

The hybrid pitch accent-tone-stress system of Latvian

Martin Krāmer
martin.kramer@uit.no

Annual Meeting
in Phonology 2019



THE ISSUE

Pitch accent in Scandinavian, Lithuanian, Serbo-Croatian is anchored to stressed/heavy syllables (see e.g., conditions for *stød* in Danish)
Tone languages usually don't have stress
Tone languages often have several tones per morpheme or morphemes that are just a tone
Pitch accents vary from one (Japanese, Serbo-Croatian) to two (Scandinavian)
Tone languages have from 1 up to 8 tones that can be anywhere
Latvian has a 3-way distinction – falling, level and broken (*stød*)
Stress in Latvian is always initial, tones can be on heavy syllables anywhere in the word

Latvian is very untypical for a pitch accent language, looks like both a tone language and a stress language.

Claims:

Latvian is right in the middle of Hyman's stress-tone continuum.
Pitch accents/tones in Latvian are restricted to stressed syllables too.
All three tonemes are actual tones – contra Kariņš (1996) [laryngeal] for the broken tone

TYPOLOGICAL BACKGROUND

- Classic division: Stress accent lgs – pitch accent lgs – tone lgs
- Hyman (2006): languages can be placed on a continuum



- Lexical stress contrastive, located somewhere
- Tone distinctive, a T is identified on each TBU
- "pitch accent is not a coherent notion, rather a 'pick and choose' among the properties that characterise prototypical tone vs. stress-accent systems" (Hyman 2006: 236)
- Claim here:
- Latvian shows exactly that: A language with fixed iterative stress that allows democratic tone, but only on stressed syllables
- OT, with constraints on different system types in one hierarchy, makes you expect exactly this kind of hybrid systems

THE BASIC CONTRAST

The central dialect (standard) has three tonemes: Falling, Level, Broken (Steinbergs 1977, Kariņš 1996, Mathiasen 1997, own fieldwork)

Mono-syllables/word-initial tones

B	zāle	[zā:le]	'hall'
L	zāle	[zā:le]	'grass'
B	logs	[luōks]	'window'
F	logs	[luōks]	'bow'
L	logs	[luōks]	'spring onion'

Polysyllables: on heavy syllables, in any order

BLB	[priēcā:jās]	'rejoice (3.past)'
FL	[tāutiēte]	'countrywoman'
FB	[pazāudēt]	'to lose'

DEFAULT TO FALLING

Fast speech contraction creates derived heavy syllables, which are assigned F tone (Steinbergs 1977: 217).

Regular	Fast speech	
vajaga	vāiga	'need.3.P.PRES'
pavasaris	pāvasaris	'spring'
bijs	bij	'be.PAST.ACT.PL.M.SG'

Falling = default/unmarked

ANALYSIS: REPRESENTATIONS

Stress receives high tone H*

Lexical tones only on heavy, heavy always stressed: H* + Lex T

Falling tone = default : underspecified + H* on 1st $\mu = \mu^H \mu$

Level tone: Lexical H + H* = $\mu^H \mu^H$

Broken tone : Lexical L + H* = $\mu^L \mu^H$

Phonetic implementation:
Both F and B represent a fall.
F is fall to neutral; B is fall to L (or zero f₀)

ANALYSIS: DISTRIBUTION

The stress grammar (loosely based on Kariņš '96):

- Main stress left: AlignL(Head, PWD)
- Penultimate 2ndary stress: AlignR(Pwd, foot)
- Heavy syllables always stressed: W2S Weight-to-Stress (Assign a * for every unstressed heavy syllable)
- AlignL >> W2S >> AlignR

The tone grammar

- Stress has higher pitch: Coincide/Stress, H*:
- 'Assign a * for every stressed peak without H*.'
- Tones only on stressed : T2S 'Assign a * for every T that is not associated to a stressed μ '
- Every mora can accommodate only one tone: * μ /TT 'A * for every μ with more than one T'

Coincide, T2S, * μ /TT >> Max-T

Tableau 1: Emergent complex tones

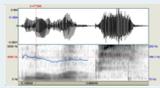
pažaudēt 'to lose'	pažaudēt-V [pažaudē'te]	AlignL	Concise	* μ /TT	T2S	AlignR	W2S	Max-T
a. pa'zau'det		*	*					
b. pa'zau'det			*	*	*	*	*	*
c. pa'zau'det			*	*	*	*	*	*
d. pa'zau'det			*	*	*	*	*	*
e. pa'zau'det			*	*	*	*	*	*
f. pa'zau'det			*	*	*	*	*	*
g. pa'zau'det			*	*	*	*	*	*
h. pa'zau'det			*	*	*	*	*	*
i. pa'zau'det			*	*	*	*	*	*

