Variation in prosodic systems - synchronic and diachronic aspects

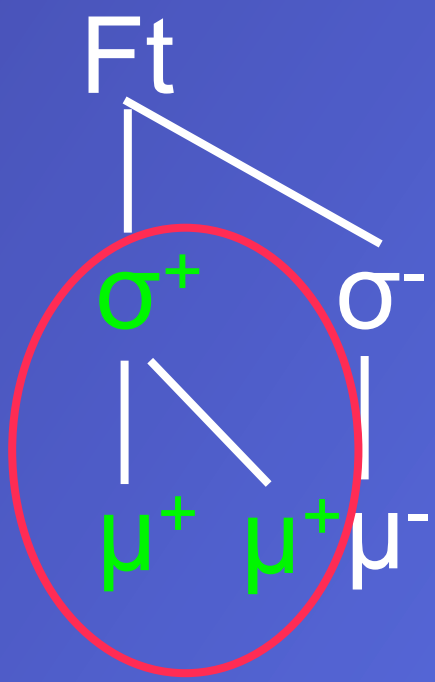
Day 4: Serbo-Croatian

Björn Köhnlein
Leiden University
EGG School 2014, Debrecen
31-07-2014

What we did yesterday…

Head domain: Foot head plus units directly dominated by the head

Accent 1



‘Syllabic trochee’

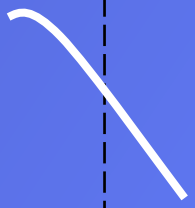
Accent 2

‘Moraic trochee’

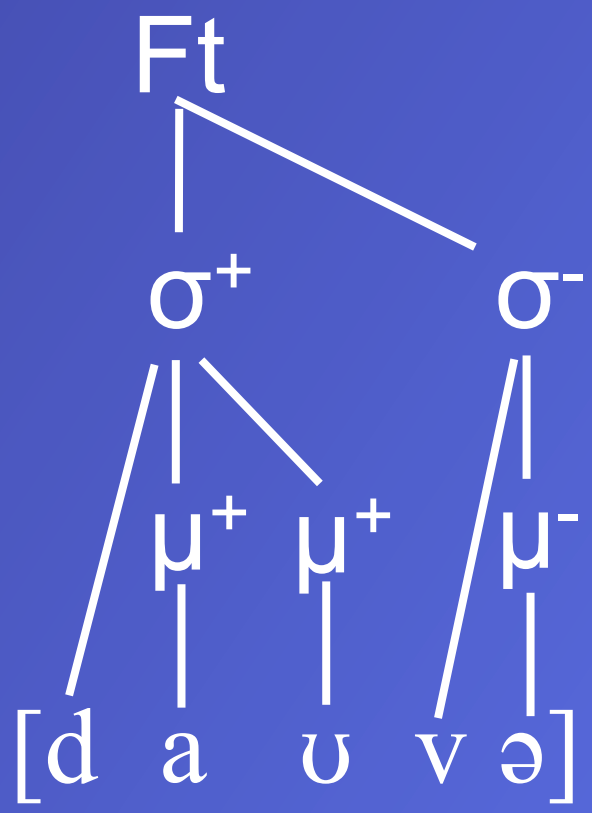
Rule A (Cologne)
Phrase-medial position

T → μ^+	Accent 1		Accent 2	
	μ^+	μ^+	μ^+	μ^-
Declarative H*L	H*	L	H*	
Interrogative L*H	L*	H	L*	

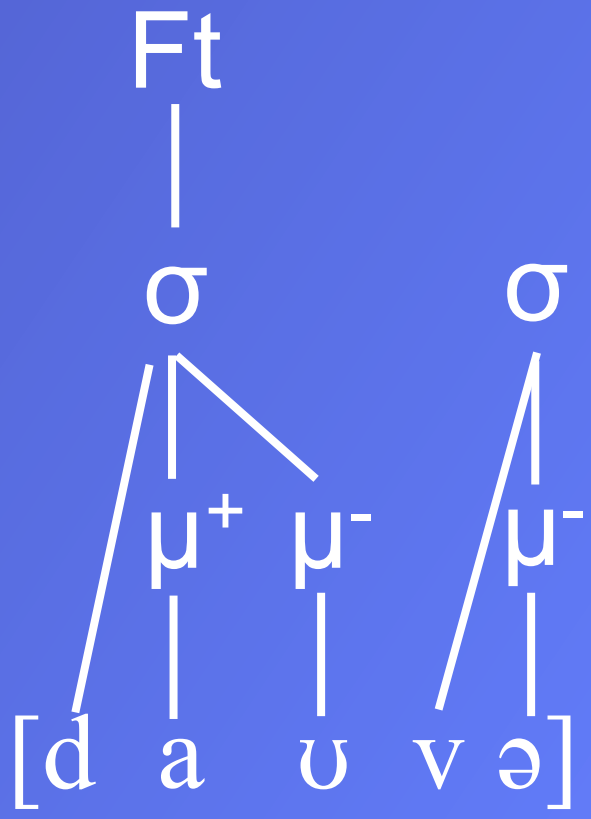
Rule B (Arzbach)
Phrase-medial position, dec

