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# German vowel length: to be or not to be... analogical?

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# Objectives

- Better understand MHG-to-NHG lengthening (especially in \_ C #)
- Analogy is inadequate to account for MHG-to-NHG lengthening (in \_ C #)
- Extrametricality, extrasyllabicity and other similar devices are problematical as well
- Solution - **strict CV** (Lowenstamm [1996], Scheer [2004]...)

# Overview

- NHG **vocalic** system
- MHG-to-NHG lengthening (so-called OSL)
- Lengthening before a word-final consonant
- Analogy
- Extrametricality, extrasyllabicity, appendicity...
- Solution

# Data - quickly

- Database
  - Panchronic corpus (cf. (2))
  - 13 246 entries
  - NHG, (ENHG), MHG, (OHG)
  - Structural **information**
  - Queries
  - (Auberle & Klosa [2001], Grimm & Grimm [2007], Kluge [2002], Lexer [2007], Maurer, Mitter & Mülner [1996-2000], Müller & Zarncke [2007], Pfeifer [2003])

# Data - quickly

Nhg	T	V	Step0	Step1	Step2	Step3	x	S	Typ	NhgGa	NhgI	Nhg'	MhgGa	MhgI	Mi	F
Biss	1	S	-	biz, biZ	biz, piZ	-	-	D+K+Grimm+Lexer	G	_TkTkF	-	i	VTF	M	i	-
Bistum	1	S	-	bistuom, bischtuom	bis(cof)tuom	-	1	D+K+P	G	_STV	-	i	VTTV	M	i	V
bitten	1	S	-	bitten	bitten	-	-	D+K+P	G	_TkTkV	-	i	VTkTkV	M	i	E
bitter	1	S	-	bitter	bittar	-	-	D+K+P	G	_TkTkV	-	i	VTkTkV	M	i	E
Bitze	1	S	-	biziune, bizüne	bizüni, bizüna	-	-	K	G	_TV	-	i	VTV	M	i	V
Blache / Plache	1	S	-	blahe	blaha	-	-	K	G	_TV	-	a	VTV	M	a	E
blaffen	1	S	blaffen	Onomat.	-	-	-	D+K	G	_TkTkV	-	a	VTkTkV	M	a	E
bläffen	1	S	blaffen	Onomat.	-	-	-	D+K	G	_TkTkV	-	e	VTkTkV	M	a	E
Blaffer	1	S	-	klaffaere	klaffere	-	-	-	G	_TkTkV	-	a	VTkTkV	M	a	V
Bläffer	1	S	-	kleffere	klaffere	-	-	-	G	_TkTkV	-	a	VTkTkV	M	e	E
Blahe	1	L	-	blahe	blaha	-	-	K	G	_V	-	a	VVV	M	a	E
blähen	1	L	-	blaejen, blaewen	bläen, bläjén, bläjas	-	1	D+K+P	G	_V	-	a	VVRV	M	ae	E
blank	1	S	-	blanc, blank	blanc, blanch	-	-	D+K+P	G	_RTF	-	a	VRTF	M	a	-
Blase	1	L	-	bläse	blása	-	-	D+K+P	G	_DV	-	a	VVDV	M	â	E
blass	1	S	-	blas	*blas, plaZ	-	-	D+K+P+Grimm+Lexer	G	_TkTkF	-	a	VDF	M	a	-
Blatt	1	S	-	blat (Pl. bleter)	blat (Pl. bletir)	-	-	D+K+P+Grimm+Lexer	G	_TkTkF	-	a	VTF	M	a	-
Blatter	1	S	-	blâtere	blâ(t)(a)ra	-	-	D+K+P	G	_TkTkV	-	a	VVTV	M	â	E
blau	1	L	-	blâwes (Gen.)	blâo, blâw	-	1	D+K+P	G	_F	ND	au	VVRV	M	â	E
Blech	1	S	-	blech	bleh	-	-	D+K+P+Grimm+Lexer	G	_TF	-	e	VTF	M	e	-
blecken	1	S	-	blecken	blecken, blecchen	-	-	D+K+P	G	_TkTkV	-	e	VTkTkV	M	e	E
Blei	1	L	-	blif	blio, bliwo	-	1	D+K+P	G	_F	ND	ai	VVF	M	i	-
bleiben	1	L	-	b(e)liben	(bi)liban	-	-	D+K+P	G	_DV	ND	ai	VVDV	M	i	E
bleich	1	L	-	bleich	bleih	-	-	D+K+P+Grimm+Lexer+Müller	G	_TF	ND	ai	VVTF	D	ei	-
blenden	1	S	-	blenden	blenten	-	-	D+K+P	G	_RDV	-	e	VRDV	M	e	E
bleuen	1	L	-	bliuwen	bliuwan	-	-	D+K+P	G	_V	ND	eu	VVRV	IU	iu	E
Blick	1	S	-	blic	blic (Gen. blicches)	-	-	K+P	G	_TkTkF	-	i	VTkTkF	M	i	-
blind	1	S	-	blint	blint blint blind	-	1	K+P	G	_RDF	-	i	VRDF	M	i	-

