
[904] De Vries 1962: 311.
[905] Böðvarsson 482.
[906] Schiller/Lübben 456.
[907] Lexer 1, 1684; Grimm 11, 2471.
[908] Böðvarsson 527.
[909] Lexer 1, 1757.
[910] Lexer 1, 1679, 1684.
[911] Schmeller/Bergmann 200.
[912] Verdam 307.
[913] Franck/Van Wijk 339.

This etymon meaning 'basket' (or anything for which baskets are used) displays a wide variety of forms that can all be explained in terms of consonant and vowel gradation. By reconstructing a paradigm **krebō*, **kurpᵖaz* < **gréb^h-ōn*, **gr̥b^h-n-ós*, and assuming that the different allomorphs analogically influenced each other, all the different variants can be given a place.

The full-grade is evidenced by MHG *krebe*, a masculine *n*-stem, and by MHG *krebbe*, which has a geminate that seems to stem from the oblique. MLG *kerve* 'creel' has a full-grade too, but the position of **e* is analogical. The underlying form **kerbōn-* may be a secondary full-grade based on the zero-grade root **kurb-*.

The regular zero-grade is present in **kurba(n)-* > OHG *chorb*, MHG *korb(e)*, MDu. *corf*. It has been suggested that these words are adopted from Lat. *corbis* (Franck/Van Wijk 339), but since **kurba(n)-* is a perfectly understandable form within the Germanic context, it is more probable that the Germanic word was adopted by Latin. Similarly, G *Korb* was adopted by Slavic at an early date, i.e. before the rise of *polnoglasie*: Pol. *korb*, Ru. *kórob* (Fraenkel 220-1). These Slavic forms are again the source for Lith. *karb̃as* 'basket'. Similarly, Fi. *karpio* 'bushel' is from Slavic **korbьja*, cf. Ru. *korob'já*.[914]

The other zero-grade forms MHG *krupfe* < **kruppōn-* and MHG *kroppe* < **krubbōn-* must be secondary formations, because they have schwebeablaut. The position of the vowel slot on the "wrong" side of the resonant is based on the original nominative **krebō*. The geminate **pp* must nevertheless be old, and in combination with **kurba(n)-* points to a genitive form **kurppaz* that was modified into **kruppaz* before the Proto-Germanic shortening of geminates in heavy syllables.

There are a number of forms with *a*-vocalism, but these are all later developments. There is probably no evidence for **karbōn-* "als eine echte nebenform von vorgeschichtlichem alter", as is asserted by Grimm (11, 1797). MLG *karpe* with its *p* seems to continue a root **karpᵖ-*, but it only occurs in "*veer grote tunnen werxs und twee carpen mit werke*" [915] and may be borrowed from MHG *karb*, *karp*. These forms, in turn, are etymologically identical to MHG *korb*, and reflect the delabialization of *o* in the South German dialects, such as in early Bavarian *darf* '*Dorf*', *wart* '*Wort*', *tachter* '*Tochter*' and indeed also *karb* '*Korb*'[916]. MLG *karve*, on the other hand, is from older *kerve* with lowering of *e* to *a* before *r* as in *karke* 'church', *wark* 'work' and *hart* 'heart'.[917] This *karve* is almost certainly the source for Icel. *karfa* 'basket'. Similarly, late ON *korf* f. 'id.' has been analyzed as a loanword from MLG *korf*[918], which seems probable to me.

The consonant and vowel gradation belonging to the *n*-stem is neatly mirrorred by some *jō*-stem derivations, i.e. G *Krippe* < **krebbjō-*, G *Krüppe*, OE *crib* < **krubbjō(n)-* and G *Krüpfe* < **kruppjō-*. An otherwise unattested allomorph **krepp-* is presupposed by OHG *chripfa*, Swi. Visp. *xripfa* < **kreppjō-*.[919] The parallelism of these *jō*-stems is important to our

[914] Kylstra e.a. II, 50.
[915] Schiller/Lübben 431.
[916] Tauber 1993: 69.
[917] Lasch 1914: §76.
[918] De Vries 1962: 326.
[919] Kluge/Seebold (p. 540) ascribe the difference between OHG *chrippa* and *chripfa* to "intensivity" in the latter form, but I fail to see how the meaning of these words is expressive.

understanding of the allomorphy of the *n*-stems, because it indicates that, when the *jō*-derivation took place, there was some hesitation as to what allomorph to use as a base. It does not seem necessary to reconstruct two separate *n*-stems **krebō*, **kreppaz* and **krubō*, **kruppaz* [920] in order to explain the differences between the four different *jō*-stem formations[921].

In spite of the straightforward reconstruction of **krebō*, **kurpᵖaz*, no clear etymology is available. The connection with Gr. γρῖπος, γρῖφος 'basket, fish net'[922] is uncertain because of the Greek consonantal irregularities. ON *hrip* n. 'pannier'[923] has been compared, and if this link is correct, the word must be of non-Indo-European origin, as has been argued by Kuhn (1959: 39).[924] The problem with these etymologies, however, is that the meaning 'basket' is secondary in Germanic. At least, this is what can be concluded on the basis of the most probable cognates, viz. ON *kerf*, *kjarf* n. 'bundle (of twigs)' and OSw. *kærve* m. 'id.' < **kerba(n)-*.

***rehhō, *ruhhaz 'ray'**

- **rehhōn-*: OE *(h)reohhe* f. '*fannus* (= ray)', ME *reihe*, *reȝge*, *righe*, *raie*, *raiȝe* 'id.'
- **ruhhan-*, *-ōn-*: OE *ruhha* m. 'id.', MLG *roche*, *ruche* m. 'id.', MDu. *roche*, *rogghe* f. 'id.', Kil. *roch* '*raia piscis*', Du. *rog* 'id.'

The evidence for an ablauting *n*-stem **rehō*, **rukkaz* is not overwhelming. The root **ruhh-* is attested in all the North Sea Germanic languages, e.g. OE *ruhha*, MLG, MDu. *roche*. The possible full-grade, on the other hand, is only supported by three Old English glosses that ostensibly represent OE *hreohhe*. Note that determining the vowel length poses no great difficulties, because the subsequent geminate indicates that it was short. Since the short diphthong *ĕo* represents PGm. **e* that was broken before **h*, the form *reohhe* can only continue **(h)rehhōn-*, not **reuhhōn*. This form, which is taken to be the predecessor of ME *reihe*, *reȝge*, *righe* 'ray', should be separated from the Old French loanword *raie*, *raiȝe* 'id.' < Lat. *rāia*.

The variants **(h)rehhōn-* and **(h)ruhhan-* are clearly in ablaut relation with each other, and given their *n*-stem inflection, it is theoretically possible to explain the variants out of an ablauting paradigm **hrehō*, **hruhhaz*, or rather **hrehō*, **hrukkaz*. The evidence for such a paradigm, however, is comparatively limited, the full-grade being evidenced by sporadic Old English glosses and some Middle English forms. Then again, the paucity of the material does not necessarily obliterate the possibility of an apophonic paradigm.

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[920] Lühr 1988: 250-1.
[921] There may also have been an ablauting *jō*-stem **gréb^h-ih$_2$*, **grb^h-iéh$_2$-s* > **krebja*, **kurbjōz*, but this reconstruction does not account for the stems **kreban-* and **kurba(n)-*.
[922] Pokorny 385-390.
[923] = Allgäu German *reaf* '*hölzernes Rückentraggestell*'?
[924] Theoretically, ON *hrip* can also be a loanword from a hypothetical Proto-Celtic form **kribi-*, which can be postulated on the basis of Lat. *corbis* < **k̑rb^h-i-* (cf. De Vaan 2008: 135). Still, the Latin word was probably borrowed from Germanic.

***skinkō*, **skunkᵏaz* 'shank'**

• **skinkan-*, *-ōn-*: OHG *scincho* m., *scincha* f., MHG *schinke* m., G *Schinken*, Car. *schinke*, *schinkn* m. 'shank, leg, ham'[925], Cimb. *schinko* m. 'id.'[926], Swi. ?Visp. *šeixo*, MLG *schenke, schinke* m. 'ham'[927], ?Du. dial. *schenk*, *schink(e)* 'ham'[928]

→ **skinkja-*: OFri. *ber·skinze* '*nudiped*'[929]

• **skankan-*: OE *sc(e)anca*, *sconca* m. 'shank, shin, upper part of the leg'[930], E *shank* 'shin, shaft', LG *schanke* 'leg' (= Far. *skankur* m. 'leg'[931], Nw. *skank* 'ham, hollow of the knee', Sw., Da. *skank* 'shinbone'[932])

→ **schankila-*: G *Schenkel* m. 'shank'[933], Du. *schenkel* 'id.'[934]

• **skunka(n)-*: OFri. *skunka* m. 'shank', WFri. *skonk* m. 'leg'[935], LG *schunke* 'thigh, ham', Du. *schonk* 'bone'[936], G Car., Swab. *schunke* m. 'ham, leg'[937], Deutschrut *šunkxn* m. 'ham'[938]

The usual way of dealing with the formal variation of OHG *scincho* 'shank, leg', OE *sc(e)anca* 'shank' and Du. *schonk* 'bone' is to reconstruct a three-way ablaut opposition **skink-* : **skank-* : **skunk-*[939].

The *e-* and *a*-grades are beyond doubt, the former being demonstrated by e.g. OHG *scincho*, *scincha*, MHG *schinke*, G *Schinken*, the latter by OE *sc(e)anca*, E *shank* 'shin, shaft', LG *schanke* 'leg', etc. In addition, the etymological dictionaries posit a zero-grade root **skunk-*. Still, this root can not be established on the basis of the Anglo-Frisian forms OE *sconca* and OFri. *skunka*, because these can have developed out of **skankan-* with regular rounding ("Verdumpfung") before nasals. LG *schunk* and Du. *schonk* are stronger indications of the zero-grade, but there is a true risk that these forms are Frisianisms. Better evidence for **skunkan-* comes from Swabian *schunke* 'shank, leg', but the reality of even this ostensibly certain zero-grade has been questioned. In Carinthian, *schunke* occurs beside *schinke* 'shank, leg'. For this reason, it has been claimed by Kranzmayer/Lessiak (l.c.) that the *u*-vocalism arose in a "mißverstandener Sing.-Bildung zum pl. *šiŋkxe*, dessen *-i-* man als Umlaut-*ü* auffaßte", but this is perhaps doubtful in view of the large area in which it occurs (cf. Deutschrut *šunkxn*).

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925 Lexer 1862: 218.
926 Schöpf/Hofer 166.
927 Lübben 329.
928 Kocks/Vording 1069.
929 Richthofen 627; Hofmann/Popkema 35.
930 Bosworth/Toller 823; Holthausen 1934: 271.
931 Poulsen 1030.
932 Hellquist 727-8, ODS, s.v. *skank*; Falk/Torp 984-5.
933 Kluge/Seebold 799.
934 De Vries/Tollenaere 614.
935 Zanterma 1, 901.
936 Franck/Van Wijk 591; De Vries/Tollenaere 623.
937 Lexer 1862: 218; Fischer/Taigel 386.
938 Kranzmayer/Lessiak 1983: 136.
939 Kauffmann 544 fn.; Fick/Falk/Torp 450; Pokorny 930; Kluge/Seebold 804.

In fact, the reality of the *e*-grade root **skink-* has been questioned, too. According to Århammar (2004), it is uncertain whether the vowel of WFri. *skinke* reflects OFri. *i* or *e*. The vacillation of MLG, MDu. *schenke* ~ *schinke* may point to a root **skank-* with front mutation, which would have given OFri. **skenka*.[940] Moreover, Visp. *šeixo* must indeed be reconstructed as **skankjan-*, as this dialects distinguishes *-eix-* < OHG **-änch-* from *-iix-* < **-inch-* and *-äix-* from **-anch-*, cf. *šeixu* 'to give' < **skankjan-* vs. *triixu* 'to drink' < **drinkan-* and *bœix* 'bench' < **banka-*. None of these forms, however, can disprove the reconstruction **skinkan-* that is supported by OHG *scincho*, etc. It is more likely that, instead, their vocalism is due to influence from the diminutive **skankila-*, cf. G *Schenkel*, Du. *schenkel* 'shank'.

In view of the absence of any related verbal formations, we may consider the reconstruction of an ablauting paradigm nsg. **skinkō*, gsg. **skunk^{k}az*, apl. **skank^{k}uns*, the *a*-grade accusative being modeled after the paradigm of **belkō*, **bulk^{k}az*, **balk^{k}uns* 'beam' (see p. 136). It can be related to Gr. σκάζω 'to limp' < **skn̥g-ie/o-*, OIr. *scendim* 'to jump', and maybe also to Skt. *sákthi-*, Av. *haxti-* 'leg, ham'.[941]

***sterō*, *sturraz* 'infertile animal'**

- **stera(n)-*: OHG *stero* m. 'ram'[942], MHG *ster(e)* m. 'id.'[943], G *Stär* 'ram'[944]
- **sterran-*: MHG *sterre* m. 'ram'[945]
- **sturran-*: G *Storre* m. 'gelded stallion'[946], Du. dial. *storre* 'small person or animal, piglet'[947]

The vacillation of MHG *stere* and *sterre* points to an old *n*-stem with consonant gradation. The word is usually connected with Go. *stairo* f. 'barren one'[948], which is acceptable in view of the obvious cognate G *Stärke* f. 'heifer (= cow that has not yet calved)' < **starikō-*.[949] A more closely related formation is G *Storre* 'gelded stallion', probably to be linked with dialectal Dutch *storre* 'small animal or person'. Although G *Storre* more generally means 'stump', a meaning that may well have been used metaphorically to designate a castrated stallion, there is a good possibility that both **ster(r)an-* and **sturran-* once belonged to a single paradigm **sterō*, **sturraz* < **stér-ōn*, **str̥-n-ós*. This paradigm must then be based on

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[940] "Der Stammvokal von wfr. skinke (mfr. schin(c)ke, 1614-1782) kann ein afr. -i-, aber auch -e- (> spätawfr. -i-) enthalten. Am wahrscheinlichsten ist wohl afr. *skinka mit Parallelen in ahd. skinco, mhd. schinke > [114] mhd. Schinken, as. skinka, mnd. schinke sowie mnl. schinke neben schenke, falls letzteres -e- < -i- enthält (aber wegen mnd. schenke, das allerdings neben schinke nur selten vorkommt, vielleicht doch < a + i-Umlaut)."
[941] Pokorny 930.
[942] Graff 5, 702.
[943] Lexer 2, 1177.
[944] Grimm 18, 2389-91.
[945] Lexer l.c.
[946] Grimm 19, 423.
[947] Kocks/Vording 1190.
[948] Grimm 18, 2389; Fick/Falk/Torp 486; Pokorny 1031; Lehmann 322; Kluge/Seebold 786.
[949] The OED lumps OE *stierc* n. 'calf', E *stirk* together with Kil. *stierick* '*iunex*' < **steuraka-* 'little bull', but the reconstruction **starika-* works too.

the root *ster- 'infertile', which is found in e.g. Skt. *starī́-* f. 'infertile cow', Gr. στεῖρα f. 'infertile cow, woman', Alb. *shtjérrë* f. 'lamb, kid' < *steri-, *ster-en-[950] and Lat. *sterilis* 'infertile'.

***telgō*, *tulgini* 'twig'**

- **telga(n)-*, *-ōn-*: OE *telga* m. 'branch, bow'[951], MHG *zelch*, *zelge* m. 'twig'[952], G *Zelge* f. 'twig, shoot'[953], MLG *telch* m. 'twig'[954], MDu. *tel(e)ch*, *telgh(e)* mn. 'twig, shoot, arm'[955], Kil. *telghe* '*ramus*', Du. *telg* 'scion'
  → **telgra(n)-*: MLG *telgere* pl. 'branches', Kil. *telgher* 'twig', OE *telgor*, *telgra* m. 'shoot, twig'[956]
- **telgōn-*: ON *tjalga* f. 'thin twig'[957], MHG *zelge* f. 'third "pillar" in the three-field system'[958], G *Zelge* f. 'id.'[959], ?OE *telge* f. 'rod'[960], E *tellow* 'shoot'[961]
- **tulga(n)-*: OE *tungan tulg* 'root of the tongue'[962], G *Zolch* m. 'twig, nozzle', Hess. *zulch*[963], *Zungenzolch*, Swi. *zolgge* 'nozzle'[964]
  → **tulkᵏra-*: MHG *zolcher*, *zolker* m. 'branch'[965]
- ?**tulkᵏa(n)-*: Du. *tolk* 'small stick'[966]

OE *telga*, ON *tjalga*, Kil. *telghe* 'branch' and cognates are not usually connected with Du. *tolk* 'small stick', but semantically there are no objections to such a link. The latter form is usually analyzed as a diminutive (**tullaka-*?) to PGm. **tullan-*: MHG *zoll* m. 'peg'[967], but formally, the opposition of PGm. **telgan-* and **tulkᵏa-*, i.e. a non-geminated full-grade vs. a geminated thematic zero-grade, is typical of the apophonic *n*-stems. From this perspective, we may consider reconstructing a paradigm **telgō*, **tulkᵏaz* < **délgʰ-ōn*, **dlgʰ-n-ós*.

The zero-grade of the same root may also be attested in G *Zolch*. Since the expected outcome of PGm. **-lk-* is *-lk-* in the non-Alemannic dialects, it can only be equated with Du. *tolk* if we reconstruct **tullaka-*, cf. *Milch* < **meluk-*. It is more likely, however, that *Zolch*

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[950] Demiraj 1997: 377.
[951] Bosworth/Toller 975; Holthausen 1934: 344.
[952] Lexer 3, 1052.
[953] Kluge/Seebold 1007.
[954] Lübben 401.
[955] Verdam 600.
[956] Bosworth/Toller 975; Holthausen 1934: 343, 344.
[957] De Vries 1962: 591.
[958] Lexer 3, 1052.
[959] Kluge/Seebold 1007.
[960] Bosworth/Toller (p. 975) calls the form corrupt. Not so Holthausen 1934: 344.
[961] OED, s.v. *tiller*.
[962] Bald's Leechbook Ch. 42, §1; Fick/Falk/Torp 160.
[963] Grimm 32, 31.
[964] Grimm 32, 31; Hunziker 311.
[965] Lexer 3, 1148.
[966] Vercoullie 350; De Vries/Tollenaere 378.
[967] Vercoullie; Grimm; De Vries/Tollenaere.

must be analyzed as a Middle German form with *-lg-* > *-lɣ-* (cf. Hess. *zulch*[968]), just as MHG *zelch* appears to be a Middle German form for *zelge* (cf. Rhnl. *telg* [tɛləχ] m. 'twig'[969]). The reconstruction **tulg-* is further strengthened by the compound G *Zungen·zolch* 'root of the tongue'[970], attested in Höfler's *Krankheitsnamenbuch* (p. 857). It is remarkably parallel to the Old English syntagm *tungan tulg* 'tongue' in *Bald's Leechbook*. Furthermore, Swi. *zolgge* 'nozzle' points to the same root. This **tulg-* may have originated in the loc. **tulgini*, although the semantic differences are an obstacle to its incorporation into the paradigm of **telgan-*.

Etymologically, the *n*-stem **telgō*, **tulk^{k}az* can be related to ON *telgja* 'to prune', OIr. *dlongid* 'to split', Lith. *dal̃gis* 'scythe' < **d^{h}olg^h-*.[971] Another possible set of cognates consists of Lith. *dilgùs* 'stinging', *dìlgė* f. 'nettle', OIr. *delg* 'thorn'[972], and especially *delgae* < **delg-en-*[973], but this root can also be reconstructed as **d^{h}elg-* in view of ON *dálkr* 'pin, dagger' < **dalka-* (Pokorny 247).

***timbō*, **tump^{p}az* 'stub'**

- **timba(n)-*: G *Zimp*, *Zimpe(n)* m. 'tip (of bread)'[974]
  → G *Zimpel* 'tip, penis'[975], Pal. *zimpel* f. 'mane, strand of hair'[976]
- **timp^{p}an-*: MLG *timpe* m. 'tip, nozzle'[977], MDu. *timp(e)* mf. 'tip, toe'[978], Du. *timp* 'long stick'[979]
- **tumban-*: OHG *zumpo* m. 'penis'[980], MHG *zump(e)* m. 'id.'[981], G *Zump*, *Zumpe(n)* 'penis, stub'[982]
- **tump^{p}a(n)-* MHG *zumpf(e)* m. 'penis'[983], G *Zumpf* 'id.'[984], MLG *tumpe* m. 'stub'[985], Du. dial. *tomp*, *tump(e)* 'tip, corner'[986], E dial. *tump* 'hillock, clump of trees'[987]

- **tamp^{p}a-*: Du. *tamp* 'rope end, penis'[988] (= Nw., Sw., Da. *tamp* 'rope end'[989]), G Zarz *zampf* [tsǫmpf] m. 'tuft, tassel'[990]

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968 All the Hessian dialects have fricativization (cf. Schirmunksi 1962: 331).
969 Müller 8, 1130.
970 Grimm 32, 31.
971 Cf. Pokorny 194-6.
972 Holthausen 1934: 344.
973 Stüber 173-4.
974 Grimm 31, 1360-1.
975 Grimm l.c.
976 Christmann 6, 1617.
977 Fick/Falk/Torp 164; Lübben 404.
978 Verdam 606.
979 Franck/Van Wijk 694; Vercoullie 348; De Vries/Tollenaere 1991: 376.
980 Graff 5, 668; Pokorny 175-179
981 Lexer 3, 1174.
982 Grimm 32, 541-2; WEM 2, 904b.
983 Lexer 3, 1174; BMZ 4, 949.
984 Grimm 32, 541-2; Schatz/Finsterwalder 736.
985 Schiller/Lübben 630.
986 Franck/Van Wijk 694; WLD I, 3, 36; WBD I, 7, 1309/II, 6, 1829; Weijnen 211; Kocks/Vording 2, 1265.
987 OED, s.v. *tump*.

• ?*tamba- → *tambla-: G Pal. *zambel* m. 'shag, nap (of a skirt)'[991]

The vowel and consonant gradation point to an original paradigm *$timbō$, *$tump^paz$ that was split up after the breaking up of Proto-West Germanic. At least two new paradigms can be retrieved from the evidence: 1) G *Zimpe(n)* and MLG *timpe* point to generalization of the *e*-grade *$timbō$, *$timp^paz$ and 2) MHG *zumpe* and *zumpfe* presuppose a zero-grade *n*-stem *$tumbō$, *$tump^paz$. A similar variation is displayed by the *a*-grade, which is found in Du. *tamp*, Zarz *zǫmpf* < *$tamp^pa$- and Pal. *zambel* 'shag' < *tamb-. Note that *$tamp^pa$- cannot be a completely independent formation, because it has a (shortened) geminate. It probably must be regarded as an *o*-grade thematization.

The meaning 'penis' is frequently found with this cluster of cognates, and seems to be quite old. The original meaning of the word probably ranged from 'stub' to 'penis' in prehistoric times already. G *Zimpel* not only means 'tip', as its derivational source *Zimpen*, but also designates the male organ. OHG *zumpo* as well as MHG *zumpe* and *zumpfe* do so, too. Dutch *tamp* is cited by the dictionaries as a technical shipping term meaning 'rope end', in which sense it was apparently adopted by the Scandinavian languages. It is nevertheless better known as a colloquial word for 'prick', and in this sense it has been the source for a number of newer formations such as *tampeloeres* 'penis' and the reduplicated verb *rampetampen* 'to bang'. Although Franck/Van Wijk and WNT call the etymology of *tamp* uncertain, the word must clearly be connected with its West Germanic ablaut variants.

Etymologically, the word is often associated with *tippa- 'tip'. Fick/Falk/Torp, for instance, treat *timp- under *tippa- (p. 164), while Franck/Van Wijk call it a nasalized form of the same root under *tepel* 'nipple'. Grimm (32, 541), too, assumes nasalization, and even includes a whole range of allomorphs pertaining to *$tabō$, *tappaz* (see p. 183). It remains unclear, though, what morphological process should have inserted the nasal into the paradigm *$tabō$, *tappaz*. It certainly cannot have been a verbal *n*-infix, because there is no verb *timban- or *timpan-. It therefore seems better to separate the two *n*-stems from each other etymologically, although they will doubtlessly have become associated with each other in many dialects at various moments. What is clear, at any rate, is that no PIE *b can be assumed on the basis of the Germanic material. (De Vries (1962), for instance, reconstructs PIE *dumb- on the basis of an (unattested!) OHG *zumpfo*.[992]) Both the PGm. *p and the *u are due to Germanic developments, i.e. Kluge's law and resonant vocalization respectively. A more probable extra-Germanic cognate is represented by Lith. *demblỹs* 'ear'[993] (< *$demb^h$- or *d^hemb^h-).

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[988] Franck/Van Wijk 687; Vercoullie 344; De Vries/Tollenaere 1991: 370.
[989] Falk/Torp 1245; Hellquist 952.
[990] Kranzmayer/Lessiak 181.
[991] Christmann 6, 1531.
[992] Cf. Sütterlin (1894: 93): Av. *duməm* 'tail' < *d(h)umb(h)-mam-.
[993] Fraenkel 88.

***wekō*, **wukkaz* 'wick'**

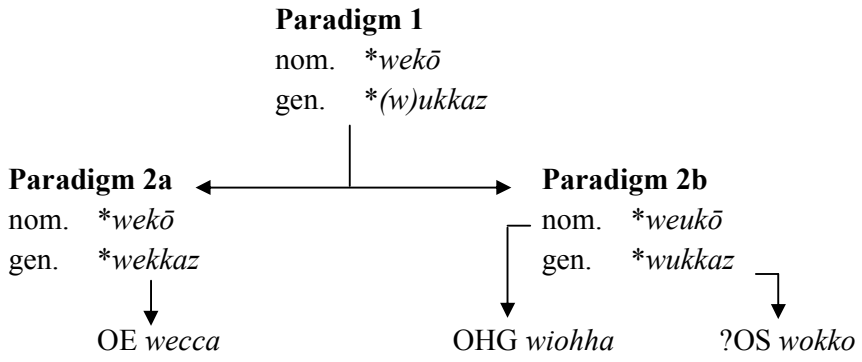
- **weuka(n)-*, *-ōn-*: OHG *wiocha* 'twirled yarn', *wioh* mn. 'wick', MHG *wieche*, *wicke* mf. 'wick, cotton fibres', G *Wieche*, *Wieke*[994], dial. *wicke* 'wrap of flax', MLG *wēke* mf. 'wick, bandage'[995] (= Da. *væge*, Sw. *veke*[996]), MDu. *wieke* 'wick, bandage, mill vane, wing', Kil. *wiecke* '*ala*, *ellychnium*, *linamentum*', Du. *wiek* 'wing, mill vane'[997], Flem. dial. *wiek(e)* 'wick'[998], WFri. *wjuk(ke)* 'wing', SFri. *juuke* m. 'wing', OE *wēoce* f., E *wick*
- **wekkan-*: OE *wecca* m. 'wick', MLG *wecke* m. 'wick, bandage'[999]
- ?**wukkan-*: OS *wokko* '*cincindila*'[1000], MLG *wocke* m. 'distaff'[1001], *wocken·blat* 'rag to fix the flax on', G *Wocken*[1002], MDu. *wocke* m. 'distaff'[1003], Kil. *wocke* '*funiculus* (= slender rope)'
- ?**wukan-*: Nw. dial. *oke* m. 'frill', Kil. *woack* 'dood-kleed'

The material contains evidence for at least three different roots forms. The root **weuk-* is well attested and must be assumed for e.g. OHG *wiohha*, OE *wēoce* (= E *wick*) and WFri. *wjukke*.[1004] A second root is reconstructed on the basis of MLG *wecke* < **wekkan-*. OS *wokko*, MLG, MDu. *wocke* are probably to be traced back to PGm. **wukkan-*[1005], although they can also continue **wekkan-* with labialization of *e* after *w* (cf. MLG *wepse* ~ *wopse* 'wasp', *webbe* ~ *wobbe* 'web'). Kil. hol. *woack* 'winding sheet' is formally obscure, and can hardly be interpreted as reflecting **wukan-*. With Nw. *oke*[1006], on the other hand, this zero-grade gains some credibility.

In order to explain the vocalic alternation of **e* and **eu* in MLG *wecke* an OHG *wiohha* respectively, it has been suggested that *wiohha* < **weukōn-* is a reduplicated stem **ue-ug-*.[1007] The problem with this explanation is that it fails to account for the potential third root **wukk-* as in MLG *wocke*, and – more importantly– for the consonant gradation of **k* and **kk*. Since the reconstruction of a reduplicated formation is rather *ad hoc* in the first place, it can reasonably be rejected. In view of the overwhelming number *n*-stems among these words, either masculine or feminine, the vocalic alternations should rather be explained as resulting from vowel gradation. By reconstructing an original paradigm **wekō*, **ukkaz* from < **uég-ōn*, **ug-n-ós*, the different root forms can be given an explanation. OE *wecca* suggests that the paradigm was transformed into **wekō*, **wekkaz* in the prehistoric dialect underlying Anglo-Saxon. OS *wokko*, on the other hand, can be derived from a paradigm **wekō*, **wukkaz*, with

[994] Kluge/Seebold 987.
[995] Lübben 569.
[996] Hellquist 1108; Törnqvist 1977: 109.
[997] De Vries/Tollenaere 834.
[998] WBD III/2.1, 271.
[999] Lübben 569.
[1000] Gallée 393.
[1001] Lübben 591.
[1002] Kluge/Seebold 995.
[1003] Verdam 806.
[1004] Note that the meaning appears to have shifted from 'wick' to 'bandage' and 'wing' in Dutch and Frisian.
[1005] Grimm 30, 965; Fick/Falk/Torp 381.
[1006] Falk/Torp 1400-1.
[1007] Fick/Falk/Torp: 381; Hellquist 1108; Franck/Van Wijk: 793: Pokorny 1117.

the analogical introducation of the *w from the full-grade.[1008] The root *weuk- in OHG *wiohha* and OE *wēoce* must have arisen as a secondary full-grade to the root *wukk-. Obviously, this analogy must have taken place after the introduction of *w in the oblique, which lead to the reinterpretation of the *u of *wukk- as belonging to the root. If the doubtful stem *wukan- really existed, it can be explained from a secondary paradigm *wukō, *wukkaz, but this reconstruction seems to be of only theoretical value.



The vowel alternations could be given an alternative explanation by assuming that the various, ablauting roots were derived from a verbal complex, cf. MHG *wickeln*, Kil. *wikkelen* 'to wrap' < *wekkljan-, MDu. *wocken* 'id.' < *wekkōn- or *wukkōn-. It is not entirely clear, however, how this should have worked, but it is defendable to think that there was an iterative *wekkōn-, *wikkōn- or *wukkōn- that gave rise to a de-iterative strong verb *weuk^{k}an-. This verb can then have served as the base for the *n*-stem *weuk^{k}ōn-. The whole of the material seems to be related, at any rate, to the root *ueg-* as in MIr. *figid*, W *gweu* 'to weave'.[1009] The connection with OE *wōcig* 'noose, snare'[1010] is more doubtful.