Tableau 2: The fate of μ on 1 μ rhymes

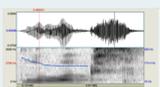
pažaudēt 'to lose'	pažaudēt-V [pažaudē'te]	PEAK LEFT	CONCISE (STR. H*)	* μ /TT	T2S	W2S	Max-T
a. pa'zau'det		*	*				
b. pa'zau'det		*	*	*	*	*	*
c. pa'zau'det		*	*	*	*	*	*

PHONETICS

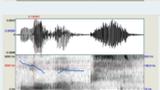
Level
logs 'spring onion'



Falling
logs 'bow'



Broken
logs 'window'



DIALECTAL VARIATION

Some dialect conflate the three-way to a two-way Distinction (Sarknis 2013)

	Standard/ Middle 0	Middle 1, Western 1	Middle 2
Level	Level	Level	Level
Falling	Falling	Broken	Level
Broken	Broken	Broken	Broken

	Middle 3, Western 2	High/ Latgalian	High/ Selonian
Level	Level	Falling	RiseFall
Falling	Falling	Falling	Rise
Broken	Falling	Broken	Rise

F merges with L to F or L, and with B to F or B, but L and B don't merge

ANALYSIS: DIALECTAL VARIATION

Two tones maximum per rhyme
Mergers result of simple one-step modifications
- Add H, Lose H
- Add L, lose L

	Standard/ Middle 0	Middle 1, Western 1	Middle 2
Level	H*H	H*H	H*H
Falling	H*	H*L	H*H
Broken	H*L	H*L	H*L

	Middle 3, Western 2	High/ Latgalian	High/ Selonian
Level	H*H	H*	RiseFall
Falling	H*	H*	Rise
Broken	H*	H*L	Rise

MORPHOPHONOLOGY

Stems come with their own tones as shown before, and affixes too.

Morphemes hardly ever change their tones.

One variable suffix changes from broken to level after broken (Steinbergs 1977: 198).

L	kūliēns	'threshing, thrashing'
F	kliedziēns	'shout, shriek'
Ø	pavedziēns	'thread, lead'
B	ēdiēns	'food'
B	sviēdiēns	'toss'
B	bjāviēns	'yell, scream'

Typical OCP effect, as known from tone languages

STRESS

- Stress is word-initial and signaled by higher intensity (Endzelins 1922)
- 2^{ndary} stress on penultima (Krāmer, in prep)
- =Trochaic iterative footing
- Initial short Vs higher pitch than other short Vs (Kariņš 1996)
- 2^{ndary} stress on heavy non-initial syllables (Endzelins 1922)
- Pitch accents only on heavy syllables (long V/ diphthong/sonorant coda)

CONCLUSIONS

- Latvian mixes constraints on stress and tone happily, is both "monarchic" and "democratic" at the same time
- For hybrid systems to emerge there have to be hybrid constraints that refer to tones as well as stress/foot structure (e.g., Tone-2-Stress)
- An economic account of Latvian tones, their distribution and dialectal variation requires a distinction between lexical and inserted H tones
- Dialects vary in lexical representations but not in stress and tone assignment constraints
- Regional variation is simple addition/subtraction of H or L. That's why Level and Broken never merge
- The broken tone/*stød* is just another tone – no non-tonal feature needed (contra Kariņš 1996 [laryngeal])

References

Endzelins, Jānis 1922. Lettische Grammatik. Riga: Lettisches Bildungsmministerium.
Hyman, Larry M. 2006. Word-prosodic typology. *Phonology* 23: 225-257.
Kariņš, Krišjānis 1996. The Prosodic Structure of Latvian. PhD dissertation, University of Pennsylvania.
Krāmer, Martin, in prep. The phonetics and phonology of secondary stress in Latvian. Ms. UIT
Mathiasen, Terje 1997. A Short Grammar of Latvian. Slavica Publishers Inc.
Sarknis, Alberts (ed.) 2013. Latvian valodas dialektu atlants. Fonetika. Apraksts, kartes un komentāri [Latvian dialect atlas. Phonetics. Description, maps, commentaries]. Riga: LU Latvian valodas institūts.
Steinbergs, Aleksandra 1977. The Phonology of Latvian. PhD dissertation, University of Illinois at Urbana-Champaign.