# Prelude: MHG and NHG vowels

- MHG vowels (in stressed positions - cf. (3)):
  - long monophthongs (7): ^
  - short monophthongs (7)
  - diphthongs (6)→ free distribution
- **NHG vowels** (in stressed syllables - cf. (4)):
  - long monophthongs (7)
  - short monophthongs (7)
  - diphthongs (3)→ **no** free distribution (cf. (5))

# Prelude: MHG and NHG consonants

- MHG consonants
  - Quantity opposition: short vs. long
  - <p, t, k, tz, pf, b, d, g, f, s, sch, w [v], s [z], h, m, n, l, r, ch>
    - MHG *sch* < OHG *sk* -> bipositional
    - MHG *ch* < OHG *hh* -> bipositional
    - MHG *b, d, g, [v], [z]*: **no corresponding geminate**
- NHG consonants:
  - No **phonetic** length - **phonological** length only  
(cf. Hall [1992...], Wiese [1996]...)

# So-called MHG-to-NHG OSL...

- Lengthening of MHG short (tonic) monophthongs
    - 671 items (24%) (6)
    - 11<sup>th</sup>-14<sup>th</sup> centuries
  - **Certain** contexts only
    - \_ # *ne* > *n[e:]* "no"
    - \_ V *sehen* > *s[e:]hen* "(to) see"
    - \_ C V *kele* > *k[e:]hle* "throat", *kegel* > *k[e:]gel* "cone"
    - ⇒ \_ C # *mel* > *M[e:]hl* "flour", *zu/gl* > *Z[u:]g* "train"
- 128 forms - ~20% of the cases

# So-called MHG-to-NHG OSL...

- **Never** before 2 consonants:
  - *hütte* > \**H[y:]tte* "hut"
  - *bald* > \**b[a:]ld* "soon"
  - *ahte* > \**[a:]cht* "attention"
- Only in stressed positions:
  - *sig* > *S[i:]g* "victory" (stressed <i>)
  - *künig* > *Kön[I]g* "king" (unstressed <i>)  
\**Kön[i:]g*

# Standard hypothesis: OSL

- Lengthening in (stressed) open syllables (cf. (7)A)
- Underapplication (cf. (7)B)
  - -er, -el, -en, -em (B1)
  - Ambisyllabicity (B2)

- Overapplication (cf. (7)C)

- Analogy (C1)

*bad* > B[a:]d "bath"

- Lengthening before r (C2)

- Lengthening before l + m, n (C3)

— C #

- (...)