[1008] From this perspective, the suggestion by Pokorny (Pokorny 1117) that *wukkan- is from *ug- 'mit Übernahme von *w*- aus den hochstufigen Formen', becomes understandable. Also Grimm 30, 965: '*mit übertragung des* w *von der hochstufe*'.
[1009] Cf. Hellquist; Pokorny; De Vries/Tollenaere; Kluge/Seebold.
[1010] Franck/Van Wijk: 796.

Doubtful cases

***dimbō*, **dump^{p}az* 'haze'?**

- **dimbōn-*: OSw. *dimba*, *dimma* f. 'mist', Sw. dial. *dimma* f. 'id.'[1011]
- **dumbōn-*: ON *dumba* f. 'dust'[1012], Icel. *dumba* f. 'mist, dust'[1013], Far. *dumba* f. 'chaff'[1014], Nn. *dumbe* f. 'dust, chaff'
- **dump^{p}a-*: MDu. *domp* m. 'haze', Kil. *domp* '*vapor*, *exhalatio*'
  → **dumpjan-*: MHG *dümpfen* 'to extinguish'

- **damba-*: OSw. *damb* n. 'steam, haze', Nw. *damb* n. 'dust, chaff'
  → **dambjōn-*: Icel. *demba* f. 'shower', Nw. dial. *dembe* f. 'thin overcast'
- **damp^{p}a-*: OHG, MHG *dampf*, MLG, MDu., Du. *damp* m. 'haze'
  → **dampjan-*: OHG *tempfen* 'to extinguish', MHG *dempfen* 'to choke' , MLG *dempen* 'to suppress', Kil. *dempen* 'to choke, extinguish', Du. *dempen* 'to temper'

In Nordic, the co-occurrence of OSw. *dimba* and ON *dumba* is suggestive of an ablauting *n*-stem, even though the two words bear a slightly different meaning. If this is correct, OSw. *damb* is an *o*-grade thematization to this paradigm. Thus, the Nordic material invites to the reconstruction of a paradigm **dimbō*, **dump^{p}az* < **d^{h}émb^h-ōn*, **d^{h}mb^h-n-ós*. Given the complete absence of gemination in Nordic, however, the material basis for this paradigm remains weak. Alternatively, the nominal ablaut can be explained as resulting from a strong verb, e.g. Sw. dial. *dimba* as mentioned by Hellquist.

Theoretically, the ablauting *n*-stem can be saved by assuming that the original, geminated genitive case **dump^{p}az* is continued by MDu. *domp* 'haze'. Its geminate, however, is not isolated in West Germanic. In fact, the West Germanic dialects have geminated roots only, e.g. MDu. *domp* < **dump^{p}a-*, OHG *dampf* < **damp^{p}a-*. The Swedish strong verb *dimba* is furthermore mirrored by MHG *dimpfen* 'to smoke', MLG *gedumpen* 'choked'[1015], MDu. *bedompen* 'covered with condense' < **dimp^{p}an-*. As a consequence, it is likely that the nominal ablaut originates from the verbal complex, and not from an *n*-stem.[1016]

The *n*-stems *dampan-*: OHG *dampfo* m. 'cold', MHG *tampfe* m. 'cloggedness', MLG *damp(e)* m. 'shortness of breath'[1017], **dampjan-*[1018]: OHG *dempfo* m. 'cold', MHG *dempfe* f. 'shortness of breath' and **dumpa(n)-*: MHG *dumpfe* m. 'tuberculosis', MLG *dumpe* m. 'asthma' appear to be derived from **dampōn-*, **dampjan-* and **dumpōn-* correspondingly. The meaning 'cloggedness' is exclusively West Germanic.[1019]

[1011] Hellquist 92; De Vries: 87; Pokorny 247-248.
[1012] De Vries 1962: 87.
[1013] Böðvarson 151.
[1014] Poulsen 203.
[1015] EWA 576.
[1016] PGm.**damp^{p}a-* then correlates with **dimp^{p}an-* as PGm. **sangwa-* with **singwan-* (EWA: 514).
[1017] Icel. *dampi* m., *dampr* m. 'vapor' are adopted from MLG (EWA: 514).
[1018] EWA: 578.
[1019] Franck/Van Wijk 105.

***fesō*, *faznaz* 'fuzz'?**

- **fesō-*: ODa. *f(j)øs* 'thread, fiber', Sw. dial. *fös* 'id.', *fjas* 'down'
- **fesōn-*, *-na-*: OHG *fesa* f. 'chaff'[1020], MHG *vese* f. 'chaff'[1021], G Car. *fęse* ([ɛ] = **e*) f. 'pod'[1022], Swi. (Rhtl.) *fɛəsə* ([ɛə] = **e*) 'chaff'[1023], MLG *vesen* m., *vese* f. 'chaff, fiber, fringe'[1024], MDu. *vese* f. 'frill, border, fiber'[1025]
  - → **fasila-* or **fesla-*: MHG *vesel* n. 'chaff'[1026], Du. *vezel* 'fiber'
- **fasan-*, *-ōn-*: OHG *faso* m., *fasa* f. 'fiber, fringe, border'[1027], MHG *vase*, G *Faser* f. 'frill'[1028], E *feaze*, MDu. *vase* f. 'fiber, seam'[1029]
- **fasa-*: OE *fæs* n. 'fringe, border', MDu. *vas* n. 'cervical muscle, hair of the head'[1030]
- ?**fus-*: E *fuzz* 'fluff' → *fozy* 'fluffy'

The alternation of OHG *fesa*, Swi. Rhntl. *fɛəsə* < **fesan-* with OHG *fasa*, MDu. *vase* may theoretically point to an ablauting paradigm **fesō*, **faznaz*. This type of ablaut can only be regular, however, if the original paradigm was **ph₁és-ōn*, **pḫ₁s-n-ós*. Outside Germanic, there is no support for such a reconstruction. Ru. *pásmo* 'strand' and Latv. *puosma*, *puõsms* 'strand of flax'[1031] point to a proto-form **poHs-mo-* in which the full-grade precedes the laryngeal. The question therefore arises whether the Germanic *e*-grade can be analogical. This must at any rate be assumed for E *fuzz*, if this form is related at all. With an earliest attestation in 1674 (OED, s.v. *fuzz*), this does not seem likely. The double *zz* rather indicates that it is a recent formation.

***finkō*, *funkᵏaz* 'spark'?**

- **finka-*: MHG *vinc* m. 'spark'[1032]
- **fankan-*: MHG *vanke* m. 'spark'[1033]
- **funka(n)-*: OHG *funcho* m. 'id.', MHG *funke* m. 'id.'[1034], G *Funke(n)*[1035], MLG *vunke* 'id.', MDu. *vonke* 'id.', Du. *vonk* 'id.', ME *fonke*, *funke* 'id.', E *funk*

[1020] EWA 182.
[1021] Lexer 3, 324.
[1022] Lexer 1862: 94.
[1023] Berger 33.
[1024] Lübben 477.
[1025] Verdam 710.
[1026] Lexer l.c.
[1027] EWA 80-1.
[1028] Kluge/Seebold 277: "Offenbar zu ig. (w/oeur.) **pes-* (älter **pwes-* 'wehen, reinigen') in russ. *pachát'* 'wehen, fegen', l. *pūrus* 'rein".
[1029] Verdam 643.
[1030] Verdam l.c.
[1031] Fraenkel: 640.
[1032] Benecker 4, 318.
[1033] Lexer 3, 19.
[1034] Lexer 3, 568.
[1035] Kluge/Seebold 322.

In Middle High German we find two, possibly three different nominal stems meaning 'spark', viz. *vink*, *vanke* and *vunke*. In *Deutsches Wörterbuch* we read "in diesen drei formen zusammengenommen nun treten vollständig laut und ablaute der von Jacob Grimm unter *fink* angenommenen wurzel *finken*, *leuchten*, *glänzen*" (p. 593 - 613).

The zero-grade **funkan-* is the form with the oldest attestations and the widest distribution. It first occurs as OHG *funcho* and is still in use in the modern West Germanic languages as G *Funke(n)*, Du. *vonk* and E *funk*. A more limited form is **fankan-*, occurring as MHG *vanke*. The root **fank-* is further supported by the causative verb **fankjan-* as in MHG *venken*, MDu. *ont·fenken* 'to kindle', a derivation of the pertaining noun. Finally, there is some marginal evidence for a form **finka-*, attested as MHG *vinc*. It occurs only once in *Wolfdietrich* in the phrase "*er mohte niht entwîchen des heiȝen vinc*" (745, 3).

Etymologically, the etymon has been derived from the weak stem of PIE **péh$_2$-ur*, **ph$_2$u-n-ós* > PGm. **fōr*, **funaz* 'fire'[1036] with a velar suffix. This solution works well for **funkan-*, but it does not explain the ablaut of **finka-* and **fankan-*. The root form **fank-* has been derived from a stem **puon-* (Pokorny 828) in which the **u* was lost. Kluge/Seebold calls it "bloße Lautabwandlung"[1037]. Beekes (1996), on the other hand, suggested that the entire cluster of words was adopted from a non-Indo-European substrate. The question nevertheless arises whether **fink-* and **fank-* can be explained as analogical full-grade forms to **funk-* < **ph$_2$un-go-*. The required pattern can theoretically have been adopted from *n*-stems such as **skinkō*, **skunk^{k}az* 'shank' (see p. 161) or **belkō*, **bulk^{k}az* 'beam' (see p. 136)

Alternatively, the ablaut relation between the three different root forms has been explained as resulting from a strong verb, i.e. MHG **vinken* (cf. Lexer 3, 357). This seems attractive in theory, but the problem is that this verb is in fact not attested. We only find MHG *vengen* 'to kindle'[1038] < **fangjan-*, which is opposed to MHG *venken*[1039], MDu. *ont·fenken* 'to kindle' < **fank^{k}jan-*. The alternation between consonantism of **fang-* and **fank^k-* is probably due to the influence of an iterative formation **funk^{k}ōn-*. At any rate, it proves that the root-final consonantism was PIE **k* rather than **g*.[1040] I conclude that the roots **fink-*, **fank-* and **funk-* originate from a verbal complex with consonant gradation. This is more probable than the hypothetical reconstruction **finkō*, **funk^{k}az* that was based on **ph$_2$un-ḱo-n-* 'fire'.

**kekō*, **kawini* 'jaw'?

• **keukōn-*: MLG *keke* f. 'jaw', OFri. *ciāke* f. 'id.'[1041], WFri. obs. *tsjeak* 'id.'[1042], SFri. *sōke* f. 'cheek', NFri. Wdh. *sīk* f. 'id.'[1043], OE WS *ceoce*, Angl. *cece* f. 'jaw', ME *ch(e)oke* 'jaw', E *choke* 'fleshy parts under the jaws'

[1036] Kluge/Mitzka 224; Kluge/Seebold 322.
[1037] Cf. Kluge/Seebold: "Die mhd. Variante *vanke* setzt eine *o*-stufe voraus, die nach dem paradigmatischen Ablaut nicht zu erwarten wäre. Vielleicht handelt es sich bei ihr um eine bloße Lautabwandlung."
[1038] Lexer 3, 64.
[1039] Lexer 3, 65.
[1040] Parenthetically, this obliterates Beekes' (1996: 1) argument that the word cannot be derived from **ph$_2$u-n-* 'fire' because the suffix **-go-* is too rare in Proto-Indo-European.
[1041] Richthofen 861-2; Holthausen 1925: 134.
[1042] FW 1086.

• **kekan-*: Nw. *kjake* m. 'jaw, cheek', OSw. *kiæke* m., OSw. *kiæke*, *keke* f., Sw. *käke*[1044], ODa. *kiæge*[1045], Da. dial. *kaje* 'jaw'
• **kekō-*: Nw. dial. *kjok*, pl. *kjakir* f., Sw. dial. *kjåk* 'jaw'[1046]
• **kewōn-*: OHG *ch(i)ewa* f., MHG *kewe*, *ki(u)we*, G *Käu* f. 'jaw'[1047], MLG *kewe*, *kiwe* f. 'gill', MDu. *kieuwe* f. 'jaw, gill', Du. *kieuw* 'gill', OE *cian*, *ciun* f.pl. 'gills'
• **ke(u)kōn-*: MLG *kēke* f. 'throat, gill, jaw' (→ *keken* w.v. 'chatter'), LG *keke* 'mouth'
• **keukōn-*: Nw. dial. *kjuke* f. 'hemp-nettle'[1048]
• **kakōn-*: MLG *kake* f. 'jaw, cheek, gill, throat' (= G dial. *kaken* f.pl. 'yellow sides of a bird's beak'), MDu. *kak(e)* f., Du. *kaak* 'jaw', OE *ceace* 'jaw, cheek', ME *ch(i)eke*, *chik* 'jaw(bone), cheek, mouth', E *cheek*
• **kawōn-*: OHG *chowe*[1049], MHG *kouwe* f.[1050], ?Kil. *kauwe*, *kouwe* '*fauces*, *frumen*, *summa pars gula*'
• **kuka-*, *-ō-*: ON *kok* f. 'throat', Icel. *kok*, *kók*, *kvok* n. 'pharynx', Nw. dial. *kok* n. 'throat'

Of all the material involved here, the Nordic forms can be analyzed relatively easily. Three different roots must be identified. First, there is the *n*-stem **kekan-* as evidenced by Nw. *kjake*, OSw. *kiæke*, ODa. *kiæge*. These attestations presuppose a further unattested form **kjaki* for Old Norse. Similarly, dialectal Nw. *kjok* and Sw *kjåk* imply that Old Norse had a form **kjǫk* which developed out of **kekō-* by *u*-breaking.

The establishment of the third formation is more challenging. Fritzner, Heggstad, De Vries and Fick/Falk/Torp cite an Old Norse form *kók* f. 'mouth, throat'[1051], which is taken to have developed out of PGm. **kōkō-*. The same word re-appears in the dialectal Norwegian (Nordmøre) expression *dæ sto fast i kokje* 'it got stuck in the throat' (*Grunnmanuskriptet* explicitly identifies the vowel as *ó*). Contrarily, Modern Icelandic mainly uses the form *kok* n. 'throat', which does not seem to continue **kōkō-*, but rather **kuka-*. In spite of the semantic distance, the same root can be retrieved from Far. *koka* f. 'cavity in the rectum of livestock'[1052] < **kukōn-*. *Íslensk Orðabók* (p. 511) lists two additional forms corresponding to *kok*, viz. *kvok* and *kók* . The derivation of the former variant is unclear to me. The latter variant ostensibly supports the reconstruction of a long vowel in ON *kók*. However, the conspicuous synonymy with *kók* n. 'cough'[1053] and *kóka upp* 'to cough up'[1054] opens the possibility that the originally feminine *kok* was adapted to the neuter *kók*. One may wonder, in

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[1043] Jensen 481.
[1044] Hellquist 385.
[1045] Falk/Torp 513.
[1046] Hellquist 315; GM, s.v. *kjok* II.
[1047] Grimm 11, 305.
[1048] The appurtenance of Nw. *kjuke* 'hemp-nettle' is not certain, but the flower of this plant bears resemblance to a 'beak', and is therefore categorized under the lamiaceae, the "lip-flowers". It is possible that the flower was named after its beak-like shape in Norwegian too.
[1049] Graff 4, 535.
[1050] Lexer 1, 1591.
[1051] Heggstad 375; De Vries 1962: 324;
[1052] Jacobsen/Matras 187; Poulsen 612.
[1053] Böðvarsson 510.
[1054] Benediktsson 44.

fact, whether the whole complex of forms is not simply onomatopoetic, like e.g. Du. *kok·halzen* 'to retch'.

The West Germanic material requires at least three different reconstructions. The Frisian material is relatively easy to account for. OFri. *ciāke* corresponds with SFri. *sooke* and NFri. *sīk*, and in view of such a correlation as NFri. *jūp*, OHG *hiufo*, OE *hēopa* 'rose hip' (< **heupan-*) it can be reconstructed as PFri. **ćiak-* < **keukōn-*. The seemingly unpalatalized Old Frisian form *keke* is best explained as a loanword from Low German *kēke*, and indeed the North Frisian dialect of Wiedingharde has native *sīk* besides *kēk* 'mouth'[1055] from Low German.

In the Low German area, MLG, MDu. *kāke*, Kil. *kaecke* and Du. *kaak* furnish evidence for another variant, viz. **kakōn-* or **kēkōn-*. The literature disagrees on the original vocalism of MLG, MDu. *kake* and corresponding forms. Fick/Falk/Torp (p. 33) reconstructs **kakōn-*. The OED links it with OE *ceace*, and derives both forms from **kēkōn-*. This interpretation is accepted by *Etymologisch woordenboek van het Nederlands* (2, 592), but De Vries/Tollenaere (1991: 290) splits up the different attestations into several proto-forms, deriving OFri. *ciāke* from **keukōn-*, OE *cēace* from **kaukōn-* or **kēkōn-*, and Du. *kaak* from **kēkōn-*. All these accounts, however, leave out the evidence furnished by the modern Saxon dialects that have upheld the distinction between Proto-Germanic lowered **ē* and lengthened **a*. In the Dutch province of Drenthe, for instance, the dialectal distribution of *kēk* : *ka:k* : *kɔ̄k* 'jaw' exactly matches the one of *wēter* : *wāter* : *wɔ̄ter* 'water' < PGm. **wătra-*[1056] (see figure). The small patch with **a* > *ē* is part of the larger Stellingwerven dialect area to the west, which borders with Frisian in the North-West. This dialect has *kēke*, as opposed to e.g. *skɔ̄p* 'sheep' < **skēpa-* and *jɔ̄r* 'year' < **jēra-*. It is evident, therefore, that the reconstruction **kēkōn-* can no longer be upheld, and must be replaced by **kakōn-*.

PGm. **a* in the Dutch Saxon dialects.

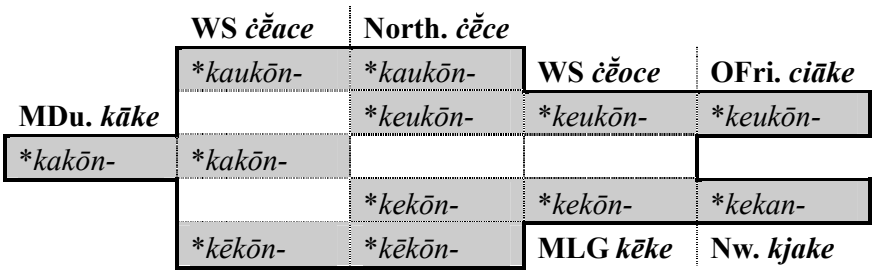
The situation is most complex in Old English, where three different forms are found, i.e. *ceace*, *cece* and *ceoce*. The last form *ceoce* f. 'jaw' and its continuants ME *ch(e)oke* and E *choke* can probably be unified with OFri. *ciāke* < **keukōn-*.[1057] The prevaling Old English form, however, is *ceace*, underlying ME *cheke* and E *cheek*. Since the length of the diphthong is unknown, it can be read as either *cĕace* or *cēace*. As a result, there are no less than three possible reconstructions: **kakōn-*, **kēkōn-*, or **kaukōn-*. PGm. **au* becomes OE *ēa* (Wright 1925: §124). The pre-form PGm. **kakōn-*, which is well attested for Low Germanic, would regularly develop into *ċĕace* by the diphthongization of *æ* after *c*, *g* and *sc* (Wright 1925: §72) with palatalization of the velar like, for instance, *ceaf* 'chaff'. Under the same conditions, i.e. after velars, PGm. *kēkōn-* would have given *ċēace* in West-Saxon.

The problem is further complicated by yet another variant *cece*, which, as opposed to West Saxon *ceace*, is labeled Anglian by the OED (s.v. *cheek*). According to the OEC, *cece*

[1055] Jensen 259.
[1056] Kocks/Vording 505.
[1057] Already Noreen 1894: 222.

occurs only once in the Lindisfarne gloss to the Gospel of Luke, which is in the Northumbrian dialect. Anglian *ē̆* can have four different sources in this environment: 1. **ē*, which developed into West-Saxon *ēa* after *c*, *g*, and *sc*, but became *ē* in the other dialects (Wright 1925: §124); 2. **au*, yielding *ēa* in (early) West-Saxon, as opposed to *ē* in Northumbrian and *ǣ* (late *ē*) in Anglian proper; 3. **eu* became *ēo* in West Saxon, but merged with **ēa* from **au* in Northumbrian, where it changed into *ē* before velars (Wright 1925: §§137, 189); 4. **e* usually became *ĕo* in Anglian and *ĕa* in Northumbrian by back-mutation before single consonants, but not if the consonant was a velar (Wright 1925: §93).

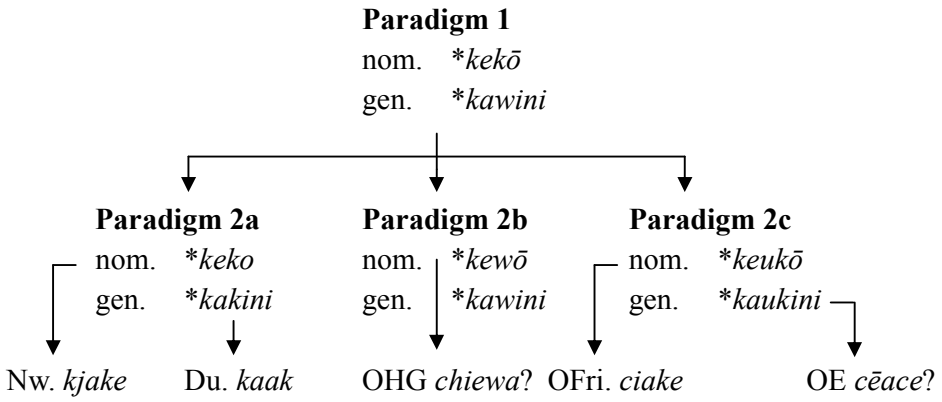
All in all, the Old English material does not seem to be easily analyzable, especially when the entire Germanic context is taken into consideration; WS *ceace* (**ċēace*) and *cece* (**ċēce*) could be unified into either **kēkōn-* or **kaukōn-*, but neither of these forms is found in the other dialects. It is therefore safer to subordinate the English material to the non-English forms that are less opaque, i.e. to lump together OE *ceace* (**ċĕace*) and MDu. *kake*, on the one hand, and OE *cece*, *ceoke* (**ċēoce*), ME *ch(e)oke* and OFri. *keukōn-*, on the other. Note that the only compelling evidence for a root **kek-* comes from Scandinavian, because MLG *kēke* can theoretically stem from both **kekōn-* and **keukōn-*.



It follows from the analysis given here, that at least the existence of the roots **kak-*, **kek-* and **keuk-* cannot be denied. The roots **kēk-* and especially **kauk-* may have existed as well, but the evidence is not compelling. Now if we compare the roots **keuk-* and **kauk-* to **kek-* and **kak-*, it is clear that the former two variants must be younger than the former, because they can be derived from the verb **kew(j)an-* 'to chew' (cf. ON *tyggva*, OHG *chiuwan*, OE *ceowan*) with a **k*-suffix (cf. OHG *chelah* 'throat' to *kela* 'id.'). In the roots **kek-* and **kak-*, on the other hand, the final labial of the root **keu-* < **ǵieuH-*[1058] is conspicuously absent, as if it was replaced by a voiceless velar. This situation is reminiscent of the development PIE **-Hu-* > PGm. **-k-* as in OE *tācor* 'brother-in-law' < **daHiwer-* < **deh₂iuer-* as suggested by Kortlandt (1988: 356)[1059], and the question arises whether we should not take this change into account in this context, too.[1060] A paradigm nom. **ǵeHu-ōn*, loc. **ǵHu-én-i*, for instance, would, according to Kortlandt's rule, regularly develop into PGm. **kek(w)ō*, **kawini*. Such a paradigm is able to account for the root **kek-* directly, while **kak-* can be explained by assuming generalization of the velar. The root **keuk-*, on the other hand, can in this scenario

[1058] With the regular change **ǵiV-* > **ǵV-*.
[1059] Kortlandt also mentioned **kwikwa-* 'vivid' in this context, but I now think that this is a reduplicated adjective **gʷi-gʷH-o-* that dissimilated into **gʷiʔuH-ó-* in Go. *qius* < **gwīuó-* with Dybo's law.
[1060] Compare Seebold (1982: 174-6): PIE *-Rwu-* > **-Rgu-* > PGm. **-Rku-*.

be analyzed as the nominative root **kek-* that adopted the labial from the locative **kawini*. Similarly, the (uncertain) root **kauk-* can be the result of the locative root **kaw-* adopting the **k* from the nominative. It is theoretically even conceivable that PGm. **kewō-*, retrieved from OHG *ch(i)ewa* [f.], OE *cian*, *ciun* [f.pl.] 'gills' originally belonged to the same paradigm too, although it is probably more likely that it was simply derived from the verb **kew(j)an-* directly.



The most important obstacle at the reconstruction of the paradigm **ǵeHu-ōn*, **ǵHu-én-i* is that it requires laryngeal metathesis, the non-Germanic evidence pointing to a root **ǵiuH-* instead of **ǵiHu-*, cf. MLG *kuse*, Kil. *kuyse* 'molar' < **ǵiuH-s-*, the accent of Lith. *žiáunos* f.pl. 'jaws' < **ǵieuh₂-neh₂-*, OCS *žьvati* 'to chew' < **giuH-*, To. (B) *śuwaṃ* 'to eat' < **śəwa-*. The requirement of this metathesis constitutes a serious objection to the scenario proposed here, which in absence of paradigmatic consonant gradation remains difficult to prove anyway.

****klimbō*, **klumpᵖaz* 'lump, hillock'?**

- **klimpa(n)-*: ON *kleppr* m. 'plummet, lump', Nw. *klepp* m. 'lump, chunk, clif, block', OSw. *klimper* m., Sw. *klimp* 'lump'[1061], Da. *(jord·)klimpe* 'clod of earth', *klimp* 'lump', LG *klimpe* 'hill', SFri. *klimpe* 'chunk'[1062]
- **klimbō(n)-*: MHG *klimme* f. 'elevation'[1063]
- **klumpa(n)-*: MHG *klumpe* m. 'lump'[1064], G *Klumpen*[1065], MDu. *clompe*, Du. *klomp* (= Nw. *klump* 'lump', Da. *klump(e)* 'chunk')
- **klumbōn-*: ON *klumba* f. 'club', *klumbu·fótr* 'club-foot'

- **klampᵖō-*: MHG *klampe* 'chunk'[1066], MDu. *clamp(e)* 'pile of hay'

[1061] Hellquist 318.
[1062] Doornkaat-Koolman 260.
[1063] Lexer 1, 1623.
[1064] Lexer 1, 1636.
[1065] Kluge/Seebold 500.
[1066] Lexer 1, 1605.

Theoretically, the contrast of MHG *klimme* with G *Klumpen* is enough to assume an ablauting *n*-stem **klimbō*, **klump^{p}az*, **klumbini*. ON *kleppr* < **klimpa-* can then be regarded as a full-grade form with an analogical geminate. Since, however, there is a strong verb **klimp^{p}an-*, attested as MHG *klimpfen* 'to press together'[1067], there is a possibility that the ablaut of **klimp^{p}a-*, **klimba-*, **klump^{p}an-* and **klamp^{p}an-* is of verbal origin. This renders the reconstruction of an apophonic *n*-stem uncertain. The preservation of the original consonantism by **klimba-* does not necessarily point to an *n*-stem either, because the verb **klimp^{p}an-*[1068] has a more common variant **klimban-* > OE *climban* 'to climb', OHG *chlimban* 'id.', G *klimmen* 'to climb, (obs.) to clasp'.[1069] This means that the root **klimp-* can be due to the influence of a pertaining iterative **klump^{p}ōþi*, **klumbunanþi*. As a result, reconstruction of an ablauting *n*-stem remains uncertain.

Other related forms are **klampa-*, *-ō-*: Nw. *klamp* m. 'block of wood', Sw. *klamp* 'wooden leg', Da. *klamp(e)* 'lump, chunk, block of wood'; **klampō-*: ON *klǫpp* f. 'duckboard, clapper bridge', MLG *klampe* 'plank bridge', Du. *klamp* (De Vries/Tollenaere 324); **klambrō-*: ON *klǫmbr* f. 'smith's vice', MHG *klammer* f. 'bracket, clip', etc.

**melhmō*, **mulhnaz* 'cloud'?

- **melhman-*: Go. *milhma* m. 'cloud'
- ?**mulhna-*: Sw. *moln* n. 'cloud, darkness'[1070]

The correlation between Go. *milhma* and Sw. *moln* is such that it can be explained by the reconstruction of an apophonic *mn*-stem. The Gothic word would in that case represent the original full-grade, while Sw. *moln* can be derived from a zero-grade genitive **mulhnaz*, that again continues a Pre-Germanic form **mulk-mn-os* with dissimilation of the second *m*. A problem is that the genitive lacks gemination, which is expected from other *mn*-stems with dissimilation of the labial nasal, e.g. **budmēn*, **buttaz* < **b^{h}ud^{h}-mḗn*, **b^{h}ud^{h}-(m)n-ós* (see section 4.1.2). A possible way around this problem is to assume that the barytonesis of the strong cases spread to the weak cases, so as to produce a paradigm **mélk-mōn*, **m̥ĺ̥k-(m)n-os* in which Kluge's law would not operate. Since such an analogy is not evinced by other *mn*-stems, and therefore remains an *ad hoc* solution, it is perhaps more likely that the *mn*-stem was created at a late stage, i.e. after Kluge's law and the other great sound shifts. An objection to this scenario, in turn, is that the dissimilation of *m* in the genitive was an ancient, i.e. Proto-Indo-European process (cf. Skt. *budhná-*, Lat. *fundus*), so that a late creation of **mulhna-* seems like an anachronism. It may well be, then, that *moln* is indeed a substantivation of an adjective *mulen* 'shady, overcast'.[1071]

[1067] Lexer 1, 1624.
[1068] Fick/Falk/Torp 57.
[1069] An additional causative formation **klambjan-* is retrieved from OS *klemmian*, MHG, Du. *klemmen* 'to clamp'..
[1070] SAOB M1285.
[1071] Cf. Hellquist 483.