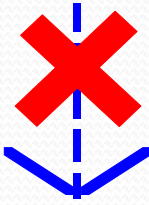
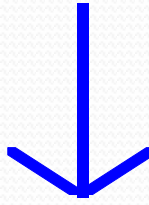
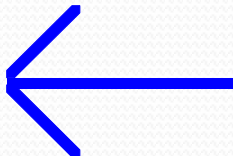
# Lengthening in \_ C # (128)

- Incompatibility with **OSL**  
→ closed syllable
- Strategy 1 - quite complex
  - 1. Analogy
  - 2. Lengthening before /r/
  - 3. Lengthening before /l/ and before nasals (/m/, /n/)

→ Not enough

# Analogy: mechanism

- **At most** 88 items
- (8)

	Uninflected form		Inflected forms
<b>MHG</b>	<i>ba / d /</i>		<i>bades</i>
<b>OSL</b>			
<b>NHG</b>	<i>B[a:]d</i> "bath, Nom."		<i>B[a:]des...</i> "bath, Gen."...

# Lengthening before <r>

- MHG *wir, nar* > NHG *w[i:]* "we", *M[a]rbe* "scar"
  - No inflection possible (MHG *wir*)
  - Or: hidden cluster (MHG *nar, narwe*)
  - 20-36 items
- Sound change lengthening short vowels in *\_r #*

# Lengthening before <l>, <m>, <n>

- MHG *fal* > NHG *f[a:]h* "sallow, wan"
  - Inflection reveals a hidden cluster (MHG *fal*, *falwes*)
  - Or: inflection is **impossible**
  - 22-39 items
- Rule lengthening shorty vowels in \_ l, m, n #



# Analogy: some characteristics

- **Analogy:** Anttila [1977], Best [1973], Bloomfield [1984], Hermann [1931], Hock [1991], Kuryłowicz [1945], Mańczak [1958, 1968, 1980, 1987], Vincent [1974]...
- Analogy vs. rule
- Analogical processes:
  - Non-systematic - not predictable
  - Not phonologically conditioned
  - No specific direction (root ↔ affix)
  - ...

# Against analogy (main arguments)

- V-lengthening
  - Phonologically conditioned: **identity** of C: (back to (6))
    - D        /bad/ > B[a:]d "bath" (100%)
    - R        *mer* > M[e:]r "sea" (90%)
    - T        *gebot* > Geb[o:]t "command" (nur 15%)
  - Systematicity
    - Exceptions can be **explained**
  - **Other** arguments...

# Extra-hypotheses

- Strategy 2: extrasyllabicity, extrametricality, appendicity etc (cf. Seiler [2004:7, 2005a,b] uses singleton extrametricality; similar proposals have been made to account for the synchronic distribution of long and short monophthongs in NHG or the evolution of vowel quantity between MHG and NHG by **several other authors**)
  - Consonants stay outside from the syllabic structure
  - They **must** be brought back before the phonetic interpretation (Stray Segment Adjunction etc)
  - This extra-structure is available only for  $D_s$  and  $R_s$  but **NOT** for  $T_s$  which are always properly syllabified from the beginning

# "Extra"-problems

- (At least) 2 devices are needed:
  - 1 prevents "extra- $C_s$ " to integrate the syllabic structure
  - 1 that incorporates them in the syllabic structure (Stray Segment Adjunction etc)
- No reason - *a priori* - why only  $D_s$  and  $R_s$  should be "extra- $C_s$ "