***melm*, **mulmaz* 'sand'?**

- **melma(n)-*: OHG *melm* asg. '*pulvis*'[1072], MHG *melm* m. 'sand, dust'[1073], OS *melm* mn. 'dust', MDu. *melm* m., *melme* f. 'dust, dry sand'
- **mulma-*[1074]: G dial. *mulm* m. 'dust, mouldered wood', MDu. *mol(e)m*, *molle(n)* n. 'dust, dry earth'[1075], Kil. *molm* 'wood rot, oar', Du. *molm* 'wood rot'[1076]

- **malma(n)-*: Go. *malma* m. 'sand', ON *malmr* m. 'oar, metall', OSw. *malmber* m. 'ore', Sw. *malm* 'ore'[1077], OE *mealm·stān* 'sandstone', E *malm* 'limestone'

Bammesberger (1990: 71) lists ON *malmr* (etc.) under the *ma*-stems, but in view of its variants OHG *melm* and MDu. *molm*, it is more probable that the starting point of this cluster was an athematic formation, e.g. *mn*-stem. The reconstruction of an *mn*-stem is especially attractive in view of the formal similarity with Lith. *melmuõ* m. 'kidney stone', which points to **mélh$_1$-mōn*, **mlh$_1$-mn-ós*.

In view of the limited attestation of the Germanic forms as *n*-stems, however, it may be preferable to reconstruct an originally ablauting *m*-stem, i.e. **melh$_1$-m*, **mlh$_1$-m-ós* > **melm*, **mulmaz*, comparable to e.g. **h$_2$érh$_2$-m*, **h$_2$rh$_2$-m-ós* 'arm' (cf. Go. *arms* 'id.', Lat. *armus* 'upper arm' : Skt. *īrmá-* 'arm', Lat. *rāmus* 'branch'). The preservation of the ablaut of this type in Germanic is probably ascertained by **elm*, **ulmaz* 'elm (tree)' < **h$_1$él-m*, **h$_1$l-m-ós*, which is revealed by e.g. OHG *elm·boum*, OE *elm* vs. OE *ulm·trēow* (see p. 140). The *o*-grade form ON *malmr*, OSw. *malmber* can then be explained as a thematization.

Another way to deal with the ablaut of the different nouns is to assume that they are independent formations based on verbs. Thus, Go. *malma* and ON *malmr* can be analyzed as being derived from the strong verb **malan-* < **molh$_1$-*, while MDu. *molm* as well as *molsem* m. 'dry earth, wood rot' may have been formed to the iterative **mullōþi*, **mulunanþi* < **ml-néh$_2$-ti*, **ml-nh$_2$-énti*, cf. MDu. *molen* 'to decay, moulder', Kil. *be·mullen* '*aspergere*, *puluere*'. Nevertheless, the *e*-grade forms can not be explained in such a way, and therefore add to the probability that there really was an old ablauting noun.

[1072] Graff 2, 713.
[1073] Lexer 1, 2096. The weak form *melme* that is mentioned by Lexer is marginal.
[1074] The semantics of the continuants of **mulma-* was influenced by G *Ulm* (OHG *olmoht* 'moldered'), Du. *olm* 'moldered wood'
[1075] Verdam 367.
[1076] De Vries/Tollenaere 452.
[1077] Hellquist 452.

8.6 **a* ~ **u* alternations

A group of *n*-stems with an **a* ~ **u* alternation is represented by **brahsmō*, **bruhsm(n)az* 'bream' (Du. *brasem* 'id.' ~ ON *brosma* 'pike'); **galdō*, **gult^{t}az* 'castrated boar' (ON *galti* m. 'boar' ~ *gyltr* f. 'sow'); **laþō*, **luttaz* 'shoot, lath' (OHG *sumar·lata* ~ *·lota* f. 'summer shoot'), **maþō*, **muþþaz* 'moth' (Go. *maþa* m. 'maggot' ~ ON *motti* 'moth'); **radō*, **ruttaz* 'rat' (OHG *rato* m. 'id.' ~ MLG *rotte* f. 'id.'); **tadō*, **tuddaz* 'tuft' (OHG *zato* m., *zata* f. 'id.' ~ Icel. *toddi* m. 'tuft of grass'); **swambō*, **swump^{p}az* 'sponge, mushroom' (OHG *swamp* m. 'mushroom' ~ ON *soppr* m. 'ball'). Hypothetically, this type could correspond to the PIE hysterodynamic *n*-stems with zero- or *o*-grade of the root and *e*-grade of the ending, e.g. **uks-ḗn* 'ox'. It is, for instance, possible to analyze the variation of MDu. *baerse* 'pike' < **barsan-* and OSw. *agh·borre* 'pike' < **burzan-*[1078] in such a way: it can accordingly be hypothesized that the two variants continue a paradigm **b^{h}ors-ḗn*, **b^{h}rs-n-ós*. Similarly, the interchanges of Du. *brasem* ~ ON *brosma* and OHG *rado* ~ MLG *rotte* could theoretically go back to **b^{h}roḱ-sm-ḗn*, **b^{h}rḱ-smn-ós* and **Hrot-ḗn*, **Hrt-n-ós*.[1079] However, the complete lack of evidence for this root ablaut in the *ēn*-stems in the PIE dialects makes the reconstruction of such paradigms unattractive, not in the least because most of the *n*-stems with **a* : **u* ablaut are almost entirely limited to West Germanic. An additional argument against projecting this type back into Proto-Indo-European is that it is even difficult to project it back into Proto-Germanic. Most cases have roots that start with a resonant, e.g. **laþō*, **luttaz* 'shoot', **maþō*, **muttaz* 'maggot, moth' and **radō*, **ruttaz* 'rat', which means that the position of the zero-grade vowel after this resonant must be analogical. The question therefore is whether the **a* : **u* ablaut can be due to innovation.

In this context, it is important to realize that the productivity of **u* as a zero-grade marker was not limited to the *n*-stems. It can, for instance, also be observed in the word for 'nose'. On the basis of e.g. Skt. *nāsā́-* fdu. 'nose', Lith. *nósis* f. 'id.', Nn. *nos* f. 'snout' < **neh$_2$-s-*, OCS *nosъ* m. 'nose' < **nh$_2$-es-* and ON *nǫs*, OHG *nasa* f. 'id' < **nh$_2$-s-*, Beekes (1995: 180) has reconstructed the original PIE paradigm as **néh-s*, **nh$_2$-s-ós*, **nh$_2$-és-m*. This would yield a PGm. paradigm **nōz*, **nazaz*, **unasun*, which is able to account for both ON *nǫs*, OHG *nasa* f. < **nasō* and Nn. *nos*, but not for OE *nosu*, OFri. *nos(e)*, Du. *neus* 'nose' < **nusō-*. Just like the *n*-stems with zero-grade **u* vocalism, this **nusō-* must therefore have a secondary zero-grade.

[1078] Schaffner (2001: 341) reconstructs PGm. **burzē^{n}*.

[1079] In the framework developed by Beekes in his *The origins of the Indo-European nominal inflection* (esp. § 94), such a type could be explained by assuming that the original inflection **CéC-n*, **CC-én-m* developed into **CeC-én*, **CC-én-m* by generalization of the full grade of the suffix, and consequently into **CoC-ḗn*, **CC-én-m* by the change **e* > **o* in unstressed position.

***brahsmō*, *bruhs(m)naz* 'bream'**

- **brahsman-*, *-ōn-*: OHG *brahsema*, *brasma* f. 'id.', MHG *brahsem*, *brasme*, *bresme*, *bresmo* m. 'id.', *prasma*, *bresma* f., MLG *brassem*, *brasme*, *bres(s)em*, *bresme* 'id.', MDu. *brasem*, *braessem*, *bressem*, *bresen*, Du. *brasem*[1080]
- **brahsan-*, *-ōn-*: OHG *brahsa* f. 'id.'[1081], G *Brachsen* m. 'id.', *Brachse*[1082]
- **brahsnjō-*: OHG *brahsina*, *brehsina* (= **brä₂hsəna*) f. 'id.'
- **bruhsmōn-*: ON *brosma* f. 'fish of the cod-kind'[1083], Nw., Sw. *brosme* f. 'torsk, tusk'

In the West Germanic dialects, the word for 'bream' is represented by a number of different formations, the most wide-spread one being the *mn*-stem **brahsman-*, *-ōn-*: OHG *brahsema*, MHG *brahsem*, MLG *brassem*, (M)Du. *brasem*. This *mn*-stem served as the basis for the **jan-* and **jōn*-stems, which are supported by a number of umlauted forms, e.g. MHG *bresme*, MLG *bresme*, MDu. *bressem* < **brahsmjōn-*. The addition of the suffix fits into the usual pattern of fish names ending in **-jan-* and **-jōn-*, e.g. OHG *stur(i)o* m. < **sturjan-*, ON *styrja*, OE *styria* f. < **sturjōn-* and MHG *asche*, *esche*, G *Äsche* f. 'greyling' < **askjōn-*. A similar formation **brahsnjōn-* is presupposed by OHG *brahsina* and *brehsina*. The alternation of *a* and *e* points to secondary ablaut of **a*, and this umlaut seems to have been indicated by the *i* in the second syllable. Phonetically, this *i* probably represented a shwa that arose through epenthesis. It seems likely that both **brahsmjōn-* and **brahsnjōn-* go back to a form **brahsmnjōn-*.

North Germanic has preserved a different form, i.e. ON *brosma* f. (etc.) < **bruhsmōn-*, representing what looks like the zero-grade of **brahsmōn-*.[1084] The most obvious way to account for this alternation is to reconstruct a PGm. paradigm **brahsmō*, **bruhs(m)naz*, **bruhsmini*. In view of the reversed zero-grade, it probably replaced older **brahsmō*, **burhs(m)naz*, **burhsmini*, which can be reconstructed as **bʰroḱsmḗn*, **bʰrḱs(m)nós*, **bʰrḱsméni*. It is not necessary to assume a substrate word.[1085]

***dabō*, *duppaz* 'puddle'**

- **daban-*: Nw. dial. *dave* m. 'draw-well'
- **dabban-*: Nw. dial. *dabbe* m. 'draw-well', Du. dial. *dabbe* 'mud, hare's den'[1086]
- **dapan-*: ON *dapi* m. 'pool, puddle', Nw. *dape* m. 'pond, draw-well'
  - → **dapila-*: ON *leir·depill* 'loam-pit', Icel. *depill* m. 'dot, spot, puddle in a wetland', Nn. *depel* 'puddle'
  - → **dapja-*: Nw. dial. *dep* n. 'waste pit'
- **duban-*: Nw. dial. *dove* m. 'muddy spot, quagmire'

[1080] Franck/Van Wijk 90.
[1081] EWA 280-2.
[1082] Kluge/Seebold 144.
[1083] De Vries 1962: 59.
[1084] Cf. Torp (p. 43): "*brosma* kunde være avlydende til b r a s m e."
[1085] Boutkan (1999) assumed a substrate origin because "it is unlikely that three [sic] ablaut grades would have survived in a single Gmc. fishword."
[1086] WZD I, 153; WBD III, 4.2, 62.

- **dubbōn-*: MLG *dobbe* f. 'pool'[1087], Du. dial. *dobbe* 'puddle, hole, pit'[1088]
- **duppa(n)-*: Du. dial. *dop* 'hare's den'[1089]
- **dupan-*: Nw. dial. *dope* m. 'puddle'

  → **dupla-*: Nw. dial. *dopel* m. 'puddle'

A case of an apophonic *n*-stem with a strong representation in North Germanic is represented by Nw. *dave*, *dabbe*, *dape* and the ablauting forms *dove* and *dope*. In itself, the forms *dave*, *dabbe* and *dape* already constitute an interesting example of consonant gradation: the variation points to a paradigm **dabō*, **dappaz* that was split up into 1) **dabō*, **dabbaz* and 2) **dapō*, **dappaz*. With the ablauting forms *dove* and *dope*, the paradigm can be reconstructed as **dabō*, **duppaz*, with similar split-offs.

It is interesting to see that in Nordic, the different allomorps have given rise to different derivations: Nw. *depel* (= ON *depill*), *dypel* and *dopel*, all meaning 'puddle' represent the diminutive formations **dapila-*, **dupila-* and **dupla-*, which were derived from two different roots. Nw. dial. *dep* can be reconstructed as **dapja-*. The etymologically obscure ON *dǫf* f. 'rump', Icel. *döf* f. 'loin' < **dabō-* can be connected to Nn. *dov* f. ˙crotch, rump, waving ground on soft mud', assuming that the meaning 'loin' developed out of 'soft spot'. Nw. dial. *dembel* m. 'puddle' does not belong here, but is derived from *dam* 'dam, pool', viz. **dammila-*.

In West Germanic, the same consonant and vowel alternations re-emerge in the Low German area. Expecially the Dutch dialects provide some important reflexes, i.e. *dabbe* 'mud, hare's den', *dobbe* 'puddle, hole', *dop* 'hare's den'. These forms, too, point to a paradigm **dabō*, **duppaz*, and thus give the paradigm a Proto-North-West Germanic horizon.

Etymologically, I connect the verb **dabbōn-* as in Nw. *dabbe* ˙to hit (with the feet)', Sw. dial. *dabba* 'to soil', G *tappen* ˙to hit', MDu. *dabben* ˙to toddle', Kil. *dabben* '*subigere*, *suffodere*, etc.', E *dab* ˙to strike, peck, obs. fish by dipping the bait in the water' and **dabblōn-*: ON *dafla*, Kil. *dabbelen* (= Kil. *dabben*), E *dabble* 'to splash' (see also **dēbō*, **dappaz* 'paw', p. 205).

**galdō*, **gulᵗaz* 'gelding'

- **galtᵗan-*: ON, Far. *galti* m. 'boar', Nw. *galte* '(castrated) boar'
- **galtᵗu-*: ON *gǫltr*, Icel. *göltur* m. 'boar', Far. *gøltur* 'id.', Nw. *galt* m. '(castrated) boar', Da. *galt*[1090], OE *gealt·bearg*, *·borg* m. 'pig'
- **galtᵗōn-*: OHG *galza* f. 'young sow', MHG *galze* f. 'castrated sow', G *Galz(e)* f. 'id.', Bav. *galz*[1091] 'id.', Swi. *galz* f. 'id.'[1092]

[1087] Schiller/Lübben 527.
[1088] Kocks/Vording 205.
[1089] WBD III, 4.2, 62.
[1090] Falk/Torp 298.
[1091] Schmeller 2, 46.
[1092] Stalder 1, 418.

- **galt^{t}jō-*: OHG *gelza*, MHG *gelze*, G *Gelze* f. 'gilt, castrated sow'[1093], MLG *gelte* f. 'castrated sow', MDu. *ghelte* f. 'id.'
- **gult^{t}i-*: ON *gyltr* m. 'pig', Nw. dial. *gylt* m. 'id.'
- **gult^{t}jō(n)-*: ON *gyltr* f. 'sow', ON, Icel. *gylta* f. 'id.'[1094] (= OE *gilte* f. 'young sow', E *gilt*)

The group of ON *galti*, *gyltr* and OHG *galza*, *gelza* is clearly derived from the root **gald-* as found in ON *gelda* 'to castrate' < **galdjan-*, ON *geldr* 'milkless', OE *gielde* 'infertile' < **galdja-*, OSw. *galder*, OHG *galt*, G Crn. *gàlt*[1095] 'not giving milk' < **galda-*. The semantic gap between ON *galti* 'boar' and *gelda* 'to castrate' is regarded problematic by Kluge/Seebold (l.c.), but Nw. *galt(e)* '(castrated) boar' clearly preserves the semantic link between the two formations. The consonantism of *galti* and parallel forms must be explained from a shortened geminate (**galt^{t}an-*), which mechanically follows from the attested *n*-stem inflection. Apparently, there was a paradigm **galdō*, **galt^{t}az*, in which the geminate became generalized at an early stage. A geminate must also be supposed for the gpl. **galt^{t}an* < **g^{h}old^h-n-óm* and the apl. **galt^{t}uns* < **g^{h}old^h-n-ń̥s*. The parallel Old Norse formation *gǫltr* < **galt^{t}u-* appears to have directly sprouted from the latter case.[1096]

A very old formation **gult^{t}jō-* can be established on the basis of ON *gylta*, *gyltr* 'sow'. It contains the feminizing suffix **-ī(z)*, **-jō-* from PIE **-ih$_2$*, **-iéh$_2$-*, which is also found in e.g. ON *ylgr* 'she-wolf' < **ulk^w-íh$_2$-*. As to *gylta*, the suffix must have been added to a zero-grade root with gemination. On the basis of this derivational pathway, we may reconstruct a paradigm **g^{h}old^h-ḗn*, **g^{h}ld^h-n-ós*. A parallel derivational history must be assumed for G *Ricke* 'doe'[1097], which through **rikkī-* stems from **Hrik̑-n-íh$_2$-*. Possibly, this formation, too, was derived from an *o*-grade *n*-stem, viz. OE *rāh(a)*, OHG *rēh(o)* m. 'deer' < **raiha(n)-*.

Alternative, we could disconnect **g^{h}ld^h-n-ih$_2$-* and **Hrik̑-n-ih$_2$-* from the masculine *n*-stems, and assume that their zero-grade was triggered by the **nī*-suffix. Forms such as ON *birna* f. 'she-bear' (cf. ON *beri*, *bjǫrn*), Nw. dial. *yrkne* (< ON **yrna*) 'she-ptarmigan' < **urznī-* (cf. ON *orri*), however, imply this feminizing suffix did not require a particular ablaut grade, but that it was simply added to the root as found in the masculine form. It is therefore probable that the same procedure was followed when *gyltr* was created on the basis of **galdō*, **gult^{t}az*. Note that *beri* and *orri* are *n*-stems, too.

OHG *galza* < **galt^{t}ōn-* an OHG *gelza*, MDu. *ghelte* < **galtjō-* are more recent, purely West Germanic formations. Note that in the latter case, the **jō*-suffix was again used to coin a feminine formation, but here it was added to the full-grade stem **galt^t-*. Again, there is a striking parallelism with the correlation of **raihan-* and **rikkī-*, because a similar West Germanic **jō*-stem was formed from the full-grade *n*-stem **raihan-*, i.e. OHG *rēia*, OE *rǣge*

[1093] Kluge/Seebold 343.
[1094] Falk/Torp 298: < **g^{h}ldī-*.
[1095] Lexer 1862: 108.
[1096] The link with Skt. *huḍu-* m. 'ram' (Fick/Falk/Torp 131) must at any rate be rejected.
[1097] Grimm 14, 908-9.

< *raihjō(n)-.[1098] Franconian German furthermore has a *gelte* f. 'infertile cow'[1099] < *galdjō-, which looks like an even younger derivative of the adjective *gelt* 'passed the fertile age (of a cow)'.

***laþō*, *luttaz* 'shoot'**

- **laþan-*, *-ōn-*, **ladōn-*: OHG *sumar·lata* f. 'summer shoot', MHG *lade* f. 'shoot, plank, stand, store', G *Laden* (m.) 'board, hatch, store', MLG *lade* f. '(off)shoot'[1100], MDu. *lade* f. 'runner, twig, lath, bar'[1101], Kil. *laede* 'board, bar', ME *lathe* 'movable batten of a handloom', E *turning-lathe*
- **laþþōn-*: OHG *ladda*, *latta* f., MHG *lat(t)e* f. 'lath', *sumer·lat(t)e* f. 'one-year-old shoot'[1102], G *Latte* f. 'lath,sprout'[1103], *Sommer·latte* f. 'one-year-old shoot'[1104], MDu. *latte* f. 'lath'[1105], Kil. *latte* 'small bar', Du. *lat*[1106]
- **latta-*: G dial. *latz* m. 'plank'[1107]
- **lattō(n)-*: OHG *latza* f., G dial. *latz(e)* f. 'plank, twig'[1108], OE *læt* f. 'lath'[1109], E dial. *lat* 'lath'[1110]
- **latōn-*: MLG *late* f. 'shoot'[1111], WFri. *leat* '(off)shoot, blade (of grass)'[1112]
- **luþōn-*, **ludōn-*: OHG *sumar·lota* f. 'summer shoot', G *Lote*[1113], OS *sumer·loda* f.[1114], MLG *lode* 'shoot, twig'[1115], MDu. *(somer·)lode* f. 'runner'[1116]
- **lutta-*: Du. poet. *duimelot* 'thumb', *lange·lot* (= WFri. *lange leat*) 'middle finger'
- **lutōn-*: MDu. *lote* f. 'twig, sprout'[1117], Kil. *loote* 'twig', Du. *loot* 'shoot', WFri. *loat* '(off)shoot'[1118]

[1098] Not **raigjōn-* (Fick/Falk/Torp 332; Pokorny 859) with Verner's law, because then the loss of the **g* in OHG *rēia* remains unexplained. The *g* in *rǣge* represents a glide like in OE *blǣge*, akin to MLG, MDu. *bleie* 'gudgeon' from **blai(h)jōn-*, not **blaigjōn-* (Fick/Falk/Torp 287).
[1099] Brückner 1996: 71.
[1100] Lübben 195.
[1101] Verdam 318.
[1102] Lexer 1, 1839.
[1103] Grimm 12, 279-80.
[1104] Grimm 16, 1540-1.
[1105] Verdam 324.
[1106] Franck/Van Wijk 371.
[1107] Grimm 12, 284.
[1108] Venema 1997: 320.
[1109] Holthausen 1934: 193.
[1110] Wright 1869: 625.
[1111] Lübben 199.
[1112] Zantema 561.
[1113] Kluge/Seebold 579, 583.
[1114] Gallée 1903: 311.
[1115] Lübben 209.
[1116] Verdam 336.
[1117] Verdam 338.
[1118] Zantema 582.

• ?*luþþan-*: WFri. *lod(de)* 'spade' [1119]

Many of the difficulties surrounding the etymon concerned have been discussed by Lühr (1988: 251-2), who focusses on the consonant alternations in the different dialects. Lühr abstracts a triple root alternation from the material, consisting of **laþ-*, **laþþ-* and **latt-*. The first root is supported by MHG *lade* 'shoot, plank' and similar forms in the Low German area. The stem **laþþōn-* is found throughout the West Germanic continuum, e.g. OHG *ladda*, *latta* and ME *lathe*, E *lathe*. The variant **latt-* is evinced by OE *læt*, E dial. *lat*, OHG *latza* and Rhinelandish *latz(e)* 'lath, twig', which can be found as far north as Dutch Limburg[1120].[1121] Additionally, MLG *late* presupposes a fourth root stem **latōn-* with a single **t*.

The variants **laþ-* and **latt-* were derived by Lühr from a paradigm **laþō*, **lattaz*. The two remaining roots, **laþþ-* and **lat-* can be explained by assuming that this primary paradigm was split up into 1) **laþō*, **laþþaz* and 2) **latō*, **lattaz*. I do not think that the geminate of **laþþ-* continues a cluster **-hþ-*, as has been suggested by Lühr. On the basis of the alternation of OE *moþþa* vs. Northumbrian *mohþa*, Lühr (1988: 525) argued that many cases of West Germanic **-þþ-* had developed out of older **-hþ-*, assuming that "die Assimilation von **χþ* > **þþ* erst einzelsprachig eingetreten ist". It seems more probable to me, however, that these long fricatives arose by paradigmatic analogy, i.e. consonant gradation.

A number of additional roots can be added to the corpus. Many of these root variants not only display the expected consonant alternations, but also a vowel alternation **a* ~ **u*. The alternations are particularly clear in the West Germanic compound meaning 'summer shoot', i.e. a one-year-old twig, e.g. OHG *sumar·lata*, *·lota*, MHG *sumer·late*, *·latte*, G *Sommer·latte*, *·lote*, *·lotte*, OS *sumer·ladan* (pl.), *·loda*, MLG *som(m)er·lade*, *·late*, MDu. *somer·lade*, *·lode*, Du. spec. *zomer·lat* 'lath for mending the floor of a boat', *zomer·lot* 'vertical tree-shoot'. As a result, the original paradigm must be reconstructed as **laþō*, **luttaz*.

The ablaut seems to have been leveled in different ways in the separate dialects. MLG *late*, MDu. *lote* and Du. *loot* have single **t*. This clearly points to a secondary paradigm **latō*, **luttaz* that was in turn split up into 1) **latō*, **lattaz* and 2) **lutō*, **luttaz*. Note that it is no longer necessary to assume that the *t* of Du. *loot* results from **lood* by *Auslautsverhärtung*, as was claimed by Franck/Van Wijk. This explanation is problematic in the first place, because in MLG, MDu. *lade*, *lode* the *d* never was in auslaut position.

It is important to differentiate between the *t* of the Low German forms and the *t* of OHG *lata* and *lota*. The latter superficially seems to support the roots **lad-* and **lud-* with a PGm. **d*, and the same consonantism appears to be supported by a number of Old Saxon glosses, e.g. *sumerladan* (Verg. gl.). The reality of this **d*, however, remains questionable in view of the morphological closeness of MHG *sumer·late* and *sumer·latte*, G *Sommer·lote* and *Sommer·lotte*. It is conceivable that the single OHG *t* represents a secondary singulate of fairly late origin. When the High German sound shift was completed, changing **þ* into *d* and **þþ* into *tt*, the phonemic link between the voiced singulate and the voiceless geminate was

[1119] Buitenrust Hettema 1891: 244; Zantema 583.
[1120] WLD II/12, 9.
[1121] Given all the evidence, it is unlikely that the affricate of *latz(e)* is due to a *pseudo-Verschiebung*, i.e. a hypercorrect High Germanization of *Latte*, as has been proposed by Goossens (1968).

broken. As a result, the OHG paradigm **lado*, gen. **latten* may have been remodeled into **latō*, **latten*, which only ostensibly reflects PGm. **ladō*, **laddaz*. If this is correct, also the Middle High German doublet forms *late* and *latte* must be explained from PGm. **þ* and **þþ*. Note that the High German sound shift can easily have triggered a replacement of the pre-OHG paradigm **laþō*, **latzen* by **laþō*, **laþþen*.

In Dutch, a zero-grade root **lutt-* (or **luþþ-*?) is preserved as *zomer·lot* 'summer shoot' in fruit pruning jargon. The same form occurs in two compounds existing in a children's song about the five fingers, in which the thumb is featured as *duimelot*, the middle finger as *langelot*. In view of *langelot*, which happens to be completely parallel to WFri. *lange leat* 'middle finger' < **latōn-*, it is unlikely that *duimelot* is derived from *duim* 'thumb' with a French diminutive suffix *-lot*, as the 1915 article of the WNT claims. The suggestion by Boekenogen (1949), that *lot* is from the obsolete verb *lotten* 'to suck', does not explain *lange leat* either. It is therefore more probable that the further unattested simplex *lot* means 'finger', a metaphorical use of the original meaning 'lath' or 'shoot'. I would therefore suggest to take *lot* as the zero-grade allomorph **lutta-* (or **luþþa-*) to the full-grade **laþō-*. It is interesting to see, in this context, that the meaning 'finger' is also attested for WFri. *leat*. This word cannot possibly be a zero-grade, nor does it continue **laut-*, as Franck/Van Wijk assumes. In view of e.g. *leane* 'lane' < PGm. **lănō-*, the diphthongal *leat* can just as well continue a full-grade root **lat-*. This means that the derived meaning 'finger' may already have come into use before the splitting-up of the ablauting paradigm.

Etymologically, the full-grade and zero-grade root haves always been separated from each other, and it is a common place in the literature to derive G *Lote* from PGm. **leudan-*, Go. *liudan* 'to grow' < PIE **Hleud^h-*.[1122] Kluge/Seebold further argue that *Latte* is indeed unrelated to *Lote* and similar forms, claiming that both variants merely influenced each other in such forms as *Sommer·lot(t)e* and *Sommer·lat(t)e*. Similarly, Grimm calls *Latte* a "verstümmelung von ursprünglichem *Lote*". These notions, however, offer no explanation for the complete parallelism with the Low German and Dutch variants *late* and *lote*.

In view of W *llath*, *ystlath* 'rod', we may consider the possibility that the Germanic word was borrowed from a continental Celtic dialect. The Welsh word is related to OIr. *slat* 'rod, lath, twig' from PCelt. **slattā-*. PCelt. *sl-* remained in Old Irish, but became W *ll-* in lenited position (cf. Schrijver 1995: 431-3). This means that the Celtic word cannot possibly have been borrowed from Germanic. Should we assume that, conversely, the Germanic word represents a Celtic form with early lenition? Although interesting, this possibility poses many new problems. It implies, for instance, that the Germanic word was given an ablauting paradigm after its adoption from Celtic.

Incidentally, PCelt. **slattā-*, is of obscure origin. It may be worthwhile considering a connection with Lith. *lazdà*, dial. *lazà* 'stick', Latv. *lazda* 'hazel' and Sl. **loza* 'vine'. Fraenkel (p. 827) further adds Lith. *slastaĩ*, Latv. *slasts*, *slazds* 'animal trap', for which Endzelīn adduces the semantic parallel of OHG *dona* f. 'twig' and G *Dohne* 'animal trap' < **tnh$_2$-eh$_2$-*.[1123] Since **zd* regularly becomes *th* in Welsh and voiceless *t* in Irish[1124], a European

[1122] Kluge/Seebold 579; Franck/Van Wijk 398-9.
[1123] Cf. Kluge/Seebold 208.
[1124] Cf. PIE **nizdos* 'nest' > W *nyth*, OIr. *net*.

root *$slazd^{(h)}$- could indeed account for the Celtic forms under discussion. The reconstruction *slatnā-[1125], which is based on Whitley Stokes' (1893) idea that Celtic had a Kluge's law of its own, must at any rate be rejected. It is further possible that MHG *slāte* f. 'reed' and MHG *slāt*, *slōt* m., G *Schlot* 'chimney'[1126] somehow belong here, too[1127], especially in view of the gloss *slat* '*novellum*'.[1128] The forms can theoretically be derived from *$slazd^h$- by assuming that the *z was lost with compensatory lengthening of the preceding vowel. For this, cf. MHG *miete*, G *Miete* 'rent', Go. *mizdo* f. 'payment' < PGm. *$mizdōn$- < PIE $mizd^heh_2$-. E *slat* is either adopted from Old Irish or – as is argued by the OED – from OFr. *ésclat*, Fr. *éclat*. The French word, in turn, may be a loanword from Gaulish. It. *latta,* Fr. *latte* and Ru. *lotók* 'groove' are probably Germanic loanwords.[1129]

***maþō*, *muttaz* 'moth'**

- **maþan-*: Go. *maþa* m. 'worm', OE *maða* m., *-u* f. 'grub, worm, maggot'[1130], OS *matho* m., OHG *mado* m. , Du. *made* 'maggot'
- **maþþōn-*: MHG *matte* f. 'moth'[1131], MDu. *matte* f. 'id.'
  → **maþ(i)ka(n)-* (= Fi. *matikka* 'worm'): ON *maðkr* m. 'maggot' (= E *mawk*[1132]), ME *maðek*, E *maddock*, *maggot* (with metathesis), MLG *maddike*, *med(d)ek(e)* 'earthworm'
- **muþþōn-*: OE *moþþe* f. 'moth'[1133], E *moth*, MLG *mutte* f., MDu. *mot(te)*, *mutte*, Du. *mot*, MHG *motte*, *mutte* f. 'moth'[1134],
  → **muþkōn-*: OE *mohþe* f. 'id.', ME *mohthe* 'id.', Scot. *mogthe* 'id.'
- **mutta(n)-*: ON *motti* m. 'moth', Nw. *mott* m. 'id.'

This collection of forms makes clear that several different stem variants must be reconstructed for the Germanic word for 'maggot, moth'. To start with, Go. *maþa*, OE *maða* and OHG *mado* continue a stem **maþan-*. In MHG and MDu. *matte*, the same root reappears with a geminate *-*þþ*-. The forms OE *moþþe*, MHG *motte*, MDu. *motte* also have a geminate, but a different root vowel, viz. **u*. The same vocalism occurs in ON *motti* and Nw. *mott*, but here the geminate seems to have been plosive, i.e. *-*tt*-.

The different roots are closely related to each other. It has long been suspected that the forms with **u* form the "schwundstufenbildung zur Vollstufenform MHG *matte*", as stated by Streitberg (1900: 68).[1135] This ablaut, as well as the apparent consonant alternations, are best

[1125] Kluge/Mitzka 425; Kluge/Seebold 559; Fick/Falk/Torp 359.
[1126] Kluge/Seebold 811.
[1127] Lühr 1985: 311; 1988: 252.
[1128] Grimm 15, 501.
[1129] Cf. Franck/Van Wijk 371; Kluge/Seebold 425.
[1130] Bosworth/Toller 671.
[1131] Lexer 1, 2062.
[1132] OED, s.v. *mawk*; Holthausen 1917: 101.
[1133] Bostworth/Toller 699.
[1134] Lexer l.c.
[1135] Cf. Noreen 1894: 223; Kluge/Mitzka 489-90.

understood from an apophonic *n*-stem **maþō*, **muttaz*, which was remodeled into **maþō*, **muþþaz* in Proto-West Germanic or Proto-North-West Germanic. The variant **maþþōn-*, as evinced by MHG *matte*, points to a further leveling of the paradigm into **maþō*, **maþþaz*; apparently, the original zero-grade was removed from this paradigm.

An important aspect of the ablauting paradigm is that it cannot be old, at least not in the way that it is reconstructed here. It seems futile to project the ablaut into Proto-Indo-European, because the required paradigm **mot-ḗn*, **mt-n-ós* would develop into PGm. **maþō*, ***unt^{t}az* instead of **maþō*, **muttaz*. This difficulty can be resolved by assuming that either 1) the schwebe-ablaut of *maþō*, **unt^{t}az* was leveled, or that 2) the zero-grade itself was introduced analogically. The old age of the *a*-vocalism is at any rate confirmed by a number of Slavic cognates, e.g. Ru. *motýl'* 'maggot'[1136], and also by Nw. dial. *mår(e)* m. 'woodworm' < **maþra(n)-*, *mære* m. 'mite' < **maþrjan-* (with **-aþr-* > **-ār-* as in ON *hvárr* 'which of the two' < PGm. **hwaþeraz* < PIE **k^{w}oteros*).

The origin of the medial cluster of Northumbrian *mohþe*, ME *muhthe*, Scot. *mogthe* (ostensibly from PGm. **muhþan-*) is debated. Kluge/Mitzka (1967: 490) doubt whether *mohþe* is related to *moðde* at all, and rather connect it with **mugjō-* 'mosquito'. Lühr, on the other hand, retains the link with **maþan-*, and assumes that *mohþe* developed out of a diminutive **muþ-han-* < **mut-ko-* by metathesis. This metathesis seems plausible to me, but I would rather reconstruct the original form as **muþ-(V)kan-*, because the suffix **-(V)ka(n)-* is also found in ON *maðkr*, MLG *maddike*, *med(d)ek(e)* and ME *maðek* < **maþ(V)ka(n)-*. I therefore assume that **muþkan-* became **mukþan-* by metathesis, and that, subsequently, the *k* was fricativized before *þ*. This development is, to my mind, supported by the vacillation of OE *bīecþ* vs *bīehþ* 'beacon' < **baukiþō-*.

The explanation given here is confirmed by the remarkably parallel evolution of PGm. **piþ(V)ka(n)-* 'pith' (cf. MLG, MDu. *ped(d)ik*) in Anglo-Frisian. In Scottish, this formation developed into *picht* 'pith, force'[1137], a form that presupposes a metathesized Nrth. form **pihþa*. In addition, there is the polymorphism of WFri. *pich*, *piid*, *piik* 'pith, stone', which has gone unnoticed in the literature. The form *piid* appears to be identical to OE *piða* m. 'pith' < **piþan-*, but *pich* and *piik* seem to have bifurcated from a diminutive **piþ(V)ka(n)-*. The bifurcation happened as follows: while *piik* continues regular **piþVk-* through loss of the dental between vowels, *pich* can only have developed out of **pihþ-* from **piþk-* by a metathesis. This *pich*, in other words, is fully parallel to Scot. *picht*.

The difference between MLG, MDu. *medik*, *pedik*, WFri. *piik*, on the one hand, and MLG *maddik*, *meddik*, *peddik*, WFri. *pich*, on the other, is probably to be explained from paradigms in which some cases were affected by syncope, while others were not, e.g. **piþikaz*, gen. **piþikesa* > **piþik*, **piþkes*. This syncope also explains the lack of umlaut in MLG *maddik*, which with its double *-dd-* must have developed out of a syncopated root **maþk-*. Accordingly, I assume that Nrth. *mohþe* developed out of a syncopated form **muþk-*,

[1136] I think that Slov. *metúlj* 'butterfly' and SCr. *mètīlj* 'intestinal worm' were borrowed from MHG *medel* n. '*vermiculus*' (Benecke/Müller/Zarncke 2, 18) < **maþlīn-*, or perhaps even from its Old High German precursor **mä$_2$theli* / **mä$_2$deli*.
[1137] Jamieson 1818, s.v. *picht*.

and that ME *maðek* continues *maþak-*, or perhaps **maþik-* with analogical removal of the umlaut after the syncopated cases.[1138]

The conclusion that OE *mohþe* developed out of a metathesized form begs the question whether the geminates OE *moþþe* as well as MHG *mutte*, ON *motti* (etc.) developed out of the same cluster, as has been proposed by Lühr (l.c.). Although this does not seem unlikely in the case of OE *moþþe*, I am inclined to reject this view. First of all, the metathesis is a purely Anglo-Frisian development: there are no indications whatsoever that the syncopated variants **maþk-* an **piþk-* ever metathesized to ***makþ-* and ***pikþ-* in the Franconian and Saxon dialects. Second, the mechanism of consonant gradation removes the necessity to explain fricative geminates from clusters. To the contrary, consonant gradation seems to be the only way to clarify the long fricatives of e.g. **kliþþōn-* 'burdock' (see p. 76) and **raþþōn-* 'rat' (see p. 180). In the end, I therefore conclude that the allomorph **muþþ-* is due to paradigmatic analogy, and not to assimilation of **-hþ-* to **-þþ-*.

Etymologically, the only plausible extra-Germanic cognates are the Slavic words given above. Other connections must be rejected. Falk/Torp (p. 700-1), for instance, separates **muþ-* from **maþ-*, linking the former to Lat. *mutilus* 'mutilated' and the latter to Lat. *mateola* 'club'. The connection with Skt. *matkuṇa-* 'bug' (Falk/Torp l.c.) is semantically more appropriate, but the strange morphology of the Sanskrit word (suffix ***-kuṇa-*?) and the parallel form *utkuṇa-* 'louse' conspicuously point to a non-Indo-European origin. Kallio (2000) has suggested that PGm. **maþan-* was adopted from Finnic **mato* 'worm, maggot', on the one hand, while **muþþan-* was borrowed from Saamic **muoc̀ē* on the other, but the vowel and consonant gradations of the Germanic *n*-stem are too regular to be due to language contact. The link with Arm. *matʿil* 'louse' was already doubted by Polomé (1986), who pointed at Kartvelian **ma-ṭl-* 'worm' as a possible source.[1139] However, the Armenian word is conspicuously close to Ru. *motýl'*.

***raþō, *ruttaz 'rat'**

- **radan-*, *-ōn-*: OHG *rato* 'rat'[1140], MHG *rat(e)* mf. 'id.'[1141]
- **raþþōn-*: OHG *radda*, *rattun* '*suricis*'[1142], MHG *radde*, *ratte* f. 'rat'[1143], G *Ratte*[1144]
- **ratta(n)-*, *-ōn-*: MHG *ratz(e)* m. 'id.'[1145], G *Ratz* m., Bav. *ratze* f. 'rat, polecat'[1146], OS *ratta* '*glis*'[1147], MLG, MDu. *ratte* f. 'rat'[1148], Du. *rat*[1149], OE *ræt* m. 'id.', E *rat*

[1138] Note that E *maggot* developed out of *maddock* (< **madaka-*?) by a strange swap of the articulation place of *d* and *k*.
[1139] In this language, the word is analyzable as a derivation of the root **ṭl-* 'to eat up' (Klimov 190).
[1140] Graff 2, 470.
[1141] Lexer 2, 346.
[1142] Graff l.c.
[1143] Lexer 2, 346; Benecke 2, 584.
[1144] Grimm 14, 204-5; Kluge/Seebold 745.
[1145] Lexer 2, 353.
[1146] Grimm 14, 209-10; Kluge/Seebold 746.

- **ruttōn-*: MLG *rotte* f. 'id.'[1150] (= Icel. *rotta*, Sw. *råtta*, Nw., Da. *rotte*[1151]), MDu. *rot(te)* f. 'id.'[1152], Du. *land·rot* 'landlubber'

The High German dialects display a particular rich consonant variation, viz. MHG *rate*, *radde*, *ratte*, *ratze*. MHG *rate*, together with the OHG gloss *ratin* '*suricis*', presupposes PGm. **rad-*, which may have emanated from the original locative **radini*. MHG *ratze*, MLG, MDu. *ratte* and OE *ræt* continue a root **ratt-* (cf. Lühr 1988: 284). In view of the frequent attestation of this root as a thematic stem, it is likely to have sprouted from the genitive case **rattaz*.[1153] A third root is evidenced by OHG *radda*, *ratta*, continued by MHG *radde*, *ratte* and G *Ratte*. Lühr (l.c.) reconstructs it as PGm. **radd-*, but there is reason to believe that it was rather **raþþ-*: while WGm. **dd* becomes OHG *tt* right from the earliest sources, the development of WGm. **þþ* into *dd* and *tt* falls within historic Old High German.[1154] So, even though there are no instances of OHG **rattho*, the coincidence of *raddo* and *ratto* seems to point to PGm. **raþþan-*. This root then must be an analogical allomorph to a regular nominative form **raþō*, for which, however, there is no evidence. Attempts to explain the secondary geminate from iterativity or expressivity (Lühr l.c.) must be rejected.

The consonant gradation has led to a great deal of confusion in the literature. It is often assumed that the word for 'rat' has been adopted from Romance **rattu-* (It. *ratto*, Sp. *rato*, Fr. *rat*), which is taken to be from Lat. *rapidus* 'tearing away'[1155], but then it remains unclear "warum neben *Ratte* auch **Ratze** auftaucht".[1156] Conversely, Uhlenbeck (1937: 196) attempted to explain OHG *radda*, *ratta* as loanwords from Low German, labeling *Ratze* as the regular High German form. It is clear, however, that consonant alternations directly follow from the *n*-stem inflection in Germanic.[1157] Consequently, the Germanic word must have been adopted by the Romance language as well as by Celtic (cf. Ir. *rata*, Bret. *raz* < **ratt-*).[1158]

Beside the forms with **a*-vocalism, there is an ablauting variant **ruttōn-* as furnished by MLG, MDu. *rotte*. In view of other *n*-stems with a similar ablaut pattern, it must originate from the weak cases, particularly from the gsg. **ruttaz*. Note that the combination of a zero-grade with a geminate dovetails with the original PIE paradigm, which in the genitive had a zero-grade of both the root and the suffix. It is important to realize, however, that **rutt-* cannot be a regular zero-grade, as this would have been ***urt^{t}-*. The zero-grade inversion was probably triggered by the full-grade allomorphs.

Etymologically, the old link with Skt. *ráditi* 'to scratch, gnaw'[1159] must be abolished, because it suggests PIE **Hrod-*, whereas Germanic points to **Hrot-*. In view of G *Ratz(e)*

[1147] Gallée 247.
[1148] Lübben 293; Verdam 486.
[1149] Franck/Van Wijk 536.
[1150] Lübben 308.
[1151] Falk/Torp 913.
[1152] Verdam 486, 501.
[1153] Cf. Fick/Falk/Torp 336: ig. **radnā́*.
[1154] Braune §164, §167, fn. 10.
[1155] Brøndal 1917: 117-9.
[1156] Kluge/Seebold 745.
[1157] Franck/Van Wijk 536; Falk/Torp 913.
[1158] Lühr 1988: 285.
[1159] Pokorny 845.

‘polecat’, it is plausible that the Germanic word originally denoted a different animal, and that it “auf die später auftretende ratte übertragen worden ist” (Falk/Torp l.c.).

***swambō, *sumpᵖaz ‘sponge, mushroom’**

- **swamba-*: OHG *swamp* m. ‘mushroom’
- **swamma(n)-*: Go. *swamm* asg. ˙sponge’, OE *swom* m. ˙mushroom’, OHG *swam* m., MHG *swamme* m., G *Schwamm*[1160], Kil. *swamme* ‘*spongia*, *tuber*, *panus*’, Du. *zwam*
- **swampᵖu-*: ON *sǫppr* m. ‘sponge, ball’, Icel. *sveppur*, gsg. *svepps*, †*svappar*, npl. *sveppar*, *-ir* m. ‘mushroom, fungus’[1161], OSw. *swamper* m. ‘mushroom, sponge’, Sw., Da. *svamp* ˙mushroom’[1162]
- **s(w)umpᵖa-*[1163]: ON *soppr* m. ˙ball’[1164], Icel. *soppur* m. ‘ball, float of a net’ (also *soppa* f., *soppi* m. ‘float’) [1165] , Far. *soppur* m. ‘tuft, fungus, mushroom’[1166], Nw., Da., Sw. *sopp* ‘mushroom’[1167]

The consonant gradation of OHG *swamp* < **swamba-* and ON *sǫppr*, OSw. *swamper* < **swampᵖu-* can be explained in the usual way by reconstructing a Proto-Germanic *n*-stem with a nominative **swambō* and an accusative plural **swampᵖuns* < **suombʰ-ōn*, **suombʰ-n-ńs*. This *u*-stem is parallel to the formations ON *hǫttr* ‘hat’ < **hattu-* (see p. 193) and *knǫttr* ‘ball’ < **knattu-* (see p. 133), which, too, seem to have sprouted from *n*-stems. Note that in Icelandic, the ON *sǫppr* is continued by *svepper*, which is formally based on the dsg. and npl. of the original paradigm *sǫppr*, gsg. *svappar*, dsg. *sveppi*, asg. *sǫpp*, npl. *sveppir*, gpl. *svappa*, dpl. *sǫppum*, apl. *sǫppu*.

In addition to the roots **swamb-* and **swampᵖ-*, a root **swamm-* is presupposed by Go. *swamms* (and probably also by OHG *swam*, MHG *swamme* and Kil. *swamme*). In this third variant, the labial stop has disappeared. Consequently, it can neither be explained from **suombʰ-*, nor from **suombʰ-n-ˊ*, as these root forms in all probability developed into **swamb-* and **swampᵖ-*. I therefore think that the variant **swamm-* continues a root-stressed form **suómbʰ-n-*, which, in spite of its nasal suffix, was not affected by Kluge’s law. At a later stage, the labial disappeared between two nasals, so as to give rise to a long *m*, viz. **swambna-* > **swamma-*. This development is paralleled by e.g. OHG *hunno* m. ‘centurion’ < **hunþnan-* < **dḱmt-n-*, OHG *zinna* f. ‘merlon’ < **tinþnōn-* < **h₃d-ent-n-* and OHG *channa*,

[1160] Kluge/Seebold 830.
[1161] Böðvarsson 1006.
[1162] Falk/Torp 1209.
[1163] Falk/Torp (p. 1209): **swumpa-*.
[1164] De Vries 1962: 530.
[1165] Böðvarsson 930.
[1166] Poulsen 1106.
[1167] Falk/Torp 1108.

chanta[1168], MHG *kanne*, *kante* f. 'jug' < **kand-(n)ōn-*. Morphologically, the barytone stem **suómb^h-n-* is comparable to **ster-n-* as in Go. *stairno*, ON *stjarna* f. 'star' < **h$_2$stér-n-*.[1169]

Beside the different roots with *a*-vocalism, there was a root **sump^p-* with *u*-vocalism. This variant must be reconstructed on the basis of Icel. and Far. *soppur*, which cannot reflect ON *sǫppr*.[1170] The easiest way to explain the root variant **sump^p-* is to assume that it stems from the genitive case with zero-grade, i.e. *gsg. *sump^{p}az*, gpl. *sump^{p}an* < **sumb^h-n-ós*, **sumb^h-n-óm*.[1171]

The **a* ~ **u* alternation is mirrored by the word for 'swamp' in West Germanic, cf. MHG *sumpf*, MLG *sump*, MDu. *somp*, *sump*, SFri. *sompe*, E *sump* < **swump^p-* vs. E *swamp* < **swamp^p-*. In spite of the semantic difference, it is attractive to link the two words to each other. Outside Germanic, PGm. **swamban-* is clearly related to OCS *gǫba* f. < **g$^{(h)}$umb$^{(h)}$-*, Lat. *fungus* < **g^{wh}ong$^{(h)}$-*, Gr. σπόγγος and σφόγγος 'sponge' < **sb$^{(h)}$ong-*, Arm. *sunk* < **suong^{wh}-*. The irregularities of the correspondences are suggestive of a non-Indo-European origin.[1172] The question therefore remains when and how this *wanderwort* was incorporated into Proto-Germanic morphology.

***tadō*, **tuttaz* 'tuft'**

- **tadan-*, *-ōn-*: OHG *zato* m., *zata* f. 'tuft of hair or wool'[1173]
- **taddōn-*: OHG *zatta* '*flax*', MHG *zatte* f. 'swath'[1174], G *Zatte* f. 'windrow, sheaf'[1175]
  - → **tad(d)la-*: G *Zattel* 'rag', LG *taddel* 'id.'[1176], G Als. *Zat(t)el* 'cluster, grape'[1177]
  - → **tad(d)ila-*: MHG *zettel*, G *Zettel* m. 'warp of a loom'[1178]
- **tat-* → **tatura-*: ON *tǫturr*, pl. *tǫtrar* m. 'tatter, rag' (= E *tatter*)[1179]
- **tatt-* → **tattaka-*: OE *tættec* m. 'rag'[1180]
- **tuddan-*, *-ōn-*: ON *toddi* m. 'little piece', Icel. *toddi* 'tuft of grass', MHG *zotte* mf.[1181], G *Zotte* f. 'topknot, tuft of hair'[1182] (→ *Zottel* m. 'small wisp', Swab. *Zotter*, pl. *Zetter* m.[1183]), Du. *tod(de)* 'rag, tatter'[1184], SFri. *todde* 'bundle'

[1168] Cf. App. *xą̄ntə* (Vetsch 111).
[1169] Van Helten (1905: 224) reconstructs **stérnõ* (beside **sternṓ* > **sterrõ*), which he assumes to have arisen as an analogically root-stressed form that arose before Verner's and Kluge's law.
[1170] It is difficult to say whether ON had both variants *sǫppr* and *soppr*, because the manuscripts do not necessarily differentiate between *ǫ* and *o*.
[1171] It remains unclear, then again, why the accusative **swamp^{p}uns* < **suomb^h-n-ńs* does not have a zero-grade as well.
[1172] Kluge/Seebold (p. 830): "Doch ist in Anbetracht des lautlich ähnlichen gr. *spóngos* »Schwamm«, l. *fungus* »Pilz« , die als Lehnwörter aus einer unbekannten Sprache gelten, nicht mit einem Erbwort zu rechnen."
[1173] Graff 5, 632-3.
[1174] Lexer 3, 1154.
[1175] Grimm 31, 320.
[1176] Grimm 31, 321.
[1177] Martin/Lienhart 2, 916a.
[1178] Kluge/Seebold 1009.
[1179] De Vries 1962: 604.
[1180] Bosworth/Toller 970; Holthausen 1934: 342.
[1181] Lexer 3, 1154.

→ **tud(d)lōjan-*: MLG *toddelen* 'to break down into tufts'[1185]

- **tudōn-*: OHG *zota* f. 'wisp', MHG *zote* mf. 'rag, fluff'[1186], G *Zote* f. 'tuft', Tyr. *zoutɛ* f. 'id.'[1187]
- **tuttōn-*: G (Mainz) *zotze* f. 'fag end, tip'[1188], Swab. *zotze* f. 'tuft, brush'[1189], Tyr. *zutzn* m. 'tuft'[1190]

(→ *zotzlen* pl.'fuzz'[1191])

The consonant and vowel alternations in this material have not yet received a satisfactory explanation. Kluge/Seebold (p. 1016) calls the origins of the word unclear. In spite of the early attestation in Old High German, Franck/Van Wijk (l.c.) assumes the cluster of words to be of recent coinage. Fick/Falk/Torp (p. 150) goes even further and denies the etymological link between OHG *zata* and *zota* on the whole. The vowel and consonant alternations of this paradigm are nevertheless in accordance with *n*-stems such as **maþō*, **muttaz* (see p. 178) and **raþō*, **ruttaz* 'rat' (see p. 180), and can therefore be explained as reflecting a paradigm **tadō*, **tuttaz*.

The different alternations are especially clear in Upper German, even at the oldest stages. Thus, we find OHG *zata*, *zatta*, *zota* and MHG *zate*, *zatte*, *zotte*, *zote*. In Modern High German, *Zotte* < **tuddōn-* has prevailed over the other variants. In other dialects, we find the same root **tudd-* in e.g. ON, Icel. *toddi* 'piece, wisp', SFri. *todde* 'bundle', Du. *tod(de)* 'rag'. The semantic development from 'wisp' to 'rag' may have gone through an intermediate meaning 'bundle' or 'frill'.

The roots with **d* and **dd* are dominant throughout the North and West Germanic dialects. To my mind, this proves that the introduction of voiced geminates through paradigmatic analogy took place at the North-West Germanic stage. I therefore date the paradigm **tadō*, **tuddaz* to this period. Swabian *zotze* preserves the root of the original genitive **tuttaz*, pl. **tuttan*. The same consonantism, though with a different ablaut grade, is also found in the OE *tættec* 'rag' < **tatt-ka-*.[1192] ON *tǫturr* m. 'rag' < **tat-ura-* contains a root **tat-* with an analogical singulate. All the different variants receive an explanation by assuming the usual paradigmatic split:

[1182] Kluge/Seebold 1016.
[1183] Fischer/Taigel 1999: 422. The singular Swab. *Zetter* [ę] m. 'cluster, twig with berries' (Fischer/Taigel 439) has **ä₂*, and sprouted from the delabialized plural to *Zotter*. Similarly, the late and sparsely attested G *Zette* f. 'leafy twig' (Grimm 31, 814) hardly presupposes PGm. **teddōn-*, but rather *Zä₂tte*.
[1184] Franck/Van Wijk 699.
[1185] Lübben 406.
[1186] Lexer 3, 1154.
[1187] Schatz/Finsterwalder 733.
[1188] Schramm 1966: 280.
[1189] Fischer/Pfleiderer 6/1, 1270.
[1190] Schatz/Finsterwalder 738.
[1191] Fischer/Taigel 506.
[1192] Not with "expressives *tt*" as per Pokorny 175-9.

Paradigm 1
nom. **tadō*
gen. **tuttaz*

Paradigm 2a
nom. **tadō*
gen. **tuddaz*

Paradigm 2b
nom. **tatō*
gen. **tuttaz*

The *n*-stem may be cognate with ON *teðja* 'to dung, manure', G *zetten*[1193], Visp. *zettu* 'to spread the math' < **tadjan-*. The link with MLG *tas* 'corn-stack', MDu. *tas* m. 'pile of hay' < **tassa-* is less certain, because it can be a Celtic loanword, cf. OIr. *daiss* f. 'heap of hay or peats'. Borrowing in the opposite direction, however, is not inconceivable either in view of PGm. **hrauk^{k}a-* 'haystack' emerging as OIr. *crúach* f. 'stack of corn, rick' (see p. 109). Note that ON, Icel., Far. *des* f. 'haystack', given its purely West Norse distribution, may again be adopted from Old Irish.[1194]

Alternatively, the *n*-stem **tadō*, **tuttaz* can be derived from an iterative **tuttōþi*, **tudunanþi*, as in MHG *zoten* 'to go slowly'[1195], Du. dial. *tooien* 'to drag, carry' < **tudōn-*, Du. dial. *todden* 'id.'[1196] < **tuddōn-*. If the original meaning of the *n*-stem was 'to pull, pluck', it can be connected with the verb by starting from a meaning 'to pull'. The question remains whether the iterative had variants with *a*-vocalism, i.e. ***tattōþi*, **tadunanþi*, because this could be of relevance to the origin of the nominal ablaut.

[1193] Grimm 31, 823-4.
[1194] Bugge 1905: 257; contra De Vries 1962: 75
[1195] Lexer 3, 1154. The second meaning '*in zotten niederhangen*' points to a denominal **tudōjan-* rather than primary **tudōn-*.
[1196] Weijnen 206-8.

Doubtful cases

***barsō*, *burznaz* 'perch'?**

- **barsa(n)-*: OHG *bars* m. 'perch', MHG *bars*, *bers(e)* m. 'id.', G *Barsch*, OE *bærs*, *bears* m. 'id.', E *bass*, MLG *bars* 'id.', MDu. *ba(e)rse* 'id.', Du. *baars*
- **burzan-*: Nw. *abbor*, *åbor* m. 'golden redfish (sebastes norvegicus)'[1197], OSw. *agh·borre* m. 'id.', Sw. *abborre* 'id.'[1198], ODa. *ag·borræ* m. 'id.', Da. *aborre* 'id.'

When we compare the North and West Germanic word for 'perch', it is clear that the two are in ablaut relation with each other. The West Germanic material, e.g. OHG *bars*, OE *bears*, points to PGm. **barsa-*, MDu. *baerse* providing some evidence for an *n*-stem **barsan-*. In North Germanic, the zero-grade **burz-* occurs in a compound with ON *ǫgr*, Nw. dial. *au(g)ur* 'golden redfish', MHG *ag* m. 'perch' (< PGm. **agura-*): OSw. *agh·borre*, ODa. *ag·borræ* m. 'perch'. On the basis of this material, it is theoretically possible to reconstruct a paradigm **barsō*, **burznaz* < **b^{h}ors-ḗn*, **b^{h}rs-n-ós*.

There is nevertheless reason to reject the possibility of an ablauting *n*-stem in this case. The Nordic compound, for instance, can synchronically be analyzed as from ON *ǫgr* and OSw., Nw. *borre*, Da. *borre*, *burre* 'burdock' < **burza-*. In view of the dialectal Norwegian meaning 'silver brooch' it is likely that the compound really is a Nordic creation that originally meant "perch-prickle", referring to the prickly fin on the back of the fish. In a similar way, PGm. **agu-* 'perch', too, can be interpreted as the "sharp fish", a meaning that points to PIE **h$_2$eḱ-ú-*. Given the similarities of ON *barr* n. 'pine needle' < **barza-* and WGm. **barsa-* it is probable that the root **b^h(o)rs-* was already used to refer to the fish in Proto-North-West Germanic.

[1197] Torp (p. 9) isolates *augur* from the rest of the material: "vistnok avledning av *auga* paa grund av de utstaaende øine".
[1198] Hellquist 1.

8.7 **ō ~ *a* alternations

The group of *n*-stems with **ō ~ a* ablaut is relatively small, but contains a number of strong examples. The old age of the type is supported by the correspondence of **mōhō*, **magini* 'poppy' with Gr. μήκων f. 'id.'. Given this clear etymology, it is certain that the type consists of roots with a laryngeal. In the full-grade cases, **-éh$_{2/3}$-* became PGm. **ō*, while in the zero-grade the laryngeal was vocalized to PGm. **a*.

**lōfō*, **lappaz* 'palm of the hand'

- **lōfan-*: Go. *lofa* m. 'id.', ON *lófi* m. 'open hand, palm of hand'[1199], ME *lōve* 'palm', Kil. *loef*, *loeve* 'oar peg, thole pin', Du. *loef·zijde* 'windward side'[1200]
- **labba(n)-*: OHG *lappo 'palmula* (palm of the hand, blade of an oar)'[1201], G Als. *lappe^n* m. 'rudder blade'[1202], Far. *labbi* m. 'paw, open glove'[1203], Nw., Sw. *labb* m. 'paw, big hand'[1204], Da. *lab(be)* 'id.'
  → **labbōjan-*: Icel. *labba* 'to walk'[1205]
- **lappō-*: Icel. *löpp* f. 'paw'[1206]
- **lapōn-* or **laffōn-*: OHG *laffa* f. 'palm, blade of an oar', MHG *laffe* f. 'id.'[1207]

The first one to explicitly ascribe the vowel alternation of Go. *lofa*, OHG *laffa* and additional forms to an ablauting *n*-stem was Kauffmann (1887: 544). Indeed, the different Germanic dialects offer a plethora of forms that proof that such a paradigm, i.e. **lōfō*, **lappaz*, **labini*, must once have existed. The full-grade **lōfan-* is found in no fewer than three Germanic branches, cf. Go. *lofa*, ON *lófi*, ME *lōve*, Kil. *loeve*, etc. The zero-grade vocalism occurs in both North and West Germanic in several different stem forms with varying consonantisms. The variant **labban-* has a strong representation with OHG *lappo* '*palmula*', Als. *lappe^n* 'rudder blade', Far. *labbi* 'paw', etc. With the same semantic field, there is OHG *laffa*. This particular attestation continues either **lapōn-* or **laffōn-*, both having analogical consonantisms. The original geminate is still found in Icel. *löpp* 'paw'[1208] < **lappō-*. As is often the case, the different consonantisms can be explained by assuming that the original paradigm was split up in several different ways, e.g. 1) **lōfō*, **laffaz*, 2) **lapō*, **lappaz* or 3) **lafō*, **labbaz*.

[1199] De Vries 363.
[1200] Franck/Van Wijk 393.
[1201] Graff 2, 38.
[1202] Martin/Lienhart 1, 600b.
[1203] Poulsen 660.
[1204] SAOB L2: "i avljudsförh. till got. *lofa*, flat hand".
[1205] Böðvarsson 549.
[1206] Böðvarsson 613.
[1207] Lexer 1, 1812.
[1208] The semantically close ON, Icel. *loppa* f. 'paw' is unrelated. De Vries (p. 366) derives it from PGm. **lumpōn-*.