# A solution...

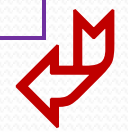
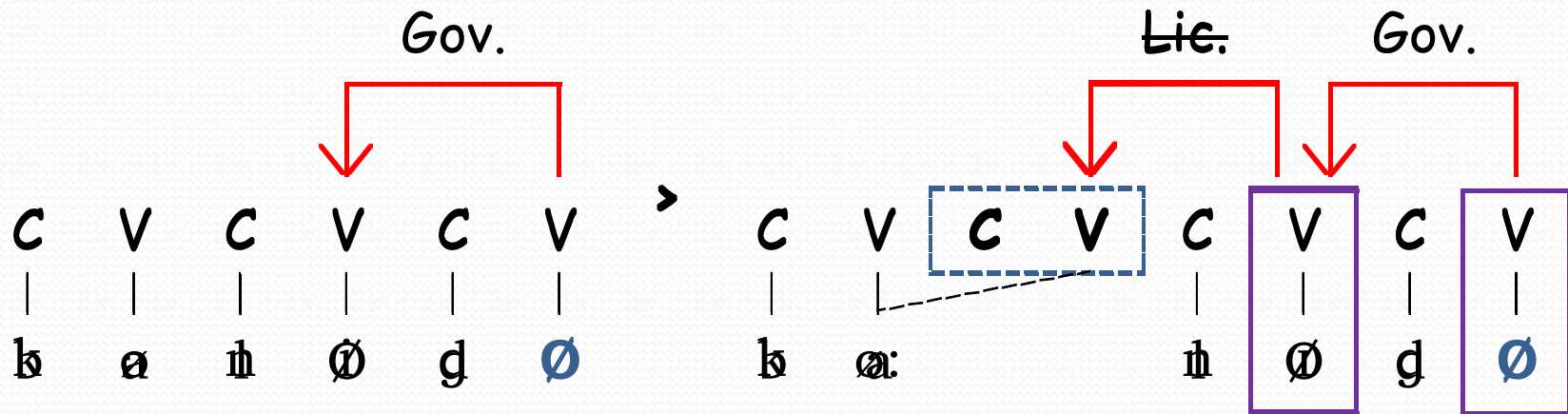
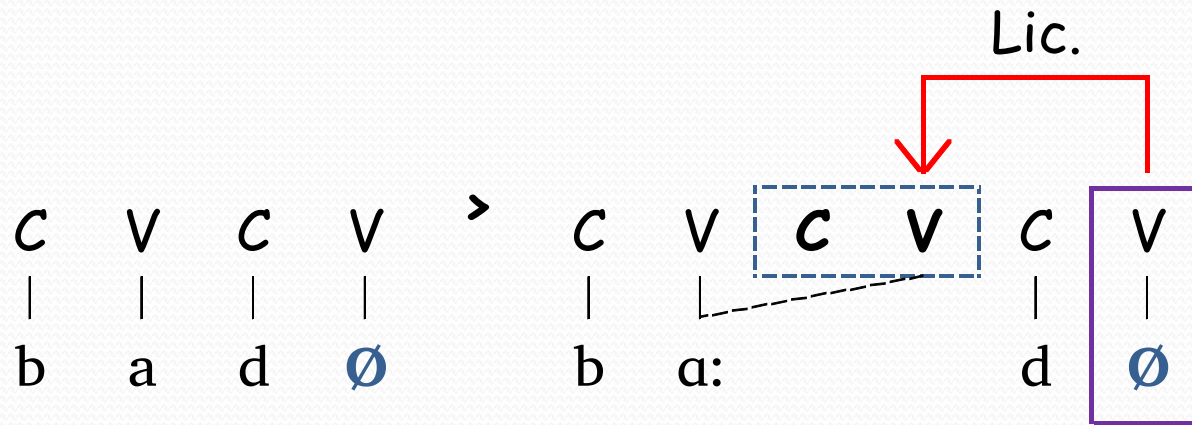
- Word-final consonants are onsets of a "degenerate" syllable, i.e. of a syllable with an empty nucleus (cf. Kaye [1990], Lowenstamm [1996], Scheer [2004], but also Giegerich [1985, 1989], Lenerz [2000, 2002]... For older proposals for NHG vocalic quantity)
  - E.g. *bad* ∅ > B[a:]d ∅ "bath"
  - ∅ plays the same *phonological role* as a vowel with some audible material (e.g. *künig* > K[ø:]nig "king")
- Material needed - vowels: empty vs. full, final vs. internal; relations: **licensing** and **government**

# A solution...

- "Rules": length has become dependent on the (syllabic) **context**
  - CVCV-translation: long vowels can occur only if they are supported - i.e. licensed - by a following nucleus
  - full  $V_s$  and **FEN** are able to license a preceding nucleus; **IEN** not
    - Parameter assumed in CVCV
- Word-final consonants remain in the (syllabic) structure: SSA is **useless** - only 1 device (FEN)

# Different situations...

(9)