The Germanic *n*-stem receives a good etymology with the connection of the Balto-Slavic word for 'paw', viz. Lith. *lópa*, Ru. *lápa* f. 'paw'[1209] < **leh$_2$p-eh$_2$-*. On the basis of this etymology, I reconstruct the paradigm underlying the Germanic *n*-stem as **léh$_2$p-ōn*, **lh$_2$p-n-ós*, **lh$_2$p-én-i*. Such a laryngealic reconstruction would regularly develop into PGm. **lōfō*, **lappaz*, **labini*, the laryngeal being vocalized to **a* in the cases with zero-grade roots.[1210] There is no compelling reason to analyze the interchange of **ō* with **a* as a substrate feature (pace Boutkan 1999: 19-20).[1211]

****mōhō*, **magini* 'poppy'**

- **mōgan-*, *-ōn-*: OSw. *val·mōgha* f. 'id.', *·mōghe* m. 'id.', Sw. *vall·mo* 'id.', Gutn. *vall·moge* f. 'id.', Nw. dial. *vall·mo(g)* m. 'Lily-of-the-Valley', *kvit·mo(ge)* m. 'melancholy thistle', ODa. *val·mu(gh)æ* 'poppy', Da. *valmue* 'id.' (= Far. *valmua*, Icel. *valmúi*, Nw. *valmue*)
- **mahan-*: OHG *maho* m. 'id.', MHG *mahen*, *mān*, *mōn* m. 'id.', G *Mohn*, OS *maho* 'id.', Kil. *maen* 'id.', Du. *maan·zaad* 'poppy seed'
- **magan-*: OHG *mago* m. 'id.', MHG *mage(n)* m. 'id.', Cimb. *mago* m. 'id.'[1212], Swab. *mag^e* m. 'id.'[1213], E *maw·seed* 'poppy seed'

As can be seen in the overview of the attestations, several different stem variants need to be reconstructed for the PGm. *n*-stem meaning 'poppy', viz. **mōgan-*, **mahan-* and **magan-*.[1214] The first variant is only found in North Germanic, the other two occur in West Germanic.

The North Germanic stem **mōgan-* can be retrieved without great effort. The word is not attested in Old West Norse, but in East Norse it emerges as the second member of a compound with *val-* 'sleep', viz. OSw. *val·mōghe*, ODa. *val·mu(gh)æ*, Gutn. *vall·moge*. The dialectal Norwegian compound *kvit·mo(ge)* belongs here too, but refers to a thistle rather than a poppy. This can be due to the visual similarities between the burr of the thistle with the poppy seed box. Note that the original vocalism of ODa. *val·mu(gh)æ* is opaque, because Old East Norse *-ugi* and *-ōgi* merged into Old Danish *-u(gh)æ* (cf. ODa. *albuæ* 'elbow', ON *alnbogi* < PGm. **bugan-*).[1215]

[1209] Fraenkel 385-6.

[1210] Compare the following examples: MLG *lak* 'limp' < *lh$_2$g-o-* to Gr. λαγαρός 'weak', OE *læccan* 'to seize' < **lakjan-* to Gr. λάζομαι 'id.' < **lh$_2$g-ie/o-* and Go. *lats* 'sluggish' < **lh$_1$d-o-* to Gr. ληδεῖν 'to be slow'.

[1211] If the Germanic word was borrowed after all, which I find unlikely, one could in fact think that the donor language was Proto-Celtic, cf. OIr. *lám* f. 'palm' < PCelt. **(f)lāmā* < **plh$_2$-meh$_2$-*. The *m* was lenited to [ṽ] at an early stage, as is pointed out by the Latin loanword *cervisia* 'beer', cf. PCelt. **kormi-* > OIr. *cuirm*, W *cwrw*. Still, it is unlikely that this form came into existence early enough to be borrowed into Germanic as **lāp-* or **lāf-*.

[1212] Schmeller/Bergmann 207.

[1213] Fischer/Taigel 310.

[1214] Cf. Schaffner 561-2.

[1215] Icelandic *valmúi*, Far. *valmua* and Nw. *valmue* were adopted from Danish, and have no further relevance in this context.

The situation is more complex in West Germanic, especially in the Old High German forms *maho* and *mago*. This is the result not so much of the apparent *grammatischer Wechsel* as of the original root vocalism being unclear. In Old High German, vowel length is usually not systematically indicated, and even if the vowel is marked with an accent, this may also refer to stress rather than length. This ambiguity is reflected by a confusing divergence in the different dictionaries. For example, Fick/Falk/Torp (p. 303) and Kluge/Mitzka (p. 484) give *māho* and *māgo*, both with a long vowel. Similarly, Lexer assumes length for all extant Middle High German forms, i.e. *māge*, *māgen*, *māhen*, *mōn*. Pokorny (p. 698), on the other hand, differentiates between OHG *māho* and *măgo*, implying that Proto-Germanic had both **mēgan-* and **magan-*. Kluge/Seebold (p. 627) conversely give MHG *māhen* vs. OHG *mago* from **mēhōn-* and **magōn-*.

The main problem concerning the Old High German vowel quantity is that the dictionaries usually emend length on the basis of the modern German form *Mohn* 'poppy', which shows the occasional rounding of *ā* to *ō* in the standard language (esp. in nasal environments, cf. *Mond* 'month' < **mēnōþ-*). This line of thinking is unfortunately incorrect, because it can be demonstrated that secondary **ā* (i.e. **ā* from other sources than PGm. **ē*), is rounded as well. G *Ton* 'clay', for instance, has regularly developed from an oblique form **dān* as presupposed by MHG *dāhe*, obl. *dāhen* f. 'clay' (= OHG *dāha*, Go. *þaho*, OE *þō* f. 'clay' < PGm. **þanhōn-*). As a consequence, G *Mohn*, deriving from MHG *mān* < **mahan-* cannot substantiate a PGm. form **mēhan-*. Direct counter-evidence against **mēhan-* is furnished by Schaffner (2001: 561), who adduces the form *maan* 'poppy' from the Dutch dialect of the Zaan area. As this dialect used to differentiate between PGm. lengthened **a* and **ē* as [ā] vs. [ē], the word is more likely to represent **mahan-* than **mēhan-*.[1216] Similarly, the evidence from the modern languages precludes the reconstruction of OHG *mago* as **māgo* from PGm. **mēgan-*. In Upper German, we find e.g. Cimb. *mago* and Swab. *mag*^{e}, which point to **magan-*. Also E *maw·seed* presupposes short **a*, because **mēg-* would have resulted in ***mow* (cf. PGm. **lēga-* > ME *lāh* > E *low*).

Everything considered, the Germanic material carries evidence for only three forms, viz. **mōgan-*, **mahan-* and **magan-*. This type of variation is best explained by reconstructing an ablauting *n*-stem nom. **mōhō*, loc. **magini*. Notably, this paradigm is in perfect agreement with Gr. μήκων and Dor. μάκων f. 'poppy', so that we are allowed to reconstruct a PIE paradigm **méh$_2$k-ōn*, **mh$_2$k-én-i*. Since the alleged variants with Proto-Germanic **ē* can be dropped, the polymorphism of the word is no longer problematic from the etymological perspective. This removes the necessity to analyze the lexeme as an alien word, as has been suggested by e.g. Boutkan (2003a: 15) and Kluge/Seebold (p. 627).

The ablauting *n*-stem was also reconstructed by Schaffner (p. 562). His analysis, however, contains two problems. First, Schaffner assumed that **mh$_2$k-* would yield **unk-* with vocalization of the *m*, and that consequently the Germanic forms with **a* must be due to analogy. It was demonstrated by Beekes (1988), however, that in roots of the structure RHC- the laryngeal is vocalized, not the resonant. Compelling evidence for this vocalization is

[1216] However, the distinction has practically disappeared in this dialect.

furnished by PGm. **magra-*, which must be derived from PIE **mḗh₂k-ró-*. As a result, the stem **magan-* can regularly continue **mḗh₂k-ón-*.

Pheasant's eye with red flowers resembling those of the poppy.

Second, Schaffner assumes that the paradigm **méh₂k-ōn*, **mh₂k-ón-* was replaced by ***mḗh₂k-ōn*, **mh₂k-ón-* before the operation of Verner's law, so as to explain the paradigm **mahō*, **magan-*. This early split-up, however, offers no explanation for the **g* of **mōgan-*, which seems to be adopted from the locative **magini* after the operation of Verner's law. It is therefore more attractive to assume that the consonantal analogies took place at a late stage, and that the loss of the paradigmatic ablaut was posterior to these analogies: in West Germanic, the zero-grade was generalized, so as to yield a paradigm **mahō*, **magini*. The zero-grade was lost in North Germanic, but not before the full-grade nominative **mōhō* adopted the consonantism of the locative **magini*. In other words, the apophonic paradigm remained intact until after the breaking up of Proto-North West Germanic.

Beside the Germanic and Greek *n*-stem, a thematic formation must be reconstructed for Slavic, cf. Ru. *mak*, gen. *máka* m. 'poppy' < **meh₂k-o-*[1217], and probably also for Alb. *mokth* m. 'pheasant's eye'[1218] (= **meh₂k-o-* plus the diminutive suffix *-th* < *-ḱo-*[1219]). The emerging linguistic distribution is not congruent with the historical spread of the poppy as a cultivar. The plant was probably first cultivated for its seeds in Southern France and the surrounding area. Remains of poppy seeds are found in middle and late Neolithic sites in Central Europe, but carbonized specimens have also been recovered in West Germany from an Aldenhoven Linear Pottery (5500–4500 BC) find.[1220] Since the archaeological distribution has no overlap with the Indo-European homeland to the North of the Black Sea, we must assume that the Indo-European term **méh₂k-on-* originally referred to a species of wild poppy, and that its use was extended to the cultivated variety only later, i.e. in the individual daughter languages.

**tōgō*, **takkaz*, **tagini* 'twig'

- **tōga(n)-*: OHG *zuogo* m. '*brachium*, *palmes*, *surculus*'[1221], Tyr. *zuɛggn* m. 'prong, jag'[1222], OS *tōg(o)* m. 'twig', MLG *tōch*, pl. *tōge(re)* 'twig'[1223], MDu. *tooch* 'twig, shoot'[1224], Du. dial. *toeg(e)*, *toog* 'branch'[1225]

[1217] The Slavic word was borrowed into Old Prussian as *moke*. Lith. *mãg(u)onė* and its enigmatic variant *aguonà* are generally assumed to be adopted from Germanic
[1218] Taken from Newmark 1999: 536.
[1219] Cf. Alb. *kurpth* (beside *kurpën*) 'old-men's-beard', *elbth* 'barley' (Camaj 1966: 121-2).
[1220] Cf. Zohary/Hopf 2000: 135-8.
[1221] Starck/Wells 10, 772.
[1222] Schatz/Finsterwalder 735.
[1223] Lübben 406.
[1224] Verdam 613.

- **tōk^{k}an-*: Du. obs., dial. *toek(e)* m. 'branch (with leaves)'[1226]
- ?**takan-*: SFri. *take*, *tāk* 'prickle'[1227], ?WFri. *toake* 'branch'[1228]
- **tagga(n)-*: OSw. *tagger* m. 'spike', Sw. *tagg*[1229], Da. *tagge* (= Far. *tagga* f. 'edge'[1230]), Nw. *tagg(e)* m. 'edge, tip', MLG *tagge* 'twig'[1231], E *tag*
  → **tagla-*: Go. *tagl* n. 'hair', ON *tagl* n. 'tail', OHG *zagal* m. 'id.'[1232]
- **takka(n)-*: OHG *zacken* pl.[1233], G *Zacke(n)* 'edge, jag, prong'[1234], MLG *tack(e)* m. 'branch'[1235], MDu. *tac(ke)* m. 'jag, branch'[1236], Du. *tak* 'branch', ME *takke* 'button, clasp', E *tack* 'small nail'

The North-West Germanic languages offer overwhelming evidence for the ablaut of the *n*-stem **tōgō*, **takkaz*, **tagini*. The reconstruction of such a paradigm is necessary to account for the vocalic and consonantal variation in these languages.

A survey of the material shows that the zero-grade is prevalent in both North and West Germanic in a variety of stems with different consonants. A variant **takkan-* must be reconstructed on the basis of e.g. MHG *zacke*, MDu. *tac(ke)*, ME *takke*.[1237] The root **tagg-* occurs as an *a*- and *n*-stem in forms such as OSw. *tagger*, MLG *tagge*, E *tag*, etc.[1238] It is further possible that SFri. *take* and WFri. *toake* continue a third variant **takan-*. With these forms alone, the reconstruction of a North-West Germanic *n*-stem with consonant gradation becomes self-evident.

The full-grade is less widespread and only occurs in West Germanic. In this branch, however, its attestation is excellent. OHG *zuogo* is well-attested as a gloss, and OS *tōg(o)* is found in the Heliand phrase *mid bōmo tōgun* 'with tree branches'. This pushes the attestation of the word back to the oldest West Germanic languages. The word furthermore appears to have lived on through the Middle Germanic stage until the present, as is borne out by e.g. Tyr. *zuɛggn* and Du. dial. *toeg(e)*.

Importantly, the direct appurtenance of **tōgan-* to the zero-grade variants is backed up by the Dutch dialectal variant *toek(e)* with a conspicuous final **k*. In the Dutch literature, this *toeke* is usually explained as a contamination form of *toege* with *tak*[1239], so as to account for the consonantism. Such a contamination indeed adequately clarifies the morphology of *toeke*, but the contamination must have taken place at the paradigmatic level rather than the lexical

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[1225] Kocks/Vording 1239; Weijnen 1996: 206.
[1226] WNT, s.v. *toek*; Kocks/Vording 1239; Weijnen 1996: 206
[1227] Doornkaat-Koolman 386.
[1228] Buitenrust Hettema 1891: 244.
[1229] Hellquist 948.
[1230] Poulsen 1199.
[1231] Lübben 398.
[1232] Graff 5, 626.
[1233] Lexer 3, 1017.
[1234] Grimm 31, 11-3.
[1235] Lübben 398.
[1236] Verdam 959.
[1237] Icel. *takki* m. 'switch, knob' (Böðvarsson 1029) must given its meaning be a loanword from Middle English *takke* or from its unattested Old English fore-runner.
[1238] The modern Scandinavian forms can be borrowed from Low German. At least Far. *tagga* with its conspicuous *–a*, looks like a loanword from Da. or MLG *tagge*.
[1239] Cf. WNT, s.v. *toek*; De Vries 1972: 24.

level: the geminate of **takkaz* spread to the nominative **tōgō* at a time when the ablaut of the paradigm had not yet been leveled. Thus, the variant **tōk^{k}an-* represents the missing link between the full-grade and the zero-grade forms.

The reconstruction of the paradigm **tōgō*, **takkaz* has far-reaching implications for the etymology of the word. On the basis of the Germanic evidence, it must be reconstructed as PIE **déh$_{2/3}$g^h-ōn*, ***dh$_{2/3}$g^h-n-ós*, **dh$_{2/3}$g^h-én-i*. This paradigm obviously precludes the old connection with **twīgō*, **twikkaz* (see p. 91).[1240] In *Wortschatz der Germanischen Spracheinheit* (p. 173), for instance, OHG *zuogo* is cited under **twĭ̄ha-*, even though it is clear that the roots **twĭ̄h-* and **tōg-* are impossible to reconcile. Pokorny (p. 228-232), too, argues that *zuogo* belongs to **du(e)i-g^{h}o-*, assuming that it was remodeled after the cardinal number **twō* '2' (< **duoh$_1$*). This is no longer tenable.

Equally problematic is the common connection of Go. *tagl*, ON *tagl*, OHG *zagal* (etc.) with Skt. *daśā́-* 'fag end' < **deḱ-eh$_2$-* and Ir. *dúal* 'frill'[1241], because the Sanskrit form does not contain a laryngeal. Instead, PGm. **tagla-* can better be regarded as a diminutive formation to the zero-grade root **tag-* < **dh̥$_{2/3}$g^h-*. This analysis is particularly attractive in view of the semantic field of MHG *zagel* m. 'tail, prick, prickle' (also cf. *zagel·holz* 'top branches').[1242] The only connection that is compatible with the paradigm **déh$_{2/3}$g^h-ōn*, **dh$_{2/3}$g^h-n-ós* is Alb. *degë* f. 'branch' (< **doig^h-* or **dōg^h-*), although Demiraj (1997: 125) claims that this formation is purely Albanian.

[1240] Fick/Falk/Torp 173; Holthausen 1921: 136; Pokorny 228-232.
[1241] Cf. Pokorny 191.
[1242] Lexer 3, 1019.

Doubtful cases

***hōdō*, **hattaz* 'hood'?**

- **hadina-*: ON *heðinn* m. 'jacket', OE *heden* m. 'robe, hood, chasuble'
- **hatta-*: ON *hattr*, OE *hæt* m. 'hat'
  → **hattjōn-*: ON *hetta* f. 'hood, cape', Nw. *hette*, Sw. *hätta*, Da. *hætte* 'cowl'
- **hattu-*: ON *hǫttr* m. 'hat'

- **hōda-*: OHG *huot* m. 'hood, hat', OS *hōd* m. 'hat', OE *hōd* m. 'hood', OFri. *hōd* m. 'hat'

The etymological link between OE *hōd* 'hood', *hæt* 'hat' and *heden* 'robe' (and cognates) is generally recognized[1243], but the possibility that the three different forms can be traced back to one single paradigm has not yet been investigated. It nevertheless seems appropriate to do just that, because Lühr (2000: 266) already reconstructed an *n*-stem **hadō*, gsg. **hattaz*, apl. **hattuns* on the basis of ON *hattr* < **hatta-* and *hǫttr* < **hattu-*. This analysis effectively explains the origin of the geminates of these stems, which otherwise must be ascribed to random *no-* and *nu*-suffixes.[1244] Now, these suffixations follow automatically from the case forms of the original paradigm, viz. gsg. **kHt-n-ós*, apl. **kHt-n-n̥̑s*.

Additional proof for an old *n*-stem comes from ON *heðinn* and OE *heden* < **hadina-*.[1245] The etymological appurtenance of **hadina-* was already tentatively suggested by Holthausen.[1246] Its exact origin is best understood by assuming that it started its life as the original dative **hadini*, continuing a locative **kHt-én-i* 'in a robe'. This derivation is attractive in view of its consonantism, as the **d* regularly follows from the operation of Verner's law in this case form. It further gains probability because there is a similar dative offshoot of another old *(m)n*-stem, viz. Go. *himins,* ON *himinn* 'heaven' < **hemini* to PIE **h_2eḱ-mon-* (see p. 143).

In view of the strong evidence in favor of an *n*-stem with the case forms gsg. **hattaz*, dsg. **hadini*, apl. **hattuns*, the question arises whether the paradigm was originally apophonic. This was, in fact, already suggested by Kauffmann (1887: 544), who attempted to explain the ablaut of OE *hōd* and *hæt* in this way. Indeed, the reconstruction of a paradigm **hōdō*, **hattaz*, **hadini* from older **kéh$_{2/3}$t-ōn*, **kh$_{2/3}$t-n-ós*, **kh$_{2/3}$t-én-i* is able to account for this vocalic alternation. In the end, however, there seem to be critical drawbacks to this reconstruction. The nominative **kéh$_{2/3}$t-ōn* would first of all have resulted in a root ***hōþ-*, not **hōd-* (Verner's law). An additional problem is that the root **hōd-*, unlike **lōfan-* 'palm' and **mōgan-* 'poppy', is never inflected as an *n*-stem. This could be due to coincidence, but not necessarily so. It is therefore my conviction that **hōda-* must be analyzed as yet another

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[1243] Fick/Falk/Torp 69; Franck/Van Wijk 254; Pokorny 516; Falk/Torp 384-5; Holthausen 1934: 282.
[1244] Cf. Fick/Falk/Torp, Franck/Van Wijk, De Vries 1962.
[1245] This formation has been interpreted as a loanword from Gr. κίθων, χιτών (Fick/Falk/Torp 90), but this is difficult on the formal side. The consonantism is unstable in Greek itself and a PGm. reconstruction **hidina-* would rather have given ON ***hiðinn*.
[1246] Holthausen 1934: 153; rejected Lühr 1988: 121.

o-grade thematization next to an otherwise non-ablauting *n*-stem **haþō*, **hattaz*. It can be reconstructed as **koh$_{2/3}$t-ó-*.

Etymologically, the Germanic words are usually compared to Lat. *cassis* 'helmet', which has lead to the reconstruction of a root **kat-* or **kad^h-*.[1247] The second variant **kad^h-* has been lumped together with Lith. *kuõdas* 'aigrette'[1248], which superficially points to a proto-form **kōd^h-o-*. It has been suggested, however, that *kuõdas* is a recent backformation from *kuodẽlis* 'lap, tuft', which in turn is alleged to be a loanword from BRu. *kudelь* 'lap, distaff'.[1249] Alternatively, it could be a Germanic loanword from **hōdaz*. At any rate, it seems better to refrain from reconstructing a root **kat-* or **kad^h-*, because Lat. *cassis* with its genitive *cassidis* points to a stem **kassid-*. The connection with Av. *kata-* 'room, cellar' and Go. *heþjo* f. 'room'[1250] is even more vague.

The only slightly more attractive etymology consists of the connection with OHG *hadara* f. 'patch, goat skin', MHG *hader*, G *Hader* f. 'rag' < **haþrō(n)-*. It is possible that the original sense of the *n*-stem **haþō*, **hattaz* was 'cover made of goatskin', and that it later developed into 'hood' and 'hat'. Nw. *hette* f. 'cowl', a derivative of **hatta-*[1251], may provide the semantic link between 'hood' and 'hat'. Other related formations are ON *haðna* f. 'young goat' < **haþnōn-*, MHG *hatele* f. 'id.', MIr. *cadla* 'goat', Lat. *catulus* m. 'young animal' < **kHt-(e)l-*. The verb **hōdjan-* > OHG *huoten*, OE *hēdan* 'to guard' is again derived from the noun **hōda-*.

***kōkō, *kakaz 'cake'?**

- **kōka(n)-*, *-ōn-*: OHG *chuohho* m., Swi. Visp. *xüoxo* 'cake', MLG *kōke*, MDu. *coeke*, Du. *koek*[1252], Nw. dial. *kok(e)* m. 'lump, ball, pile (of dung)', Sw. *kok* m., (*jord·)koka* f. 'lump (of earth)'[1253]
  → **kōkila-*: OE *cǣcil* '*tortum*'[1254]
- **kakōn-*: ON *kaka*, Nw. *kake* f. 'cake', Du. *kaakje* 'cookie'

Even though no consonant gradation is found, the vowel alternation of OHG *chuohho* and ON *kaka*[1255] can theoretically be accounted for by reconstructing an ablauting *n*-stem, e.g. nsg. **kōkō*, lsg.**kakini*. There is no compelling reason to ascribe the vocal alternation to substrate influence, as has been proposed by Boutkan (1999b: 19), even though the word has no sound

[1247] Pokorny 516; Lühr 2000: 266; Falk/Torp 382; Franck/Van Wijk 254; Kluge/Mitzka 322-3.
[1248] Falk/Torp 384; Franck/Van Wijk 254.
[1249] Fraenkel 311.
[1250] Franck/Van Wijk 254.
[1251] Falk/Torp 450.
[1252] De Vries/Tollenaere 341-2.
[1253] SAOB K1802; Hellquist 335.
[1254] Bosworth/Toller 120.
[1255] Nw. dial. *kòke* 'lump' is not from **kukan-* or **kōkan-*, but just like Far. *køka* has generalized the oblique stem with *u*-mutation, cf. ON *kaka*, obl. *kǫku*.

Indo-European etymology. The proposed link with Lith. *gúogas* 'skull' < **gog-* [1256] is semantically far from evident.

****skōgō*, *skakkaz* 'tip, brush'?**

- **skagan-*: ON *skagi* m. 'low cape, ness'[1257], Icel. *skagi* m. 'peninsula'[1258], OE *sceaga* m. 'brush'[1259], E *shaw*
  - → **skagja-*: ON *skegg* n. 'beard'
- **skaggan-*: OE *sceagga* m. 'hair'[1260] (→ *sceaggede* '*comosus*'[1261]), E *shag*
- **skakan-*: OH G *scahho* '*promuntorium*', MHG *schache* m. 'isolated grove'[1262]

- **skōga-*: ON *skógr* m. 'forest'[1263]

The reconstruction of an *n*-stem **skagō*, **skakkaz* is beyond serious doubt. ON *skagi* and OE *sceaga* directly continue a stem **skagan-*, while OHG *scahho* reflects an analogical stem variant **skakan-*. A third root **skakk-*, which has a regular geminate, is presupposed by the obsolete English adjective *shack* 'shaggy'.[1264] Finally, OE *sceagga* must be reconstructed as **skaggan-* with an analogically voiced long stop. Clearly, the original paradigm was split up in two new paradigms:

Paradigm 1

nom.	**skagō*
gen.	**skakkaz*

Paradigm 2a

nom.	**skagō*
gen.	**skaggaz*

Paradigm 2b

nom.	**skakō*
gen.	**skakkaz*

A root **skōg-*, which is in ablaut relation with **skag-*, is represented by ON *skógr*. It may originally have functioned as the nominative allomorph of an apophonic *n*-stem **skōgō*, **skakkaz*, and Kauffmann (1887: 521), in fact, explains the different stems in this way. Since, however, this word itself is not inflected as an *n*-stem, but as an *a*-stem, it can alternatively be explained as an *o*-grade thematization that was independent of the paradigm **skagō*, **skakkaz*. The *n*-stem is derived from ON *skaga*, *-ði* 'to jut out' < **skagējan-*, which has been

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[1256] Pokorny 349.
[1257] De Vries 1962: 480.
[1258] Böðvarson 845.
[1259] Holthausen 272.
[1260] Cf. Holthausen 272; ClGl 1, 1500: *coma* feax, sceacga.
[1261] ClGl 1, 1514.
[1262] Lexer 2, 662.
[1263] De Vries 1962: 497.
[1264] OED, s.v. *shack*.

connected with OIr. *der·scaigim* 'to protrude'.[1265] The link with OCS *skočiti*, Lith. *šókti* 'to jump'[1266] is semantically less attractive.

***krōn*, **kranaz* 'crane'?**

• **krana(n)-*: ON *trani* m. 'crane'[1267], OE *cran* m. 'id.'[1268], OHG *chrano*, MLG *kran* m. 'id.'[1269], MDu. *craen*, *cran(e)* m. 'id.'[1270], Du. *kraan·vogel* 'id.'[1271]

→ **kranaka(n)-*: OE *cranoc*, *cornuc* m. 'crane'[1272], OHG *chranih*, *-oh*, *-uh* m. 'id.', MHG *kran(e)ch(e)*, *kren(i)ch*, *kreneche*, pl. *kreniche* m. 'id.'[1273], G *Krănich*[1274], MLG *kranekes·snavel* 'geranium'[1275]

• **krōna-*, *-ō(n)-*: MHG ?*kruone*[1276], MLG *krōn* m. 'id.'[1277], LG *kroune* f. 'id.'[1278], SFri. *krouns·bäie* 'cranberry'

The Germanic dialects contain two roots meaning 'crane'. First there is the well attested **kran-*, which is mostly attested as an *n*-stem: ON *trani* (with irregular *t*), OHG *chrano*, and OE *cran*. In addition, there is the more marginal root **krōn-*, predominantly attested in Low and Middle German: MHG *kruon*, MLG *krōn*. Both roots have merged into the tautological compound Du. dial. *kroene·krane*, LG *krune·krane*, a word that also occurs in a famous nursery rhyme.

The Indo-European word for 'crane' cannot be captured by a single proto-form. The material gives proof of a considerable number of roots that can be traced back to at least two different stem formations, i.e. a *u*-stem and an *n*-stem.

The *u*-stem is based on the Balto-Slavic and Latin evidence. With Lith. *gérvė* f., Latv. *dzẽrve* f. and OPru. *gerwe*, the Baltic languages point to a proto-form **gerh$_2$-u-*. SCr. *žȅrāv* and Ru. dial. *žórav* point to a lengthened grade of the suffix, i.e. **gerh$_2$-ōu*. Lat. *grūs*, gen. *gruis* has a zero-grade in the root as well as the suffix, and probably continues **gruh$_2$-* from **grh$_2$-u-* with laryngeal metathesis.[1279] Together, the different stem forms are suggestive of a paradigm **ǵérh$_2$-ōu*, **ǵrh$_2$-u-ós* as reconstructed by Kortlandt (1985: 120). The plain velar

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[1265] De Vries 1962: 480.
[1266] Pokorny 922-923.
[1267] De Vries 1962: 596: "Das auffallende *t-* statt *k-* hatt man sehr unbefriedigend durch den einfluss des gar nicht sinnverwandten wortes *trami* ['troll'] erklären wollen".
[1268] Bosworth/Toller 169; Holthausen 59.
[1269] Lübben 187.
[1270] Verdam 311.
[1271] Franck/Van Wijk 342.
[1272] Holthausen 59.
[1273] Lexer 1, 1709.
[1274] Kluge/Seebold 534-5: "Das Wort is außergermanisch gut vergleichbar, doch lassen sich die Formen nicht auf eine einheitliche Grundlage zurückführen".
[1275] Lübben 187.
[1276] = Frankfurter Baumeisterbuch *krone*, Lexer 1, 1709.
[1277] Lübben 190.
[1278] Rosemann/Klöntrup 1982-4: 452-3.
[1279] Schrijver 1991: 246.

results from depalatalization of *ǵ before *r*[1280] in the zero-grade **ǵrh₂-*, from where it could spread to the full-grade root.

There is substantial evidence for an *n*-stem, too. Gr. Hsch. γέρην 'γέρανος' is attested as such, and can be reconstructed as **ǵérh₂-ēn*. The thematic form Gr. γέρανος, on the other hand, must be derived from either **ǵerh₂-n-* or **ǵerh₂-en-*. The latter reconstruction might be supported by W *garan*, as **ǵrh₂-n-* would have given ***grawn*, but in this case the *a* may reflect **e* by Joseph's rule (**-eRa-* > **-ara-*) as argued by e.g. Schrijver (1995: III.3.1.1). As a result, there is no compelling evidence for an ablauting *n*-stem **ǵérh₂-ōn*, **grh₂-én-i*, even though it can be expected on morphological grounds.

It is tempting to connect the PIE *n*-stem with the one found in Germanic, especially since both formations may have had ablaut of the root. Still, the connection turns out to be impossible on formal grounds. The paradigm **ǵerh₂-ōn*, **ǵrh₂-n-ós*, **grh₂-en-i* would regularly have yielded PGm. **kerō*, **kurraz*, **kurini*, but certainly no root **kran-* or **krōn-*. These roots rather seem to point to a paradigm nom. **kr-ōn*, acc. **kr-an-un* from older **ǵr-ōn*, **ǵr-on-m*, but the lack of the laryngeal remains unexplained.

Given the more general tendency of thematicized forms to introduce the *o*-grade, it is probably better to regard **krōna-* as split-off from a further non-apophonic *n*-stem **kranan-*. Such a derivational path is not unique, as is evident from the correlation between OHG *hano* m. 'rooster' < **hanan-* and OHG *huon* n. 'fowl' < **hōna(z)-*. The exact derivation of **kranan-* nevertheless remains unclear.

**slōgō*, **slakkaz* 'sludge'?

- **slōga-*: ?MLG *slōch*[1281], OE *slōh* mn. 'miry place'[1282], E *slough*
- **slōkᵏa-*, *-ō(n)-*: Nw. dial. *slok* m. 'pool on the floor', MHG *sluoche* f. 'ditch'[1283], G *Schluche* 'waterfall'[1284], Du. dial. *sloek* 'lump of dung'[1285]
- **slaga(n)-*: Icel. *slagi* m. 'indoor puddle, moist'[1286], Far. *slag* n. 'moisture'[1287], MLG *slage* 'lump of butter'[1288]
- **slakan-*: Icel. *slaki* m. 'moist'
  → **slak(k)nan-*: Icel. *slakna* 'to become wet'[1289]
- **slagga(n)-*, **slaggōn-*: Sw. *slagg(·väder)* 'rainy weather'[1290], G *Schlack* m. 'mush', *Schlacke* f. 'slag'[1291] (= Du. *slak* 'slag'[1292]), MLG *slagge* m. 'slag, rainy weather' (= ON *slaggi* 'slag')

[1280] Kortlandt 1978: 237.
[1281] Lübben 355.
[1282] Bosworth/Toller 886; Holthausen 1934: 300.
[1283] Lexer 2, 992.
[1284] Neuestes Conversations-Lexicon VIII, 254.
[1285] WLD I/1, 16.
[1286] Böðvarsson 899.
[1287] Poulsen 1074.
[1288] Lübben 351.
[1289] Böðvarsson 899.
[1290] Hellquist 782.
[1291] Kluge/Seebold 805.

→ **slaggō(ja)n-*: MLG *slaggen* 'to be rainy'[1293]

→ **slaggjōn-*: MDu. *slegge* f. 'drizzle, fine snow, damp fog'[1294], Kil. *slegghe* 'cloud, moisture, continuous rain, hail', Du. dial. *slegge* 'swampy spot, puddle, wet snow'[1295]

- **slakka(n)-*, **slakkōn-*: G *Schlack* m. 'mush, daub'[1296], MDu. *slac(ke)* f. 'snail, slag'[1297], Du. dial. *sjlak* 'puddle'[1298]

  → **slakkjōn-*: MDu. *slec(ke)* f. 'snail, slag', Kil. *slecke* '*scoria*'

The North and West Germanic dialects contain traces of an *n*-stem with a meaning ranging from 'damp weather, drizzle' to 'mud' and 'slag'. The evidence points to the usual consonant variation **slag-*, **slakk-*, **slagg-*, which can be explained by a normal paradigm **slagō*, **slakkaz*. This *n*-stem is in ablaut correlation with OE *slōh*, gen. *slōges* 'miry place', Du. dial. *sloek* 'lump of dung' – which is semantically especially close to 'slag' –, Nw. dial. *slok* 'pool' and probably also G *Schluche* 'waterfall', although this word is rather obscure in German. The link between **slagō*, **slakkaz* and **slōga-* / **slōk^{k}a-* seems to be confirmed by the spread of gemination to the full-grade forms. It is not entirely certain, however, whether both ablaut grades once formed one single paradigm, i.e. **slōgo*, **slakkaz*, or that the full-grades arose in thematic derivations.[1299]

The vocalic alternation of MDu. *slacke* and *slecke*, MLG *slagge* and MDu. *slegge* is not entirely clear. The most direct way to explain these forms with *e*-vocalism assume that they reflect the derivations **slakkjō(n)-* and **slaggjō(n)-* (cf. MHG *krebe* < **kreban-* vs *kribbe* < **krebjō(n)-*, p. 161). An alternative solution would be to ascribe the interchange of *a* with *e* to paradigmatic umlaut. This can be observed in the earliest phase of Old High German, which has alternations such as nom. *hano*, dat. *henin* m. 'rooster' < **hanō*, **hanini*. This paradigmatic umlaut may have been a Proto-West Germanic affair, but it was erased as early as in the 9th century.[1300] It therefore needs to be tested, whether MDu. *slecke* and *slegge* can represent paradigms that sprouted from datives forms with front mutation, e.g. **släkkini* or **släggini*.

[1292] According to Franck/Van Wijk (p. 613) the word is from G *Schlacke*, but this may not be necessary.
[1293] Lübben 351.
[1294] Verdam 546.
[1295] Kocks/Vording 1109: Weijnen 182.
[1296] Grimm 15, 254; Kluge/Seebold 805.
[1297] Verdam 545.
[1298] Weijnen 179.
[1299] Boutkan (2003: 248) took the alternation of **a* with **ō* to be an indication of a substrate origin. This is unlikely given the systematic functioning of both vowels in Proto-Germanic morphology.
[1300] Braune 1891, §221: "Jedoch hat sich der umlaut, unter einwirkung der übrigen casus, nicht halten können und findet sich nur in alten quellen".

8.8 *$\bar{o}$ ~ *$\breve{\bar{u}}$ alternations

There are three old heteroclitics with an alternation *$\bar{o}$ ~ *$\breve{\bar{u}}$. The type, which looks like a mixture of the *$\bar{o}$ ~ *a type and the *$\bar{u}$ ~ *u type, arose in ablauting nouns whose root contained a coloring laryngeal plus *u. In the full-grade, this root structure resulted in a diphthong *$\bar{o}u$, which by regular loss of the labial off-glide developed into PGm. *$\bar{o}$. In the zero-grade, on the other hand, the vocalism became short *u, either because *-$h_{2/3}u$- became short *-u- right away, or because a metathesized sequence *-$uh_{2/3}$- resulted into long *$\bar{u}$ that was again shortened by Dybo's law. The resulting ablaut, i.e. *$\bar{o}$: * $\breve{\bar{u}}$, is typical of heteroclitics, e.g. Go. *fon*, *funins* < *$f\bar{o}r$, *$funaz$ 'fire' < *$péh_2$-ur, *ph_2-$uén$-s, Go. *sauil*, dat. *sunnin* < *$s\bar{o}l$, *$sunaz$ 'sun' < *$séh_2$-ul, *sh_2-$uén$-s. There may further have been one *n*-stem with *$\bar{o}$: *$\bar{u}$ ablaut. This is *$kr\bar{o}h\bar{o}$, *$kr\bar{u}k^kaz$ 'jug' as evinced by the alternation of OHG *chruog* 'jug' with OE *crūce* 'crock'.

***sōel*, *sunnaz* 'sun'**

- *$s\bar{o}(e)l$-: Go. *sauil* n. 'id.', ON *sól* f. 'id.'
- *$sunna/\bar{o}n$-: Go. *sunno* f., dat. *sunnin* m. 'id.', ON *sunna* f. 'id.', OHG *sunno* m. 'id.', *sunna* f. 'id.', OE *sunna* m., *sunne* f. 'id.'
- *$suil$-: ?Go. *sugil*, OE *sigel·hweorfa* m. '*eliotropum*'

Like Av. *huuarə*, gen. *x^{v}ə̄ṇg* 'sun' < *suH-$l̥$, *sHu-en-s, the Germanic evidence points to a heteroclitic paradigm. The heteroclisy was still more or less intact in Gothic, as in this language the neuter *sauil* < *$s\bar{o}el$ (with lowering of $\bar{o}$ to $\bar{ɔ}$ in open syllables) and the feminine *sunno* < *$sunn\bar{o}n$- < *sh_2un- share a masculine dative *sunnin*. For Indo-European, Schindler (1975: 1) and Beekes (1984: 5 fn.) reconstructed nom. *$séh_2ul$, gen. *$sh_2uéns$. Beekes (1984: 6) argued that the proterodynamic genitive of this paradigm may have been replaced by *$sh_2unós$ already in late PIE, so as to explain e.g. Skt. gen. *$s\acute{\breve{u}}ras$* < *sh_2u-l-$ós$ << *sh_2u-n-$ós$. The latter would either yield PGm. *$s\breve{u}naz$ directly or indirectly through a metathesized form *$suh_2nós$ with Dybo's law of pretonic shortening.[1301] I therefore reconstruct *$s\bar{o}l$, *$sunaz$ for Pre-Germanic.

The derivation of the geminate root of *$sunna/\bar{o}n$- has always been problematic.[1302] Ever since Brugmann (1906: 303), it has been assumed that it came about as the "weak-case stem with a zero-grade of the *n*-suffix"[1303], i.e. *sun- + *-n-, after the generalization of this root in the paradigm. Attractive as this solution may look at first sight, it poses two serious problems. First of all, the root *sun- with a singulate is completely absent in the material. Second, since the geminate of *h_1es-si 'you are' was shortened to *h_1esi in Proto-Indo-European times already, the supposed analogical genitive *sh_2u-n-nos would have been shortened to *sh_2unos well before the rise of the Proto-Germanic geminates. I therefore think

[1301] Schrijver 1991: 351-6.
[1302] Cf. Benediktsson 1968: 11, 13.
[1303] Hilmarsson 1987: 62.

that the traditional explanation of the geminate in the root **sunn-* cannot be upheld (see section 4.2.5).

Alternatively, there is Hilmarsson's (1987) idea that **sunnōn-* is a secondary *n*-stem **sunþō*, **sunþnaz* derived from the adjective **sunþa-* 'south' < **sh₂un-to-*. This solution does not convince either, because in view of the retained heteroclisy in Gothic, it is unattractive to draw the nominative *sauil* from **séh₂uel*, while at the same time reconstructing a different formation for the dative *sunnin*.

To my mind, the only way around the above problems is to assume that after the model of other *n*-stems, gemination was grammaticalized in the genitive case(s). Accordingly, the paradigm **sōl*, **sunaz* must have been transformed into **sōl*, **sunnaz*. This removes the necessity to reconstruct an impossible, pre-Germanic geminate **-n-n-*, and at the same time explains why there is no evidence for the root variant ***sun-* with a singulate. Since the geminate of **sunnō* is pan-Germanic, I further assume that the morphologization of gemination affected the heteroclitic paradigm before the dissolution of the proto-language.

**fōr*, **funaz* 'fire'

- **fōn*, **fun(en)az*: Go. *fon*, *funins* n. 'id.', ON *funi* m. 'id.'[1304]
- **fū(i)r-*: ON poet. *fúrr*, *fýrr* m. 'id.'[1305], OHG *fiur*, *fuir*, *vugir* n. 'id.', OE *fȳr* n. 'fire, hearth'[1306]

The different forms contain at least two separate roots **fō-* and **fu-*. This is especially clear from the Gothic paradigm *fon*, *funins* < **fōn*, **fun(en)az*.[1307] These roots go back to a heteroclitic paradigm **péh₂u-r*, **ph₂u-n-ós* or **péh₂u-r*, **ph₂-uén-(o)s*, cf. Hitt. *paḫḫur*, *paḫwenas* n. 'fire'. Although Gothic shows no traces of it, the heteroclisy must also have been retained in Proto-Germanic. This clearly follows from the interchange of *r-* and *n*-forms in the Germanic dialects, e.g. ON *fúrr* < **fūr-* < **ph₂u-r* (cf. Gr. πῦρ), ON *funi* < **ph₂u-n-*.

The vocalism of OHG *fiur*, *fuir* and ON *fýrr* is somewhat ambiguous. De Vries (p. 149) reconstructs **feura-* as if from **peu(H)r-*, but this reconstruction would have produced ON ***fjórr*. More probably, ON *fýrr* as well as OE *fýr* and OHG *fiur*, *fuir* (= [fy:r]) contain the root of the original locative **fuiri*, which replaced PIE **puH-én-i*.[1308] Note that in this form, just like in the original genitive **ph₂u-n-ós*, any long **ū* would have been shortened by Dybo's law of pretonic shortening.[1309]

As opposed to **sō(e)l*, **sunnaz* the paradigm of **fōr*, **funaz* did not receive an analogical geminate (cf. ON *funi*). The motivation behind this difference is not entirely clear, but is seems to have had something to do with the fact that **sō(e)l*, **sunnaz* transgressed to

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[1304] De Vries 1962: 147.
[1305] De Vries 1962: 147, 149.
[1306] Bosworth/Toller 351.
[1307] Cf. Beekes 1996: 5; Kluge/Seebold 289-9: "Ausgangspunkt ist ig. **pehwr̥/phwnos* [...]."
[1308] Seebold's reconstruction **fewur* is impossible from the Proto-Indo-European point of view, since the nominative was **péh₂ur* (thus Beekes 1996: 6).
[1309] Beekes l.c.

the common *n*-stems, where consonant gradation was regular, while **fōr*, **funaz* remained a neuter.

***gōmō*, ?*gummaz* 'palate'**

- **gōma(n)-*: ON *gómr* m. 'roof or floor of the mouth, finger-tip', Icel. *gómur* m. 'id.'[1310], Far. *gómi* m. 'oral cavity'[1311], *fingur·gómur* m. 'finger-tip'[1312], Nw. *gom(me)* 'palate, gum', OSw. *gōme* m. 'upper or lower part of the mouth', Sw. *gomme* 'oral cavity, gum'[1313], Da. dial. *gumme* 'id.'[1314], OE *gōma* m. 'id.', E *gum*, OHG *guomo* m. 'throat', MHG *guome* m. 'id.', Kil. ger. sax. *gumme* '*palatum*', G obs. *gomme*, *gumme(n)* 'id.'[1315], Pal. *gummen* m. 'mouth, *pl.* lips'[1316]
- **gauma(n)-*: OHG *goumo* m. 'throat', MHG *goum(e)* m. 'id.', G *Gaumen*[1317], Cimb. *gaumo* m. 'id.'[1318]
- ?**geuman-*: OHG *giumo* (= nsg. *giumo* '*palatus*', npl. *giumen* '*fauces*') m. 'throat'
- ?**gumman-*: OHG *gommo* (= gpl. *commono* '*faucium*') m. 'id.'

The formal variation of the word for 'palate' is difficult to interpret. The material provides evidence for **gōma(n)-* > ON *gómi*, OE *gōma*, OHG *guomo* and **gauman-* > OHG *goumo*, G *Gaumen*, but the correlation between the two root variants is not straightforward. Finally, OHG *giumo* has been derived from an *e*-grade **geuman-*, but this reconstruction is erroneous, as I will argue below. What is beyond doubt, is that the Proto-Germanic paradigm represents an ablauting *mn*-stem related to ON *gana* (pret. *ganda*) 'to gape, yawn' < **ganējan-*, Gr. χαίνω 'to yawn' < **g^{h}h$_{\mathring{2}}$-n-*, χήμη f. 'yawn' < **g^{h}eh$_2$-meh$_2$-*, Lith. *gomurẽ* 'palate', Latv. *gãmurs* m. 'windpipe, larynx'[1319] < **g^{h}eh$_2$-m̥r-*. There is no compelling evidence for a root **g^{h}eh$_2$u-* with final **-u-*, as given by e.g. Pokorny (p. 449). ON *gana* and Gr. χαίνω strongly point to a root without **u*. It is plausible, in view of the Baltic material, that the Proto-Indo-European word originally was a heteroclitic, i.e. inflected as **g^{h}éh$_2$-mr*, gen. **g^{h}h$_2$-mén-s* / **g^{h}h$_2$-mn-ós*.[1320]

Regarding the Germanic material, the most important issue is to determine what kind of inflection would offer the best preconditions for the rise of the two variants **gōman-* and **gauman-*. There seem to be two possibilities: 1) a proterodynamic inflection **g^{h}éh$_2$-mōn*,

[1310] Böðvarsson 299.
[1311] Poulsen 374.
[1312] Poulsen 264.
[1313] SAOB G759.
[1314] Falk/Torp 361: 'Formen **ghôᵘmon* und *ghaumon*, von der wurzel **ghôu-*, **ghau-*'.
[1315] Grimm 4, 1576-81.
[1316] Christmann 3, 73: "Die F. *gumə* geht auf mhd. guome […] zurück, wobei jedoch für dieses Wort auch in der südl. VPf Kürzung von *ū* < *uo* angenommen werden muß (vgl. Blume)."
[1317] Kluge/Seebold 334.
[1318] Schmeller/Bergmann 186.
[1319] Pokorny 449; Fraenkel 161.
[1320] Mallory/Adams 387: **g^{h}éh$_a$(u)-m̥r*, *-mn-ós*.

g^hh_2-mén-s or 2) a hysterodynamic inflection *$g^héh_2$-mōn*, *g^hh_2-mn-ós*. In view of the Baltic forms, it is attractive to start from a heteroclitic that developed into a proterodynamic *mn*-stem in Germanic. The proterodynamic paradigm *$g^héh_2$-mōn*, *g^hh_2-mén-s*, *g^hh_2-mén-i* would regularly develop into PGm. **gōmō*, **gamenaz.* With this outcome, the stem **gōman-* receives a good explanation, but **gauman-*, on the other hand, does not.

The hysterodynamic paradigm *$g^héh_2$-mōn*, *g^hh_2-mn-ós*, *g^hh_2-mén-i* seems to be a better starting point, as it would result into PGm. **gōmō*, **gummaz*, **gamini*. This triple root alternation can account for the stem **gōman-*, first of all, and it is not inconceivable that the second variant **gauman-* results from a contamination of **gummaz* (= OHG *commono*?) with the other two roots; the *u* of the genitive **gummaz* may, for instance, have spread to the locative **gaumini*. Otherwise, it is possible that the **ō* of the nominative **gōmō* spread to the genitive **gummaz*, giving rise to a root **gōum-*, which by Osthoff's law would have developed into **gaum-*. Whatever the case may be, the hysterodynamic paradigm seems to offer more favorable preconditions for the attested variation of **gōman-* and **gauman-* than the proterodynamic variant.

As a final point, the OHG alternant *giumo* needs to be explained. It is based on only two attestations in Notker, but has been projected back into PGm. as **geuman-* and even into PIE as *$g^hēh_2u$-mon-* or *$g^hh_2ḗu$-mon-* with a lengthened grade.[1321] The Old High German grapheme <iu>, however, does not necessarily indicate the diphthong [iu] from PGm. **eu*. In view of its occurrence in the plural *giumen*, it is far more likely that is represents OHG *goumo* with analogical umlaut, i.e. **göumen* (see chapter 9). This explanation is more plausible than to assume that these two forms miraculously preserved an Indo-European lengthened grade, not in the least because Notker is known for incidentally indicating front mutation, e.g. *hût*, pl. *híute* 'skin' < **hūdi-*, *líuten* 'to sound' < **hlūdjan-*.[1322]

***krōhō*, *$krūk^kaz$* 'jug'?**

- **krūk^kōn-*: MHG *krūche* f., OS *krūka* f. '*cambuca*'[1323], MDu. *cruke* f., Du. *kruik*[1324], OE *crūce* f. 'crock', E *crouke*
- **krukkan-*, *-ōn-*: ?ON *leir·krukka* f. 'leather jug'[1325], OE *crocca* m., *crocce* f. 'crock'[1326]
- **kruhhan-*: OFri. *krocha* m. 'scuttle'[1327], NFri. Wdh. *krōge* m. 'pot'[1328], OE *crohha* '*luteum*'[1329]

[1321] Pokorny 449; Rasmussen 1999: 401 fn..
[1322] Cf. Braune 1891: 29.
[1323] Gallée 185.
[1324] Franck/Van Wijk 354.
[1325] De Vries 1962: 332: "möglich < ae. *crocca* [...] oder aus mnd. *krucke* [...]."
[1326] Bosworth/Toller 171.
[1327] Holthausen 1925: 61.
[1328] Jensen 296. With *-g-* < **-hh-* (Löfstedt 1, 241).
[1329] Bosworth/Toller 134-5.

- **krōga-*: OHG *chruog* m. 'jug', G *Krug*[1330], MDu. *croegh* 'id.', OE *crōg* m. 'crock'[1331]

This word for 'jug' has four different stem variants, i.e. **krūk^k-*, **krukk-*, **kruhh-* and **krōg-*. The first three roots are all inflected as *n*-stems. It is clear, as the OED observed, that †*crouke* is "in ablaut relation to the family of *crock*" and that the underlying root **krūk-* contains a shortened geminate.[1332] The variation between **ū* and **ŭ*, on the one hand, and **kk* and **hh*, on the other, thus points to an original paradigm **krūhō*, **krukkaz*, which was split-up into 1. **krūkō*, **krukkaz* and 2. **krūhō*, **kruhhaz*. Given the irregularity of fricative geminates, it is at any rate certain that the variant **kruhh-* is secondary, cf. **kliþþōn-* 'burdock' (see p. 76) and **muþþan-* 'moth' (see p. 178).

The root **krōg-* is difficult to explain from the above paradigms. Since it is inflected as an *a*-stem, it can be reconstructed as **groHuk-ó-*, i.e. an *o*-grade thematization. The problem is that this reconstruction implies a laryngeal root, and that, as a result, the *n*-stem should be reconstructed accordingly, viz. **gréHuk-ōn*, **grHuk-n-ós*. In Proto-Germanic, this paradigm would develop into **krōhō*, **krūk^{k}az* with an ablaut pattern similar to the one exhibited by the heteroclitics **sōl*, **sunaz* 'sun' < **séh$_2$-ul*, **sh$_2$-un-ós* and **fōr*, **funaz* 'fire' < **peh$_2$-ur*, **ph$_2$-un-ós*. This is problematic, because the expected stem **krōhan-*is not extant. The morphology of the root **krūk^k-*, however, with its combination of a long **ū* and a shortened geminate, points to the original genitive **krūk^{k}az* < **gruHk-n-ós*. The short vowels of **krukk-* and **kruhh-*, then again, must be regarded secondary within this framework.

Etymologically, the cluster is usually connected with Gr. κρωσσός 'jug'[1333] < **krōkjo-*(?), OCS *krugla* 'cup' and Alb. *karroqe* f. 'wooden bucket'[1334], but the reconstruction of the Greek word is ambiguous and Alb. *karroqe* looks like a loanword (from Lat. *cambuca*?). OCS *krugla* can, just as W *crochan* and OIr. *crogán*, be borrowed from Germanic. It has also been suggested that the Germanic and Greek word were adopted from an unknown language, so as to explain the vowel alternation of **ō* and **ū* in Germanic.[1335] Plausible as this possibility may seem, the consonant alternations can by no means be labbeled as "un-Germanic". So, even if we are dealing with an old loanword, it must have been adopted and incorporated into the category of the *n*-stems before the major sound shifts.

[1330] Kluge/Seebold 542.
[1331] Bosworth/Toller l.c.
[1332] Vercoullie (p. 187): "met *k* na langen klank uit *kk* = *gn*"; Falk/Torp (p. 583): "Die germ. formen sind also **krôg-*, **krûk-* und **krukk-*, wo *k* und *kk* aus *gn-́* enstanden sein können."
[1333] Frisk 2, 30: "Schon das σσ-Element, gewissermaßen auch die technische Bed., läßt auf mediterranen Ursprung schließen."
[1334] Cf. Pokorny 385-390.
[1335] Kluge/Seebold 542.

8.9 **ē ~ *a* alternations

In his article on the Germanic consonantism, Kauffmann listed a small number of *n*-stems with a vocalism that shifts between what looks like PGm.**ē* and **a*. The following cases can be collected from the Germanic dialects: **dēbō*, **dappaz* 'paw' (p. 205); **hēhō*, **hakkaz* 'hook' (p. 205); **krēgō*, **krakkaz* 'crook' (p. 208); **krābō*, **krappaz* 'crook, clasp' (p. 207); **snēgō*, **snakkaz* 'snake' (p. 209).

In spite of the fact that most of the attested *n*-stems with this kind of ablaut have no sound Indo-European etymology[1336], an obvious way to deal with the interchange of **ē* and **a* is to assume that this ablaut pattern came about in *n*-stems with **h₁* in the root: PIE **Céh₁C-ōn*, **Ch₁C-n-ós* > PGm. **CēCō*, **CaCCaz*. Such a paradigm was indeed considered by Lühr (1988: 286) for **hēhō*, **hakkaz* 'hook', but finally rejected because there is no evidence for a Pre-Gm. root **keh₁gʰ-*.[1337] Another complication is that the zero-grade in **a* can only be regular in roots consisting of stops only, as the laryngeal would never be vocalized in roots with an additional resonant. An old paradigm **snéh₁gʰ-ōn*, **snh₁gʰ-n-ós*, for instance, would develop into **snēgō*, **sunkᵏaz*, and not into **snēgō*, **snakkaz* 'snake'. In fact, since the same line of reasoning is valid for **krēbō*, **krappaz* (not ***kurpᵖaz*) and **krēgō*, **krakkaz* (not ***kurkᵏaz*), the only possibly regular example of the **eh₁ ~ *ḫ₁* type is **hēhō*, **hakkaz*, but exactly for this *n*-stem no laryngeal can be demonstrated outside Germanic. The most attractive explanation for this type therefore must be that it is a Germanic innovation, which – just like the **ū ~ *u* type – consists of an extension of the quantitative ablaut of PGm. **ī ~ *i* that arose regularly from PIE **ei ~ *i*.

Given the parallelism of the **ā* : **a* ablaut with the equally secondary **ū ~ *u* alternation, it is attractive to locate the rise of the type in the Proto-North-West Germanic period, i.e. before the split of North and West Germanic. Such a time depth is implied by the evidence, too. The *n*-stems with **ā* vocalism are most frequent in Upper German, viz. OHG *chrācco*, *hācco*, *krāpfo*, *snācco*. This is undoubtedly the result of a secondary spread of this vocalism to other *n*-stems, as it can hardly be coincidental that the OHG *hācco*, *chrācco* and *chrāpfo* all mean 'hook'. The gradual process of *lexical huddling*, as we can call it, was of course driven by the centripetal forces exerted by either formal or semantic similarities between these stems. That the *huddle* continued to grow is, by the way, demonstrated by the modern Swabian *n*-stem *zāk(eⁿ)* m. 'hook, jag'[1338], which must have a secondary **ā*, because it is based on the paradigm **tōgō*, **takkaz* 'twig, jag' (cf. OHG *zuogo*). In spite of this relatively recent spread in Upper German, the process that led to the analogical introduction of **ā* must be old, as the vocalism of OHG *snācco* and *chrācco* is exactly mirrored by ON *snákr* 'snake' and *krákr* 'crook'. Similarly, the long **ā* of OHG *hācco* re-emerges in the Low and Middle German dialects, cf. Du. dial. (Stellingwerven) *haoke* 'hook' (vs. *haeze* 'hare' < **hasan-*), G Rhnl. *hōk*, *hōx* 'id.'[1339] < **hākᵏan-* (but WPhal. *hāken* 'id.'[1340] < **hăkan-*(!) vs.

[1336] Lühr (1988: 319): "Ein solcher Typ hätte ebenfalls keine außergermanische Entsprechung."
[1337] Lühr (1988: 286): "In diesem Fall hätte man einen starken Stamm **χēgan-* und einen schwachen Stamm **χakk-* ('Gekrummtes'?) zu postulieren. Doch ist eine Wurzel vorurgerm. **keh₁gʰ-* sonst nicht nachweisbar, weshalb dieser Ansatz unsicher bleibt."
[1338] Fischer/Taigel 436.
[1339] Müller 3, 119.

hår ‘hair’ < **hār*-). Importantly, the North Frisian form Wdh. *krēk* m. ‘hook on clothes’[1341] < **krāk*^{k}- seems to indicate that Anglo-Frisian, too, was present during the rise of long **ā*. With this final piece of evidence, the rise of the **ā* ~ **a* type can confidently be given a North-West Germanic date.[1342]

***dēbō*, **dappaz* ‘paw’**

- **dēbban*-: MHG *tāpe* m., G *Dape*, *Tape*, Rhnl. *tape* ‘paw’[1343], Swi. App. *tɔɔppə* m. ‘paw’[1344], Visp. *daappo* ‘paw, hand’[1345]
- **dabban*-: G *Dappe*, *Tappe* ‘paw, (foot)print’[1346]
- **dappan*-: G *Tapfe* m. ‘paw’[1347]

That German *Dape* and *Tape* continue an older form with both a long vowel and a long consonant is shown by the Alemannic dialects, such as App. *tɔɔppə* and Visp. *daappo* < OHG **dāppo* ~ **tāppo*. The quasi-Proto-Germanic form underlying this formation is **dēbban*-, but since geminates were shortened after long vowels in Proto-Germanic, the long stop must have been introduced from an oblique form with a short vowel, e.g. G *Tappe* < **dabban*-. This voiceless geminate, in turn, cannot be primary either, and seems to have replaced the regular, voiceless geminate that is still found in G *Tapfe* < **dapfan*-. As a result, the quasi-PGm. paradigm can be reconstructed as **dēbō*, **dappaz*, **dabini*. This *n*-stem was probably derived from a Proto-North-West Germanic iterative, which shows the expected consonant gradation: SFri. *dafen* ‘to knock’, MDu. *dabben* ‘to toddle’, G *tappen* ‘to pat’ < **dappōþi*, **dabunanþi*.

***hēhō*, **hakkaz*, *hagini* ‘hook’**

- ?**hēhan*-: OHG *hāho* m. ‘id.’[1348]
- **hēg(g)an*-: OHG *hāc(c)o* m. ‘id.’, MHG *hā(c)ke*, *hōcke* m. ‘id.’, G *Haken*, Als. *hōkə* m. ‘id.’, Swi. App. *hɔɔkkə*, pl. *hœ̄kkə* m. ‘id.’[1349], Visp. *haacko* m. ‘id.’
- **hēk*^{k}*an*-: OS *hácon* ‘*uncis*’, ?MDu. *hake*, *haek* m. ‘id.’, ?Du. *haak*, dial. *haoke* ‘id.’

[1340] Woeste 90.
[1341] Jensen 294.
[1342] The rise of the **ā* ~ **a* alternation has a bearing on the question whether Anglo-Frisian partook in the lowering of PGm. **ē* to **ā*, or that the lowering of PGm. **ē* occurred in the other dialects at a time when the Anglo-Frisian had already left the proto-North-West Germanic continuum. The development of NFri. *krēk* < **krāk*^{k}- points to the former option.
[1343] Müller 8, 1061.
[1344] Vetsch 1910: 143.
[1345] Zimmermann-Heinzmann.
[1346] Grimm 21, 139-40.
[1347] Grimm 21, 134.
[1348] Grimm 10, 177.
[1349] Vetsch 73, 90.

- **hakan-*: Icel. *haki* m. 'pickaxe', Nw. *hake* m. 'crook', OFri. *haka* m. 'id.', OE *haca* m. 'id.'