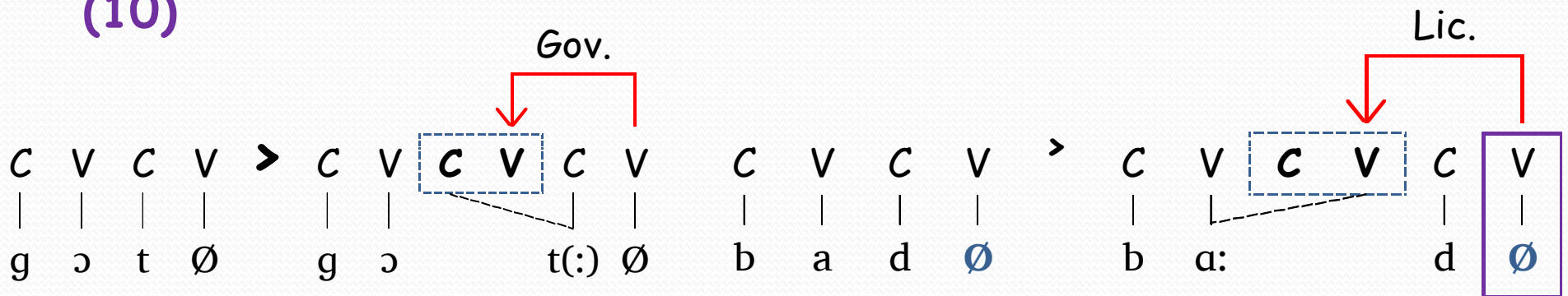
# A solution...

- Phonological conditioning

- $T_s$  vs.  $D_s/R_s$
- **Not only** voicing, but **phonological** quantity
- Voicing / strength / aspiration are three cues to phonological consonant length

# What happens when $V > *V:$ ?

(10)



- $T_s$  **want** to become long
- If they spread, the intermediate V position is **blocked**
- $T_s$  somehow have "priority" over  $V_s$
- $D_s$  and  $R_s$  do not want to become long



# Advantages

- Unifying  $\_ C V$  and  $\_ C \#$
- All phonological objects are present in the structure from the beginning, hence:
  - No "stay out of here" condition needed
  - No **SSA** (etc) needed
- $D_s$  vs.  $T_s$ : less arbitrary; compatibility with phonetic findings ( $T_s$  are longer than  $D_s$  - [Goblirsch \[1994\]](#)); several **dialects** with overt consonant length

# Discussion

- CVCV - FV ~ **FEN** ~ IEN (Scheer [2004:661]...)
- Variation is attested among (High, Low) German (and Dutch) dialects (cf. Seiler [2004] - in conjunction with some Bavarian data which I won't consider here - Ritzert [1898], Spaelti [1994])
- Seiler [2004]
  - MSL
  - OSL

# Discussion

- In Low German and Dutch (cf. *Leys* [1975]...), lengthening occurred before intervocalic consonants but **NOT** before word-final ones (→ the opposite of the Standard German facts)
    - *glas* > [glas] "glass"
    - *gleser* > [gle:zɐ] "glasses"
- FEN do not build a proper open syllable (i.e. are **NOT** able to license a preceding V)

# Discussion

- In some (High) German dialects, lengthening does **NOT** occur in  $\_ C V$  but does occur in  $\_ C \#$

(cf. Friedrich [1900-1901], König [1978:53], Ritzert [1898], Seiler [2004:12]...)

- Alemannic (11) (Seiler [2004]):

- *has* > [ha:s] "rabbit"
- *hase* > [hasə] "rabbits"

- V is not able to provide good conditions for V to lengthen

→ V is **less** powerful than FEN (?).

Why?

V is a schwa

## 2 parameters...

- Ability of a following V to license
- Full  $V_s$  are always able to do so
- Word-internal empty  $V_s$  never have this power
- FEN can - parameter 1
  - on (Standard German)
  - off (Dutch, Low German)
- Schwa-like  $V_s$  can - parameter 2
  - on (Standard German)
  - off (Alemannic)

		1	
		FEN	
process		can	cannot
[ə]-like	can	SG	Dutch
	cannot	Alem.	?

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# Thank you!