- **hōk^{k}a-*: OE *hōc* m. 'hook', MLG *hōk* m. 'corner', Du. *hoek* 'corner'
  → (?)**hōkjōn-*: ON *hœkja* f. 'crutch'

The different forms point to an *n*-stem with **ā* ~ **a* ablaut. OHG *hācco*, MHG *hā(c)ke* and G *Haken* go back to an *e*-grade **hēggan-*. The length of the vowel is ascertained by the Upper German dialects that shift long *ā* to *ō*. This shift spread from the 12th century onwards[1350], and is witnessed by MHG *hōcke*, Als. *hōkə* and App. *hɔɔkkə* (but not by Visp. *haacko*). The Swiss forms are especially interesting, as they preserve both vowel and consonant length up to the present day. The *e*-grade is also supported by the form *haoke* 'hook' < **hēkan-* in the Saxon dialect of Stellingwerven, where **hakan-* would have given ***haeke*. The zero-grade is ascertained by Icel. *haki*, OFri. *haka*, OE *haca*, which all seem to have an analogical singulate. The *o*-grade is present in Saxonic and Franconian: OE *hōc*, MLG *hōk*, MDu. *hoek* 'hook'. Possibly, ON *hœkja* 'crutch' is derived from it.

All these forms can be united by reconstructing a paradigm **hēhō*, **hakkaz*, **hagini* and an *o*-grade thematization **hōk^{k}a-*. At first sight, this paradigm seems to presuppose PIE **kéh$_1$k-ōn*, **kh$_1$k-n-ós*, **kh$_1$k-éni*, but there is no extra-Germanic evidence for a laryngeal in the root. I therefore think that the long **ā* is analogical to the *n*-stems with **ī* ~ **i*, **ō* ~ **a* and **ū* ~ **u* alternations. The Upper German dialects generalized the full-grade and the geminate **g*, which resulted into a paradigm **hēggō*, **hēggen*, **hēggin*. In Low Germanic, the root **hēk^k-* seems to dominate, although West Phalian *hāke* has **ă*.

The etymology of the word is unclear. It is possible that Go. *hoha* m. 'plow' < **hōhan-* and OHG *huohila* m. 'small plow' belong here. They are related to Skt. *śā́khā-* f. 'twig', Lith. *šãkė* f. 'fork, pitchfork', Ru. *soxá* f. '(wooden) plow', SCr. *sòha* f. 'stick with a fork'.[1351] The semantic variation between 'twig' and 'plow' implies that a curved stick was used as a plow. This word may have become conflated with the root **ḱ(o)nk-* that is found in other Indo-European languages, cf. Skt. *śaṅkú-* 'peg, post', OCS *sǫkъ* < **ḱonk-*, W *cainc* 'branch', OIr. *cécht* 'plow' < **ḱnk(-to)-*. In Germanic, the variant **ḱonk-* is retrieved from ON *hár* 'rowlock'[1352] (= Fi. *hanka* 'oarlock, rowlock'), **hanhilō-* in OHG *hāhala*, *hāhila* f., Swi. Visp. *heeli* 'kettle hook'. It is difficult to separate OE *hēla* m., MDu. *hiele*, Du. *hiel*[1353], a word with a North Sea Germanic distribution that is derived from **hanhilan-*.[1354] A related, but more simple form is OE *hōh* m. 'heel, promontory'[1355], which is identical to *há-* in ON *há·mót* 'ankle-joint' and *há·sin* f. 'Achilles tendon'. Presumably, the meaning 'hook' was used metaphorically to designate the 'heel'. Can the form **hāh-* < **hanh-* have served as the basis for the paradigm **hēhō*, **hakkaz*?

[1350] Moser 1975: 70.
[1351] Cf. Pokorny 523.
[1352] With a nasal vowel in the *First grammatical treatise*.
[1353] De Vries/Tollenaere 256.
[1354] Fick/Falk/Torp 67; De Vries/Tollenaere 256.
[1355] Bosworth/Toller 557.

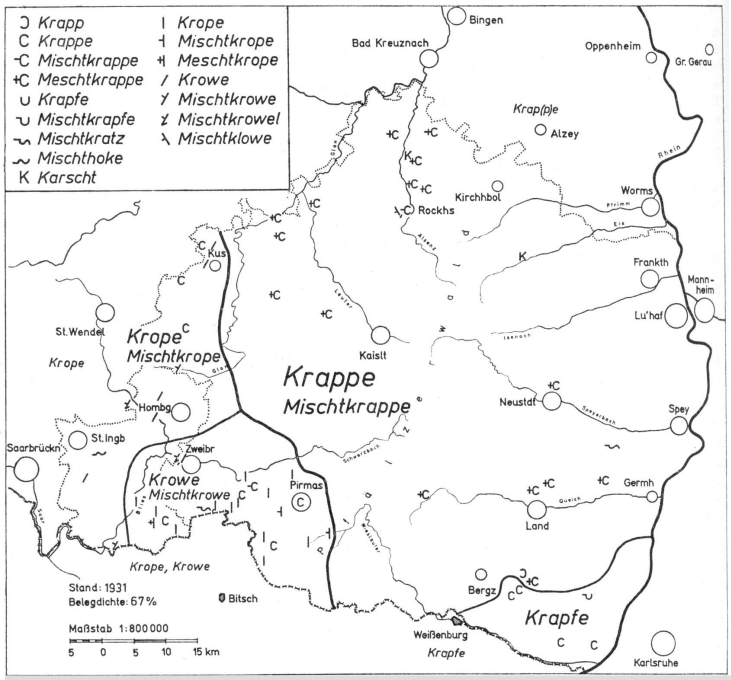
MDu. *honck*, Du. *honk*, WFri. *honk*, SFri. *hunk* ‘corner, base (in games)’ do not belong here: these forms seem to continue PGm. **hunk^{k}a-*, which may be based on the original genitive of the paradigm of **hnekkō*, **hnukkaz* ‘neck’ (p. 147).

**krēbō*, **krappaz* ‘hook’

- **krēppan-*: OHG *chrāpfo* ‘*fuscinula*, *uncinus*’, MHG *krāpfe* m. ‘hook, bracket’ [1356], G Pal. *krāpfe* m. ‘id.’[1357], Swi. Visp. *xraapfo* m. ‘crooked cane’
- ?**krēpan-*: OHG *chrāf(f)o* ‘*dens*, *uncus*, *uncinus*, *fuscinula*’
- **krēbban-*: OHG *chrāppo* ‘*aspidiscos*, *uncinus*’, MHG *krāpe* m. ‘hook, bracket’, G Pal. *krāpe*, *krōpe* m. ‘much shovel’[1358]
- **krappan-*: MDu. *crappe* m. ‘hook, clamp’[1359], G *Krapfen* m. ‘doughnut’[1360], Swi. Ja. *krapfə* ‘two-pronged hoe’[1361]
- ?**krabbōn-*: Sw. dial. *krabba* f. ‘grappling iron’[1362]

The German dialects show a wild variety of forms for the word for ‘muck shovel’. Two different ablaut grades must be reconstructed.[1363]

The root **krēbban-* is supported by OHG *chrāppo* and Palatinate German *krōpe*. The length of the OHG vowel is ascertained by many attestations with marked length, e.g. *crápho*, *crâpho*, as has been shown by Lühr (1988). The same vocalism is combined with an originally voiceless geminate in OHG *chrāpfo*, the vowel length being ascertained by Visp. *xraapfo* and Pal. *krāpfe* (transcribed as *grāpfə* in *Pfälzisches Wörterbuch* [1364]). Pal. *krappe* (= [*grabə*]) has a



The dialectal distribution of G *Krapfen* in Palatinate German. (From *Pfälzisches Wörterbuch*, 1965-1998, p. 547).

[1356] Lexer 1, 1712.
[1357] Christmann 4, 547-50.
[1358] Christmann 4, 547-50.
[1359] Verdam 312.
[1360] Kluge/Seebold 535: “Ein etymologischer zusammenhang mit *Krampf* legt sich nahe; es müßte eine frühe, unnasalierte Form vorliegen.”
[1361] Stucki 49.
[1362] SAOB K2594.
[1363] Fick/Falk/Torp 52; Lühr 1988: 288.
[1364] Lühr, on the other hand, equates it with MDu. *crappe* < **krappan-*

short vowel, and can be compared with Sw. *krabba*. Finally, Lühr assumes a proto-form **krēpan-* on the basis of OHG *chrāfo*. This seems to be correct in view of Pal. *krōwe*, with the regular shift of intervocalic *f* to *w*. Thus we can conclude that on the basis, of the Palatinate dialects alone, a PGm. paradigm **krēbō*, **krappaz* must be reconstructed. It seems probable to me that this *n*-stem was somehow derived from the iterative **krappōþi*, **krabunanþi*: Du. *krabben*, *krappen*, dial. *kraven* 'to scratch'.

****krēgō*, *krakkaz* 'crook'**

- **krēggan-*: OHG *chrācco* '*uncinus*, *fuscina*'[1365], G Als. *krāge*^{n} [krākə] f. 'crooked twig on a vine, vine with grapes'[1366], Pal. *krāke* [grāgə], pl. *kräke* [gręgə] m. 'old vine'[1367]
- **krēk*^{k}*a-*: ON *krákr* m. 'crook to loosen frozen soil', NFri. Wdh. *krēk* m. 'hook on clothes'[1368]
- **kragōn-*: MHG *krage* f. 'hoe'[1369]
- **krakan-*: ON *kraki* m. 'crook', Nw. *krake* 'crooked tree, *dial.* curved stick', OHG *chracho* m. 'crook'
- **krakka-*: G *Krack* m. 'crook'[1370]
- **kragga-*: Nw. *kragg* m. 'crooked tree'

- **krōk*^{k}*a-*: ON *krókr* m. 'corner, crook' (= OE *crōc* 'crook')

Just like the word for 'hook', the word for 'crook' must have been an ablauting *n*-stem with a North-West Germanic **ā* ~ **ă* alternation. The zero-grade is widely attested. *Althochdeutsches Glossenwörterbuch* gives *kracko*, *krago* < **krag(g)an-* and *krahho* < **krakan-*. The latter form is also evidenced by ON *kraki*. Modern German *Krack* presupposes PGm. **krakka-*. On the basis of the gloss *crácco*, Lühr (1988: 286-7) tentatively assumes OHG *chrācco* < **krēggan-*, which could have an *e*-grade root (cf. Fick/Falk/Torp 51: **krēkan-*). Pal. *krākə* and probably also NFri. *krēk* confirm the length of this vowel.[1371] An *o*-grade thematization is represented by ON *krókr*.

The original paradigm may have been **krēgō*, **krakkaz*, **kragini*. A deeper reconstruction **gréh*$_1$*k-ōn*, **grh*$_1$*k-n-ós*, **grh*$_1$*k-én-i* makes no sense, because it would have yielded **krēhō*, **kurk*^{k}*az*, **kurgini*[1372], for which the material offers no support. It is more

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[1365] Graff 4, 589.
[1366] Martin/Lienhart 1, 515a.
[1367] Christmann 4, 531.
[1368] Jensen 294.
[1369] Lexer 1, 1703; Benecke/Müller/Zarncke 1, 873.
[1370] Grimm 11,1926.
[1371] The NFri. form *krēk* is of great importance, because it proves that Anglo-Frisian **ǣ* must have developed out of older **ā*. This sub-branche did apparently not retain PGm. **ǣ*, as has been claimed.
[1372] Lühr (1988: 287): "mit analogischer Syllabifizierung urgerm. **kra°-* < vorurgerm. **grə*$_1$*k/g*^{h}*-* anstelle von **gr̥k/g*^{h}*-*".

probable that the ablaut of the word was introduced analogically. Possibly, it was created to the MHG strong verb MHG *kragen* 'to scratch, carve'.[1373]

***snēgō*, **snakkaz* 'snake'**

- **snēk^{k}a-*: ON *snákr* m. 'snake'[1374], Icel. *snákur* m. 'snake, viper'[1375], Far. *snákur* m. 'snake, snout' (→ *snáki* m. 'snout')[1376], Nw. dial. *snåk* m. 'viper'
- **snēggan-*, *-ōn-*: MHG *snācke*, *snōcke* m. 'midge', G *Schnake* m. 'snake, midge', Swi. App. *šnɔɔkkə* 'gnat'[1377], Visp. **šnaacko* (→ Visp. *snaacku* 'to crawl')
- **snagan-*: Icel. *snagi* m. 'pin'[1378], Nw. *snage* m. 'tip, pin, bud'
- **snakan-*, *-ōn-*: OE *snaca* m. 'snake', MLG *snake* f. 'id.'

- **snōk^{k}a-*: Icel. *snókur* m. 'trunk, snout, small shark, front part of a ship, snake'[1379], Nw. *snok* m. 'snout, snail'[1380], Sw. *snok* 'viper', MDu. *snoek* m. 'pike'[1381]

Lühr (1988: 301) thoroughly discusses the etymon and reconstructs **snēggan-* on the basis of MHG *schnācke*, G *Schnake*. The material can be complemented with Als. *schnōke* and App. *šnɔɔkkə*, forms that show the typically Alemannic *Verdumpfung* of long *ā*. The evidence for the *e*-grade becomes even stronger when we take ON *snákr*, Far. *snákur* and Nw. dial. *snåk* into account. These cognates presuppose a root **snēkan-*, and are completely parallel to the Old Norse formation *krákr* 'crook' < **krēka-*.

The *n*-stem inflection is also retained by OE *snaca* and MLG *snake*. These forms may represent the zero-grade vocalism of the genitive **snakkaz* or the locative **snagini*. Like **hakan-* 'hook' and **krakan-* 'id.', they have analogical singulates. Lühr correctly notes that the vocalism must be analogical, too, because **snh$_1$k-n-ós* would have yielded ***sunk^{k}az*.

Lühr is hesitant towards the possibility that the roots **snēgg-* and **snakk-* "ursprunglich in einem paradigma gestanden haben." The morphological unification of both roots, however, is necessary to explain the geminate of **snāggan-*, which no doubt was adopted from the zero-grade oblique **snakkaz*. It seems that the original paradigm **snāgō*, **snakkaz*, **snagini* was remodeled into proto-Alemannic **snāggō*, **snaggaz*, **snaggini*, with generalization of the voiced geminate. MDu. *snoek* m. 'pike' < **snōk^{k}a-* is to be regarded as an *o*-grade split-off.

[1373] Lexer 1, 1703.
[1374] De Vries 1962: 522.
[1375] Böðvarsson 915.
[1376] Poulsen 1094.
[1377] Vetsch 159.
[1378] Böðvarsson 915.
[1379] Böðvarsson 921.
[1380] Torp 873.
[1381] Franck/Van Wijk 634.

Etymologically, **snēhō*, **snakkaz* seems to be related to ON *snagi* 'pin'. The original meaning of the word then probably was "pointed one" (cf. "*Stechendes*" = Lühr 1988: 301), which reconciles 'snake' with 'mosquito'. Dialectal Nw. has a verb *snaka* 'to snatch (said of animals)', which just as OHG *snahhan* 'to crouch' is conjugated as a strong verb. Perhaps, the *n*-stem was somehow derived from this verb, although the opposite direction does not seem impossible either in view of Visp. *šnaacku* 'to crawl', which was created from a further non-attested **šnaacko* 'snake'.

9 Umlaut problems

In North and West Germanic, the process of umlaut had a far-reaching effect on the morphology of the different dialects. It gave rise to many new sorts of vowel alternations. As a result, it can sometimes be difficult to decide whether a vocalic interchange reflects old ablaut or recent umlaut. In the present chapter, I will discuss a number of *n*-stems with vowel alternations that can be, and occasionally have been interpreted in both ways. I am convinced, however, that these particular *n*-stems did not have ablaut, but rather acquired an interchange *resembling* ablaut due to the effects of umlaut. The majority of the material is abstracted from the Upper German dialects, in which umlaut is quite productive as a morphological mechanism. I have additionally included a West Norse case. It is, of course, not surprising that an *n*-stem with apparent ablaut happens to be found in West Norse. This Nordic dialect is, after all, known for the extensive influence of not just one, but several different types of vowel mutations.

9.1 Upper German

There are a small number of *n*-stems with *a*-vocalism which have variants with *e*-vocalism in Old High German, cf. *chretto*, *chretzo* ~ *chratto* 'basket' and *zepfo* ~ *zapfo* 'wisp, peg, cone'. The question arises if these instances continue a Proto-Germanic ablaut pattern **e* : **a*, as has been suggested by Kauffmann, or that the *e*-forms are different formations that were affected by *i*-mutation, viz. *chretto*, *chretzo* < **kraddjan-*, *krattjan-*[1382] and *zepfo* < **tappjan-*.

The hesitation between the two solutions is chiefly the result of the ambiguity of the OHG grapheme <e>, which may stem from PGm. **e*, or from PGm. **a* with primary umlaut (*ä*$_1$), e.g. *felt* 'field'< **felþa-* and *gast*, pl. *gesti* 'guest' < **gasti-*. The grapheme <a> was, in fact, ambiguous, too: it indicated the vowel continuing PGm. **a* straight away, as well as **a* with secondary umlaut (*ä*$_2$), which came about when there was a velar fricative between the root vowel and the mutation factor. The umlaut is called secondary, because it is generally assumed not to have been expressed in writing until in the Middle High German period, cf. OHG *naht*, pl. *nahti*, MHG *nacht*, pl. *nächte* 'night', G *Nacht*, pl. *Nächte*.

The problem of the graphemic ambiguity of OHG <e> and <a> can be tackled by including the material from the modern Alemannic dialects. Most of these dialects, like Jaun Swiss, Visperterminen Swiss and Swabian, have a binary opposition between high *e* ([e]) from PGm. **a* with primary umlaut, and low *e* ([ɛ], [æ], [a]) from PGm. **e* and **a* with secondary umlaut. The Swiss Appenzell and Sankt Gallen dialects are known for their preservation of a threeway opposition between *e* from PGm. **a* with primary umlaut, *ɛ* from PGm. **e* and *ä* [æ] from PGm. **a* with secondary umlaut. By using the data available from these dialects, it often becomes possible to establish the vocalism underlying the OHG graphemes <e> and <a>.

[1382] Pokorny 385-90; Lühr 1988: 282.

A survey of the modern Alemannic evidence corresponding to OHG *chretto*, *chretzo* ~ *chratto* and *zepfo* ~ *zapfo* shows, as I will demonstrate, that the forms with *e*-vocalism can only represent PGm. **a* with secondary umlaut (App. *krää(n)tsə*, Swab. *(arm·)krätz*^{e}, App. *zäpfe*, Visp. *zäpfo*, Ja. *zäpfə*, etc.) This is not surprising, because it is *a priori* unlikely that a paradigm with **e* : **a* ablaut has been preserved exclusively in Upper German dialects, while all the other Germanic dialects show no sign of an *e*-grade whatsoever. Still, the identification of OHG <e> as **ä*$_2$ is no less problematic than reconstructing an *e*-grade, because this vowel also prohibits the reconstruction of *chretto*, *chretzo* and *zepfo* as **kraddjan-*, *krattjan-* and **tappjan-*, i.e. with a different suffix. The problem with these *jan*-formations is that, had they existed, they would have triggered *primary* umlaut, i.e. App., Ja., Swab. ***kretzə*, ***zepfə*. Since this is not the case, the vocalism must be explained in another way.

I think that the solution to both problems is to be found in the wide-spread introduction of analogical (i.e. morphological) umlaut in the plural of the *n*-stems. This phenomenon, which arose on the basis of regular umlaut in the masculine and feminine *i*-stems, is largely limited to the old *a*-stems in the standard language, but in many Middle and Upper German dialects it affected the *n*-stems to a large extent. Still, in some dialects, the tendency is stronger than in others.[1383] The following Alemannic material may illustrate this. According to Stucki (p. 264), the Jaun dialect has *xrage*, pl. *xrägə* 'collar' < **kragan-*, *xrattə*, pl. *xrättə* 'basket' < **kraddan-*, *grabə*, pl. *gräbe* 'ditch' < **graban-*, *mage*, pl. *mägə* 'stomach' < **magan-*, while, for instance, *hasə* 'hare' < **hasan-* and *hanə* 'cock' < **hanan-* have plurals with and without (secondary) umlaut. More or less the same words have primary umlaut in the Vorderland dialects of Appenzell, which are given by Vetsch (p. 57): *xragə*, pl. *xregə*, *magə*, pl. *megə*, *grabə*, pl. *grebə*, *xrattə*, pl. *xrettə*, *ladə*, pl. *ledə* 'shop' < **laþan-*, *zapfə*, pl. *zepfə* < **tappan-*. Apparently, primary umlaut prevailed over secondary umlaut as pluralizing marker in this area. The Kurzenberg dialects, on the other hand, have *-ä-*< **ä*$_2$ in the same words. Umlaut appears in fewer cases in the south: the Visperterminen dialect has generalized (secondary) umlaut in e.g. *palko*, pl. *pälku* 'shutter', *namo*, pl. *nɛmu* 'name', *gārto*, pl. *gā̄rtu* 'garden' and *zapfo*, pl. *zäpfu* (Wipf 27, 129), and the other Valais dialects show a similar picture (cf. Bohnenberger 193). In Swabian, the same words are *grabe*^{n}, pl. *gräbe*^{n} (p. 207), *mage*^{n}, pl. *mäge*^{n} (p. 308), *lade*^{n}, pl. *läde*^{n} 'schutter, bar, store' (p. 293), but *zapfe*^{n}, pl. *zapfe*^{n} (p. 437).

In my opinion, the spread of morphological umlaut to the *n*-stems is a likely origin for the vocalic alternation of OHG *chretto*, *chretzo* ~ *chratto* and *zepfo* ~ *zapfo*. It turns out that in some *n*-stems with analogical umlaut in the plural, the mutated vowel became intrusive in the singular as well. Good examples of such intrusive umlaut are Visp. *güogo* ~ *gjogo*, pl. *gjoge* 'worm', Ja. *guogə*, dpl. *güegne* 'id.' < OHG **guogo*, Visp. *blüoma* ~ *bljoma*, pl. *bljome* 'flower' and App. *magə*, pl. *megə* 'stomach' ~ *megə* 'rennin' (Vetsch 57). Importantly, the OHG doublet *chretto*, *chretzo* ~ *chratto* finds an exact parallel in modern Alemannic, cf. Swab. *krätte*^{n}, *(arm·)krätz*^{e} ~ *kratte*^{n}. In addition, the OHG interchange of *zapfo* and *zepfo* finds a parallel in the Visperterminen dialect. In this dialect, *zapfo* and *zäpfo* occur beside

[1383] Cf. Hotzenköcherle (1956) on the South-Wallis dialects, esp. §1 *Abneigung gegen analogischen Umlaut in der Pluralbildung der Maskulina*.

each other, and the latter variant is indeed explained by Wipf as analogical after the plural.[1384] The additional fact that the same analogy has occurred in Jaun Swiss *zäpfə*[1385] and Bavarian *zepfə̃*, presupposes a time depth for this development that may at least partly comprise the Old High German period. The conclusion seems therefore inescapable that the intrusion of morphological umlaut (either primary or secondary) from the plural into the singular dates back to the Old High German period at least in some cases. This solution harmonizes the Old High German vowel alternations with the modern Alemannic dialects, and at the same time removes the necessity to reconstruct *ad hoc* Proto-Germanic *e*-grades or *jan*-formations and artificially separate the different variants from each other.

***kredō*, *krattaz* 'basket'?**

- ?**kreddan-*: OHG *chretto* m. 'basket', Swab. *krätte*^{n} m. 'arm basket'[1386]
- ?**krettan-*: OHG *chretzo* m. 'basket', MHG *kretze* mf. 'pannier'[1387], G *Krätze* m. 'pack basket'[1388], Swab. *(arm·)krätz*^{e} f. 'arm basket'[1389], Swi. App. *krää(n)tsə* f. 'pannier'[1390]
- **kraddan-*: OHG *chratto* m. 'basket', MHG *kratte* m. 'id.'[1391], G *Kratte* m. 'basket, cart'[1392], Car. *gràtte* m. 'cart'[1393], Cimb. *gratto* m. 'cart with two wheels', Swab. *kratte*^{n} m. 'arm basket'[1394], Swi. Ja. *xrattə* m. 'basket'[1395], Rhtl. *kxrattə* m. 'basket'[1396]
- **kradan-* → **krad(i)la-*: OE *cradol*, *credel* n. 'cradle'[1397]
- **kratta(n)-*, *-ōn-*: ?ON *kartr* m. 'cart', OE *cræt* n. 'chariot'[1398], ME *cart(e)*, E *cart*, MDu. *cratte* m. 'wicker-work, hurdle, chariot'[1399], Du. *krat* 'crate'[1400], WFri. *kret* n. 'crate, dungcart'[1401] (= Du. dial. *kret* n. 'basket, wooden frame'[1402])

On the basis of the material presented here, we can confidently reconstruct an *n*-stem with consonant gradation, as has been shown by Lühr (1988: 282ff). The forms with *a*-vocalism at

[1384] P. 28: "*zapfo* oder analogisch nach dem Plur. *zæpfo*."
[1385] Stucki 264: "Die Form mit Umlaut hat auch für den Sing. Geltung gewonnen bei *tsæpfə* Tannzapfen (selten *-a-*[)]."
[1386] Fischer/Taigel 284.
[1387] Lexer 1, 1723.
[1388] Grimm 11, 2073-4.
[1389] Fischer/Taigel 40.
[1390] Vetsch 74, 172.
[1391] Lexer 1, 1712.
[1392] Grimm 11, 2070.
[1393] Lexer 1862: 122.
[1394] Fischer/Taigel 284.
[1395] Stucki 264.
[1396] Berger 26
[1397] Holthausen 1934: 59, 60.
[1398] Bosworth/Toller 169; Holthausen 1934: 59.
[1399] Verdam 312.
[1400] Franck/Van Wijk 345.
[1401] Zantema 1, 535.
[1402] Kocks/Vording 621; WNT, s.v. *kret*: "O.a. aan de Zaan en in Friesland."

any rate point to a paradigm **kradō*, **krattaz*, **kradini*. Of this paradigm, the root **kratt-* is primarily attested in the more Northern dialects, cf. OE *cræt*, WFri. *kret*, MDu. *cratte*, Du. *krat*.[1403] The second root **krad-* is somewhat isolated and only occurs in OE *cradol*, *credel*, which represent two diminutives in **-(a)la-* and **-ila-* correspondingly. The contamination of **kratt-* and **krad-* led to the secondary variant **kradd-*, which is characteristic for the Upper German area, cf. OHG *chratto*, MHG *kratte*, G *Kratte*, Swi. *(k)xratte*. Note that there are no indications whatsoever for expressive gemination, because "aufgrund der Wortbedeutung keine eindeutige lautsymbolische Funktion erkennbar ist" (Lühr l.c.).

Clearly, the reconstruction of the paradigm **kradō*, **krattaz* offers an elegant explanation for the consonant variation that is encountered in the West Germanic dialects. It does not, however, account for the different forms with *e*-vocalism in Upper German, such as OHG *chretto* and *chretzo*. In order to explain this interchange of *a* with *e*, Kauffmann (1887: 533, 544) proposed to reconstruct an ablauting *n*-stem, thus enriching the proto-language with such formal variants as **kreddan-* and **krettan-*. Fick/Falk/Torp (p. 51), Pokorny (p. 385-90) and Lühr (1988: 282), on the other hand, derive *chretzo* and *chretto* from **krattjan-* and **kraddjan-*, so as to explicate the *e*-vocalism by (primary) umlaut. In the end, however, neither of these solutions can be correct.

The main difficulty in deciding between **krettan-/*kreddan-* and **krattjan-/*kraddjan-* is the opacity of the grapheme <e> in OHG *chretzo*, *chretto*. It can represent three different vowels, i.e. the reflex of 1) PGm. **e*, 2) PGm. **a* with primary umlaut and 3) PGm. **a* with secondary umlaut. The modern Upper German dialects, though, offer decisive information on which one of these three vowels is correct.

In the Swabian dialect, the distinction between the three vowels has partly been maintained, **e* and **ä₂* having merged into [ɛ], **ä₁* being continued as [e].[1404] The Swabian form *krätze* – with low *e* – thus points to either OHG **chretzo* or **chrä₂tzo*, excluding **krä₁tto* with primary umlaut. Since any **j* in the second syllable would have caused primary umlaut, the reconstruction **krattjan-* (OHG **chrä₁tzo*) can be ruled out.

In order to decide between the two remaining possibilities, i.e. **chretzo* and **chrä₂tzo*, the Swiss Appenzell dialect can be consulted, as this system preserves the distinction between OHG **e*, **ä₁* and **ä₂* as [ɛ], [e] and [æ]. Now, Vetsch's 1910 description of the dialect gives the form *krā̈tzə*. This form appears to have developed out of a secondarily nasalized form *krā̈ntzə* (cf. Vetsch §96 *Vokalisierung des* n). The vocalism clearly points to OHG **chrä₂tzo* with secondary umlaut of **a*, and as such obliterates the PGm. reconstruction **kreddan-* that is often found in the etymological dictionaries.

Considering all the consonant and vowel alternations discussed here, we arrive at a non-ablauting paradigm **kradō*, **krattaz*, **kradini*. The *e*-vocalism appears to be due to the generalization of the analogical umlaut that characterized the plural forms. This scenario is

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[1403] The position of ON *kartr* is disputed. If directly related, it has unexpected metathesis. This metathesis has been ascribed to influence of ON *karmr* 'cart' (cf. De Vries 1962: 303). The word can also have been borrowed from Old English, which in view of W *cartwen* seems to have had a metathesized form **ceart·wǣn* besides attested *cræt·wǣn* 'chariot, waggon'. The OED (s.v. *cart*), on the other hand, assumes that ON *kartr* was adopted as ME *cart(e)*.

[1404] Kauffmann (1890: 50): "In späteren zeit ist hier ein jüngerer umlaut aufgetreten, [...] und während die erste umlautsperiode *ę* ergeben hatte, war das resultat des jüngeren lautwandels *ę*."

confirmed by the Swabian doublet *krätte*^{n} ~ *kratte*^{n} (beside *krätz*^{e}), which neatly mirrors the Old High German alternation of *chretto* with *chratto*. I therefore conclude that, in late Old High German, the paradigm was sg. **chratto*, pl. **chrä*$_2$*tton*.

The Proto-Germanic paradigm **kradō*, **krattaz*, **kradini* can be reconstructed as **grót-ōn*, **grot-n-ós*, **grot-én-i*. This etymon may be related to Skt. *grathnā́ti* 'to fasten, tie or string together' and OIr. *grinne* 'bundle of twigs' (< **gr̥t(H)-nio-*).[1405] Note that it is at any rate incorrect, as Lühr already pointed out, to reconstruct a root **gred-* (pace Pokorny IEW: 385-390) on the basis of OE *cræt* and cognates, because these forms stem from the root **kratt-* with a geminate.

***tebō, *tappaz 'tuft, knot, peg'?**

- ?**teppan-*: OHG *zepfo* m. 'plug, peg, broom', MHG *zepfe* m. 'bud, panicle, ear', G Bav. *zepfə̃* 'lump, ear, grape'[1406], Tyr. *zepfe* m. 'lappet, stub, fir-cone'[1407], Swi. Visp. *zäpfo* 'pine nut'[1408]
- **tappa(n)-*: OHG *zapfo* m. 'plug, peg, broom', G *Zapfen*, Als. *zapfe*^{n}, pl. *zapfe/zæpfe* m. 'tap, mais cone, vine stub'[1409], Bav. *zapfen* [zàpfə̃], pl. *zäpfen* [zápfə̃] m. 'tap, fir cone'[1410], Swab. *zapfe*^{n} m. 'lump, uvula, fir cone'[1411], Tyr. *zapfn* m. 'bell'[1412], Swi. App. *zapfə*[1413], Rhntl. *zapfə*[1414], Val. *zaffo*[1415], Visp. *zapfo* m. 'pine nut'[1416], OE *tæppa* m. 'tap, cone, strip of cloth', ME *tappe* 'ribbon', MLG *tappe* m. 'peg, tap'[1417], MDu. *tap(pe)* m. 'id.', SFri. *tappe* m. 'plug'

  → **tappjan-*: ON *teppa* 'to confine, close', G *zepfen* 'to milch', Bav. *zepfen* 'to reap ears'
- **tapan-*: OE *tæpan* mf. pl. 'strip of cloth', ME *tape* 'tape, ribbon', E *tape*
- **taban-*: Nw. *tave* m. 'piece of cloth, shred, tangle', Sw. dial. *tave* 'piece of cloth'[1418], Da. *tave* 'fiber, shred, tuft'

  → **tabnan-*: Far. *tavna* 'to fray'[1419]

[1405] Pokorny 385-90.
[1406] Grimm 31, 643; Schmeller/Frommann 2, 1148: *zèpfe˜* (sic).
[1407] Schatz/Finsterwalder 725.
[1408] Vetsch 1910: 53.
[1409] Martin/Lienhart 2, 910b-911a.
[1410] Schmeller/Frommann 2, 1142.
[1411] Fischer/Taigel 431.
[1412] Schatz/Finsterwalder 720.
[1413] Vetsch 57.
[1414] Berger 31.
[1415] Bohnenberger 169.
[1416] Wipf 33.
[1417] Vries (1962: 582) argues that ON *tappr* m. 'tap' (cf. Icel. *tappi* m. 'cork, stopper') must be borrowed from MLG *tappe*, "weil das wort erst spät auftritt".
[1418] SAOB T554.
[1419] Poulsen 1215.

- **tabban-*: E *tab* 'latchet, strap', SFri. *tabbe* m. 'plug', G Als. *zappe*^{n} m. 'tap, mais cone, vine stub', Bav. *zappen* [zàppə̃] m. 'tap, fir cone, lump', Pal. *zappe* m. 'plug, tap, fir cone, vine stub'[1420]

The material displays clear signs of consonant gradation, which can be accounted for by reconstructing a paradigm **tabō*, **tappaz* that was split up into **tabō*, **tabbaz*, on the one hand, and **tapō*, **tappaz*, on the other. There is no need to attribute the consonant alternations to "emphaticness"[1421] or "intensiver Konsonantverschärfung".[1422]

The allomorph **tab-* is continued by Nw., Sw., Da. *tave* 'fiber, shred' and possibly by the Old Norse nickname *Tafi*.[1423] ME *tavele* 'narrow lace' is a diminutive with the same root. The phonetically regular allomorph **tapp-*[1424] is found throughout the Germanic dialects, e.g. OE *tæppa* m. 'tap, cone, strip of cloth', ME *tappe* 'ribbon', *tappe* 'plug', OHG *zapfo* m. 'plug, peg', MDu. *tap(pe)* m. 'peg, tap', etc. These two roots gave rise to the contamination form **tabb-*, as in E *tab* 'latchet' , SFri. *tabbe* 'plug', and also to **tap-* as in ME *tape* 'ribbon, tap', E *tape*. It is remarkable that Ango-Frisian has preserved the complete set of root variants.

The presence of OHG *zepfo* 'broom', MHG *zepfe* 'bud, panicle, ear', Bav. *zepfen* 'panicle, lump, ear', *tannen-zepfen* 'fir-cone' again confronts us with the problem whether we must reconstruct a Proto-Germanic *e*-grade **teppan-*. This form would then be in ablaut correlation with OHG *zapfo*, Bav. *zàpfə̃*[1425], Swi. *zapfə*, etc. Alternatively, it has been suggested that the forms with *e*-vocalism represent a *jan*-derivation, i.e. **tappjan-*.[1426] The Modern Upper German dialects, however, again provide evidence that excludes both of these reconstructions.

If we take the dialect of Visperterminen, for instance, we see that it has both *zapfo* and *zäpfo* 'pine nut' (= Jaun Swiss *zäpfə*). Since this dialect differentiates between high *e* <e> from PGm. **a* with primary umlaut, and low *e* <ä> from both PGm. **e* and **a* with secondary umlaut, the second form *zäpfo* can go back to either OHG **zepfo* or **zä$_2$pfo*, i.e. PGm. **teppan-* or **tappan-* with secondary umlaut. This means that the reconstruction **tappjan-* can be canceled out, as it would have resulted in OHG ***zä$_1$pfo*, Visp. ***zepfo*. The choice between the two remaining options can again be made with the help of the Appenzell dialect with its three-way differentation of OHG **e*, **ä$_1$* and **ä$_2$*. The form given by Vetsch is *zäpfe* with <ä>. Since PGm. **teppan-* should have given ***zɛpfə* in this dialect, and **tappjan-* would have resulted in ***zepfə*, the actual *zäpfe* can only be derived from **tappan-* with secondary umlaut. We must therefore assume that the *e* of OHG *zepfo* represents **ä$_2$*, too.

The consequence of this outcome is that the Proto-Germanic paradigm must be reconstructed as **tabō*, **tappaz*, **tabini* without ablaut. We must assume that, just as in the case of OHG *chratzo* ~ *chretzo*, the umlaut was introduced in the plural in late Old High German, so as to result in a paradigm sg. **zapfo*, pl. **zä$_2$pfon*. Later, this analogical umlaut

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[1420] Christmann 6, 1533.
[1421] De Vries/Tollenaere 1991: 370.
[1422] Pokorny 227.
[1423] De Vries 1962: 579; Heggstad 689.
[1424] Fick/Falk/Torp 155: **dap-n-́*; Grimm 31, 258: **tabn-́*.
[1425] Note that the alternant *zàppə̃* may go back to PGm. **tabban-*.
[1426] Grimm 31, 258; 31, 643; Kluge/Mitzka 874..

became intrusive in the singular, a process that Wipf and Stücki, too, consider for the Visperterminen and Jaun forms *zäpfo* and *zäpfə*.[1427] This process cannot have taken place at the dialectal level, but must have operated at an early stage, because otherwise the alternation of OHG *zapfo* with *zepfo* is left unexplained. The fact that umlauted forms occur in a large area stretching from Jaun (*zäpfə*) in the West to Bavaria (*zepfə̃*) in the East, indeed implies a time depth for this development that at least partly comprises the Old High German period.

Etymologically, the *n*-stem **tabō*, **tappaz* belongs to the ablauting iteratives **tappōþi*, **tabunanþi* (cf. G *zapfen* 'to pull', OHG *zabalōn*, G *zappeln* 'to fidget'[1428]) and **tuppōþi*, **tubunanþi* (cf. G *zupfen* 'to reap', G dial. *zobeln* 'pull someone's hair, tousle'[1429]). The variant *zupfen* has given rise to the strong verb G *zaufen* 'to pull' < **tūpᵖan-* (see p. 51) as well as some nominal formations, e.g. **tuppa(n)-*: ON *toppr* m. 'top, tuft of hair', Nw. *topp(e)* m. 'tap, tuft of hair, little peg' (also *toppe* f. 'cork, tuft'), OHG *zopf* 'tip, tail', G *Zopf* 'tuft'[1430], Tyr. *zopfe* m. 'braid'[1431], MDu. *top* 'tip, (peg)top', OE *toppa* m. 'thread', *top* m. 'tip, tuft, pegtop'; **tubban-* MLG *tobbe*, *tubbe* 'plug'.[1432] G *Zapfen*, on the other hand, seems to have served as the basis for the de-iterative verb MHG *zāfen* 'to pull' from Proto-North-West Germanic **tāpᵖ-* with long **ā*. For the *n*-stem, Grimm (31, 258) reconstructs a primary meaning "plucker" or "the plucked one". This seems to be a profitable suggestion. It is conceivable that a tuft of wool or textile would have been used as a stopper, for example, to plug a vat. From here, it is just a small step to 'peg' and the relatively modern meaning 'tap'. The semantic shift from 'pluck' to 'tuft' and 'summit' is trivial.

***skredō*, *skrattaz* 'demon'?**

- ?**skrettan-*: G *Schretz* m. 'demon'[1433]
  - → ?**skrettjan-*: OE *scritta* m. '*bæddel*, *hermaphrodite*'[1434]
- **skrada(n)-*: OHG *scrato* '*pilosus*, *larva*'[1435], MHG *schrat(e)* m. '(forest) goblin'[1436] (→ MHG *schretel*, *schretzel* m. 'small goblin'[1437]), G *Schrat* m. 'id.'[1438]
- **skrata(n)-*: ON *skrati* m. 'troll', Sw. dial. *skrate* 'ghost, demon'[1439], MHG *schraz* m. 'faun'[1440]

[1427] Wipf (p. 28):"*zapfo* oder analogisch nach dem Plur. *zæpfo*."; Stucki (p. 264): "Die Form mit Umlaut hat auch für den Sing. Geltung gewonnen bei *tsæpfə* Tannzapfen (selten *-a-*[)]."
[1428] Grimm 31, 276.
[1429] The link with Ru. *dybat'* 'to tiptoe' (Holthausen 1934: 351; Vasmer 1, 557; De Vries 1962: 595) must be rejected.
[1430] Grimm 32, 76-84.
[1431] Schatz/Finsterwalder 733.
[1432] Schiller/Lübben 553.
[1433] Grimm 15, 1736; Kluge/Mitzka 678.
[1434] Bosworth/Toller 65, 849.
[1435] Graff 6, 577.
[1436] Lexer 2, 788.
[1437] Lexer 2, 792.
[1438] Kluge/Seebold 825.
[1439] Rietz 596.
[1440] Lexer 2, 788.

- **skratta(n)-*, *-ōn-*: ON *skratti* m. 'wizard, troll', Icel. *skratti* m. 'devil', Sw. *skratte* 'fool, devil'[1441], OE *scrætte* f. 'adulteress'[1442], ME *skrat(te)* 'hermaphrodite, goblin', OHG *scratz*, pl. *scratza*, *scretz(a)* (= *scraz*, pl. *scrazza*, *screz(z)a*, *screz*, *screiz*) '*larva*, *pilosus*'[1443], MHG *schraz*, pl. *schretze* m. 'ghost, demon'[1444]
- ?**skrutta-*: Sw. dial. *skrutt* 'devil'[1445]

The consonant alternations that are found in the given forms have been explained by Lühr (1988: 252-4) as the result of an *n*-stem **skradō*, **skrattaz*. They are certainly not due to "eufemistiska o. hypokoristiska inflytelser", as Hellquist (p. 747) once claimed. Of this paradigm, the root **skrad-* is found in e.g. OHG *scrato* and MHG *schrat(e)*. The geminated variant prevails over all other roots, and is attested in both North and West Germanic, cf. ON *skratti*, OE *scrætte*, OHG *scratz*. Contamination of **skrad-* and **skratt-* led to the formation of a third root **skrat-*, which occurs in e.g. ON *skrati* and MHG *schraz*. The creation of this root implies that North-West Germanic possessed an analogical paradigm **skratō*, **skrattaz*.[1446]

The presence of OHG *scretz*, G *Schretz* makes us wonder whether the Proto-Germanic paradigm once contained an *e*-grade. Lühr (p. 253) indeed postulates a root **skrett-*, because if the vowel of OHG *scretz* were due to umlaut, she argues, the required umlaut factor should have left a trace in Old High German, e.g. ***scretzi* < **skrattja-*. To further strengthen the reconstruction of a root **skrett-*, Lühr (l.c.) points to OE *scritta* '*hermaphroditus*', which with its *i* looks like a formation **skrettjan-* (cf. Fick/Falk/Torp 472). This all seems to indicate that we should reconstruct the original paradigm as **skredō*, **skrattaz*.

In the end, however, it is better to reject the possibility of an ablauting paradigm, because both of Lühr's arguments in favor of a root **skrett-* can be countered. OE *scritta* occurs only once, and is outweighed by the expected outcome of *skrattōn-*, viz. OE *scrætte* and ME *skrat(te)* '*hermaphrodite*'. More importantly, the analysis of OHG *scretz* as continuing PGm. **skrett-* does not seem to be compelling. Of all the attested forms in Old High German, the *e*-vocalism is exclusively found in the plural, e.g. *screza*, *screzza*, *scre(i)z*. Since we know that in other words, too, umlaut was introduced analogically in the plural, it seems more efficient to regard the forms with *e*-vocalism as witnesses of this process rather than as continuants of old *e*-grade stems. I therefore reconstruct the OHG paradigm as **scratz*, pl. **scrätza*. Note that the form *screz* probably developed out of the plural **scrätza* by apocope. The spelling *screiz* presupposes a long vowel that resulted from compensatory lengthening after this apocope.

[1441] SAOB S4779.
[1442] Bosworth/Toller 840.
[1443] Graff 5, 578.
[1444] Lexer, l.c.
[1445] Hellquist 746-7; Rietz 596, 601.
[1446] Lühr further connects *skradd* 'wretch', which with its voiced geminate may point to an analogical paradigm **skradō*, **skraddaz*. The different meaning of the word nevertheless makes that the appurtenance of this word is not compelling. For the same reason, I will discard Nw. *skrede* 'scrag', *krede* f. 'miserable animal, person' and Icel. *kreða* f. 'mother's darling, scrag'.

The exact derivation of G *Schretz* is not entirely clear. I assume that it is some kind of backformation from the plural, or otherwise from a diminutive **skrattila-* (cf. MHG *schretzel*[1447]). It does in all likelihood not ascertain the pre-existence of a Proto-Germanic stem **skretta-*. Similarly, it is difficult to account for the vocalism of the Finland Swedish form *skrutt* 'devil'. It superficially looks like a zero-grade form **skrutt-*, but its limited distribution precludes the reconstruction of an apophonic paradigm **skradō*, **skruttaz*.

****kredō*, *kruttaz 'toad'?**

- ?**kredōn-*: OHG *chreta*, *hert·kreta* f. '*bufo*, *rana*, *rubeta*'[1448], MHG *krete* f. 'toad'[1449], MRhnl. *crede* 'id.'
- **krudōn-*: OHG *chrota* f. 'id.', MHG *krot(e)*, *kröte* f. 'id.', G *Kröte*[1450], Als. *krot*, pl. *krot* f., *kret*, pl. *kret* m. 'id.' [1451], Swab. *krot^{e}*, *kröt^{e}*, pl. *krote^{n}*, *kröte^{n}* f. 'id.'[1452], Lus. *krōt*, *kröter* f. 'id.'[1453], Zarz *kxroute*, pl. *kxroute*, *kxröute* f. 'id.'[1454], Swi. App. *kxrɔt* f. 'id.'[1455] , Visp. *xrotta* f. 'id.', MLG *krode* f. 'id.'[1456], MDu. *crode* f. 'id.'[1457]
- **kruddan-*, *-ōn-*: MHG *krotte* f. 'id.', G Als. *krotte^{n}* m. 'id.', *krott*, *krett* f. 'toad, small person[1458], Rhnl. *krutte* f. 'toad, frog, stunted child'[1459], Swi. App. *kxrɔt*[1460] 'toad', Visp. *xrotta* f. 'id.', Kil. *krodde* '*rubeta*, *bufo*', Du. *krod(de)* 'toad, chick, small child'[1461]
- **kruttōn-*: G *Krotz* f. 'toad, irritable child, wizened person' [1462], Loth. *krotze·mann* 'water goblin', ?E *croot*, *crut* 'feeble child, dwarf'[1463]

The formal variation of forms such as OHG *chrota*, MLG *krode*, Zarz *kxroute* < **krudōn-*, MHG *krotte*, Als. *krotte^{n}*, Visp. *xrotta*, Kil. *krodde* < **kruddōn-* and G *Krotz* < **kruttōn-* directly points to an *n*-stem **krudō*, **kruttaz* with consonant gradation. The original vocalism of OHG *chreta* is more problematic. Traditionally, *chreta* is reconstructed as PGm.

[1447] Benecke 3, 205.
[1448] Graff 4, 593.
[1449] Only in Herbort's von Fritzlâr *Lied von Troye*: 'Ginge ich als ein crete gat' (Fromman 1837: 69).
[1450] Grimm 11, 2414-19; Kluge/Seebold 542.
[1451] Martin/Lienhart 1, Spalten 527a-527b.
[1452] Fischer/Taigel 287.
[1453] Zingerle 39.
[1454] Kranzmayer/Lessiak 99.
[1455] Vetsch 1560.
[1456] Lübben 190.
[1457] Verdam 313.
[1458] Martin/Lienhart 1, 527a.
[1459] Müller 4, 1621.
[1460] Vetsch 1560.
[1461] Vercoullie 186, 187; WNT, s.v. *krod*.
[1462] Höfler 1899: 336; Müller 5, 1575.
[1463] OED, s.v. *croot*.

**kredōn-*.[1464] If this were correct, we should reconstruct the *n*-stem as **kredō*, **kruttaz* with ablaut. However, since we now know that there are other *n*-stems in Upper German that received a vocalic alternation by the introduction of analogical umlaut, it is much more probable that the interchange of OHG *chreta* and *chrota*, too, was caused by this process.

The hypothesis that *chreta* represents a fronted form has a number of advantages. For instance, it can account for the lack of a singular form with *e*-vocalism in the modern Upper German dialects. I therefore assume that the original Old High German paradigm was sg. **chrota*, pl. **chroton*, and that it was supplanted by a secondary paradigm sg. **chrota*, pl. **chrö$_{(2)}$ton*[1465] with analogical umlaut in the plural. The reality of such a process is confirmed by the modern dialects, which often have umlaut in the plural, or waver between fronted and unfronted plural forms, e.g. Hess. (Wetterau) *krott*, pl. *kräte*, Lus. *krōt*, pl. *kröter*, Zarz *kxroute*, pl. *kxroute*, *kxröute*, etc.

The question now must be whether in this *n*-stem, too, the umlaut became intrusive in the singular. Again this indeed seems to be pointed out by the material. The most salient indication for intrusive umlaut, as a matter of fact, comes from the standard High German form *Kröte* itself. It has been suggested that it represents a "Mischung" of *krete* and *krote*[1466], but this analysis does not help much, because it fails to explain where *krete* and *krote* come from in the first place. Instead, *Kröte* must be regarded as a Luther form based on a dialect with intrusive umlaut in the singular. As a candidate, the Swabian dialect comes into consideration. In the Swabian group of dialects, forms with and without umlaut compete with each other in both the singular and the plural, cf. *krot^{e}*, *kröt^{e}*, pl. *krote^{n}*, *kröte^{n}*.[1467] The same competition is, in fact, found in Alsatian German, where a feminine *krot*, *krotə* and a masculine *kret*, *kretə* occur side by side. On the basis of these observations, we can safely assume that the paradigm **chrota*, **chroton* was being replaced by **chrota*, **chrö$_{2}$ton* in late Old High German, and that the fronted root vowel became generalized in at least some dialects. Consequently, the vacillation of OHG *chreta* and *chrota* must reflect **chrö$_{2}$ta*. This is not surprising, because the scribes did not have a separate symbol for this phone.

Incidentally, later forms with *e*-vocalism (cf. MHG *krete*, Middle Rhinelandish *creda*, *credda*, *crede*[1468]) can probably not be equated with OHG *chreta* directly, because they may be due to the wide-spread delabialization of front vowels. Delabialization probably also led to the rise of some forms with ostensible *a*-vocalism in the Middle German area, cf. MHG *krate* f. 'id.'[1469], MRhnl. *crade* (= MDu. *crade* f.[1470]) 'id.', G Rhnl. *krade* f. [1471] 'id.', WPhal. *kradde* f. 'id.'[1472], Lux. *kratz* 'toad, small child'.[1473] The limitation of these forms to this particular area makes it unattractive to reconstruct an old ablauting variant **kradōn-* with old **a*. So, if

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[1464] Grimm 11, 2414-30; Fick/Falk/Torp 51.
[1465] Mark that it is superfluous to differentiate between primary and secondary umlaut of OHG *o*. Umlaut of this vowel is always secondary, because it arose out of PGm. **u* when it was not affected by primary umlaut.
[1466] Pace Kluge/Mitzka 408; Kluge/Seebold 542.
[1467] Cf. Swab. *kratte^{n}*, *krätte^{n}*, *krätze^{n}* 'basket'.
[1468] Grimm 11, 2415.
[1469] Lexer 1, 1712.
[1470] Verdam 313.
[1471] Müller 4, 1328.
[1472] Woeste 1882: 141.
[1473] Grimm 11, 2418.

the forms with *a*-vocalism are not due to a dialectal change of *o* to *a* in this phonetic environment, I would suggest that they came into existence due to backformation from a delabialized plural: 1) **krode*, *kröde* > 2) *krode*, *kräde* >> 3) *krade*, *kräde*.

The etymology of *Kröte* has not yet been clarified.[1474] Fick/Falk/Torp (p. 51) compares Gr. βάτραχος, Ion. βρόταχος, βάθρακος 'frog', so as to reconstruct **g*^{w}*red*^{h}-, but this is a very doubtful etymology given the inner-Greek irregularities. I prefer a connection with the verb G *krotten*, which is attested in Paracelsus' *Chirurgische Schriften* (p. 401b): "wann der schenkel oder das glid geschwillt und krottet sich, da ist kein heilung zu thun".[1475] Flabbiness is a common *Benennungsmotiv* for the toad, cf. Du. *kwab* 'flab' and Kil. sax. *quabbe* '*rubeta*, *bufo*, *rana*', and it is possible that **krudōn*- is another example of such a semantic association. If correct, other cognates, such as Kil. fland. *krotte* '*lutum vestibus haerens*' and E *crote* 'clod of earth', can be taken into consideration; Grimm (l.c.) indeed mentions the assumably Rhinelandish gloss *croz* for Lat. *tabes* 'corruption'.

9.2 West Norse

The formal problems that surround the Nordic word for 'nut' are typologically similar to the seemingly ablauting *n*-stems in the Upper German dialects of the former section. The below case at first sight appears to point to Proto-Germanic ablaut in the root, but on closer inspection, its vowel alternations turn out to be the result of different types of vowel mutation.

***hnetō*, *hnuttaz* 'nut'?**

- ?**hnetōn*-: Icel. *hneta* f. 'id.'[1476]
- **hnut*-: ON *hnot*, pl. *hnøtr*, *hnetr* f. 'id.'[1477], Icel. *hnot* f., pl. *hnetur*, *hnotir*, *hnotur* 'nut, clew'[1478], OE *hnutu*, pl. *hnyte* f. 'id.'[1479], OHG *nuz* f. 'id.'[1480]
- **hnutōn*-: Icel. *val·hnota* 'wallnut'[1481]
- ?**hnat*-, *-ōn*-: ON *hnata·skógr* 'nut grove', Far. *nøt*, *nøta* f. 'nut'[1482], Nw. dial. *nate·kjerne* 'stone of a nut', *nate·hams* 'nutshell'

The alternation of the roots *hnet*-, *hnat*- and *hnot*- in the West Norse dialects seems to be a clear case of ablaut. Since the Icelandic forms *hneta* and *val·hnota* are inflected as *n*-stems, we can theoretically postulate a paradigm **hnetō*, **hnuttaz*. The reconstruction of an ablauting *n*-stem is unfeasible, however, in view of the absence of the consonant gradation

[1474] Kluge/Seebold 542.
[1475] Grimm 11, 2424.
[1476] Böðvarsson 390.
[1477] Zoëga 206.
[1478] Böðvarsson 393.
[1479] Wrigth §410.
[1480] Braune 1891: §219: "Eine anzahl der hierher gehörigen fem. folgte früher der consonantischen declination[...]: *eih*, eiche, *gans*, *geiz*, *nuz*, [...]", etc.
[1481] Böðvarsson 392.
[1482] Poulsen 839.

that is usually coupled with primary *n*-stems. Such an ablauting paradigm becomes even less attractive in view of the cognates in the other dialects, cf. ON *hnot*, pl. *hnøtr*, OE *hnutu*, pl. *hnyte*, which point to an old root noun **hnut-z*, **hnut-iz*.

It appears to me that the vowel alternations can also be understood as resulting from a number of backformations. The Icelandic form *hneta* can be explained from the Old Norse plural *hnøtr*, which already in Old Icelandic was delabialized to *hnetr* (cf. ON *kømr* 'comes' > Icel. *kemur*). When in Middle Icelandic the endings *-r* and *-ur* merged into *-ur*, the plural *hnetur* was reanalyzed as belonging to a singular *hneta*.

A similar explanation works for Far. *nøta*, too. Since the merger of *-r* and *-ur* occurred in Faroese just as much as in Icelandic, *nøta* is likely to be a back-formation from the Old Faroese plural **nøtur* < ON *hnøtr*. Morphologically, the appearance of *nøta* is strikingly similar to feminine *n*-stems of the *køka* type, which generalized the *u*-mutated stems from the oblique, cf. ON nom. *kaka*, obl. *kǫku* 'cake'.

Certainly, *u*-mutation seems to have played a role in the creation of the root *hnat-* as in ON *hnata·skógr* and Nw. *nate·kjerne*. Formally, it resembles a gpl. *hnata*, and it is conceivable, therefore, that it was formed on the basis of the usual plural paradigm of the consonant stems, cf. npl. *merkr*, gpl. *marka*, dpl. *mǫrkum*, apl. **merkr* to nsg. *mǫrkr* f. 'forest' < **mark-* with analogical *u*-mutation from the accusative *mǫrk* < **markun* < **morǵ-m*. Again, this analogy is indicative of the delabialization of *ø* to *e*, as the result of which the plural *hnetr* was reanalyzed as reflecting **hnatiz*.

The explanation of the vocalism in (Old) Icelandic as secondary is supported by the etymology of the word: PGm. **hnut-* is clearly related to OIr. *cnú* 'nut' < **knŭ̄-*, obl. **knuw-*[1483] and Lat. *nux* < **knu-k-*, which have the same vowel **u*. Given the local distribution of the word it is tempting to assume that it was adopted from a European substrate language. The vacillation of the root final stop in Italic **knuk-* and PGm. **knut-* could perhaps point to a root **knuʔ-* with a glottal stop.

[1483] Schrijver 1995: 329-30.

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Samenvatting in het Nederlands

Dit proefschrift behandelt de systematische vocaalwisselingen die de Proto-Germaanse *n*-stammen laten zien. Deze vocaalwisselingen blijken rechtstreeks te kunnen worden teruggevoerd op de nominale ablaut van de Indo-Europese oertaal. In dit opzicht zijn de *n*-stammen dan ook vergelijkbaar met de sterke werkwoorden, die immers bekend staan om hun klinkerwisselingen.

Verder laat het proefschrift zien dat de ablaut van de *n*-stammen nauw vervlochten is met een specifiek Germaanse innovatie. Door een klankwet, ook wel bekend als de Wet van Kluge, kregen de naamvallen met de oorspronkelijke nultrap van het suffix een geminaat, terwijl andere naamvallen ongemoeid bleven. Deze ontwikkeling leidde tot het ontstaan van een type consonantgradatie dat vergelijkbaar is met dat van het Sámi. Een belangrijk inzicht is verder dat deze consonantgradatie niet alleen voor de *n*-stammen moet worden aangenomen, maar tevens voor de zwakke werkwoorden.

De nieuwe afwisseling van enkele en dubbele consonanten in de *n*-stammen kwam bovenop de reeds bestaande *Abstufung der Laute*. Dit resulteerde in een verrassend groot aantal wortelvarianten voor elke *n*-stam. Deze indrukwekkende polymorfie is over het algemeen verkeerd begrepen, en toegeschreven aan “expressiviteit” of aan de invloed van een verdwenen taal(groep). Dit proefschrift betoogt dat de vormenrijkdom van de *n*-stammen ontsproten is aan een krachtig samenspel tussen de oude Indo-Europese ablaut en de specifiek Germaanse klankwet die naar Kluge is vernoemd.

Curriculum Vitae

Guus Kroonen werd gegrepen door de historische taalwetenschap toen zijn leraar Grieks hem de 'Inleiding tot de Indo-Europese vergelijkende taalwetenschap' van Robert Beekes cadeau deed. In dit boek bleken de antwoorden te staan op de vele vragen die de lessen Grieks en Latijn bij hem opriepen.

Om aan de studie Indo-Europese Vergelijkende Taalwetenschap in Leiden te kunnen beginnen, doorliep hij in 1997 eerst de propadeuse Noors bij Scandinavische Talen & Culturen aan de Universiteit van Amsterdam. Daar raakte hij verslaafd aan de colleges van de germanist Aad Quak en de Scandinavisch taalkundige Harry Perridon. Eenmaal in Leiden ontwikkelde hij zich onder de invloed van grootheden als Robert Beekes, Peter Schrijver, Frits Kortlandt, George van Driem, Willem Vermeer en vele anderen uit tot taalkundige en germanist. Tijdens een verblijf aan de Universiteit van Reykjavík tussen 1999 en 2000 studeert hij als uitwisselingsstudent IJslands en Noors. Terug in Leiden richtte hij samen met zijn studiegenoten de studievereniging TWIST op voor studenten Vergelijkende en Algemene Taalwetenschap.

Na het beëindigen van zijn studies in 2002 werd Kroonen toegelaten tot het Advanced Masters Programme van het Centrum voor Niet-Westerse Studies in Leiden. Een jaar lang bereidde hij zich voor op een mogelijk aio-schap, wat hem in 2003 na een felle concurrentiestrijd ook daadwerkelijk werd toegekend. Tot 2008 werkte hij deeltijd aan zijn proefschrift over de klinkerwisselingen in de Germaanse *n*-stammen, en was hij bovendien medewerker bij het New Indo-European Dictionary-project, waarvoor hij het Germaanse materiaal behandelde.

Momenteel werkt Kroonen als tijdelijk medewerker bij de opleiding Vergelijkende Indo-Europese Taalwetenschap. Hier verzorgt hij colleges als Gotisch, Oudnoords en Indo-Europese taalwetenschap. Ook bereidt hij de publicatie voor van een nieuw etymologisch woordenboek van het Germaans, en werkt hij als substraat-deskundige mee aan het nieuwe Etymologisch Woordenboek van het Nederlands, waarvan het laatste deel nog moet verschijnen. Sinds 2008 is Kroonen secretaris van de Vereniging van Oudgermanisten.