*μ+ / L	Accent 1		Accent 2	
	μ+	μ+	μ+	μ-
Declarative H*L	 H*		H* 	L

Accent 1

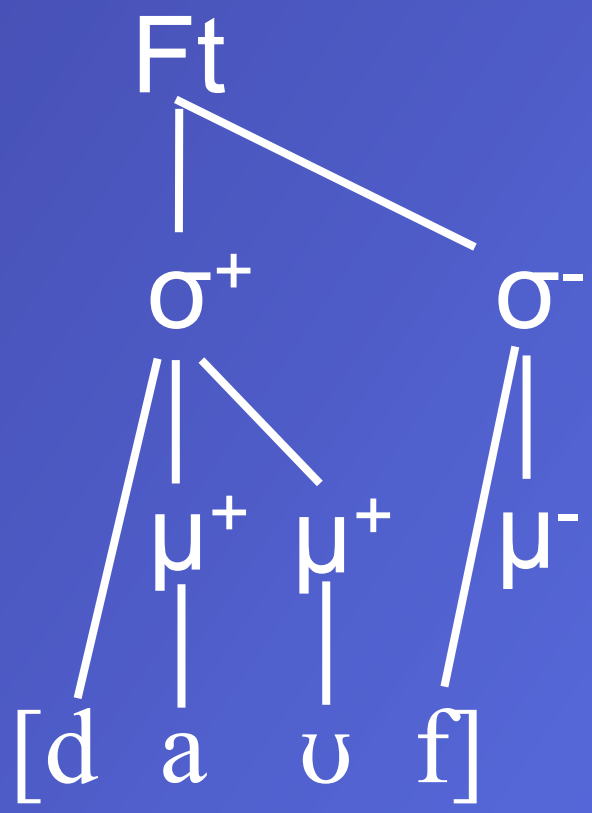


Accent 2

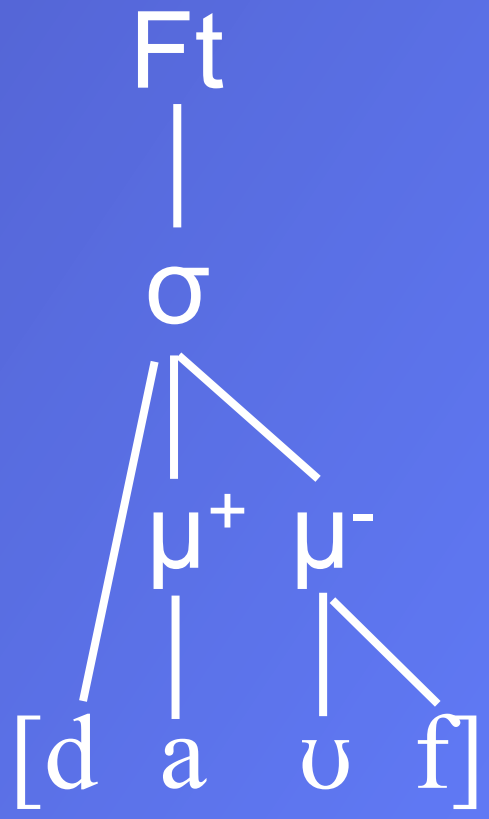


Faith (Ft-Hd) >> IambicTrochaicLaw

Accent 1



Accent 2



Goals of today's lecture

- Look at a different type of tone accent system: Serbo-Croatian
- In some ways similar to Franconian, e.g. binary contrast
- But also quite different, e.g. contrast on CV-syllables

The tone accent contrast in Standard Serbian

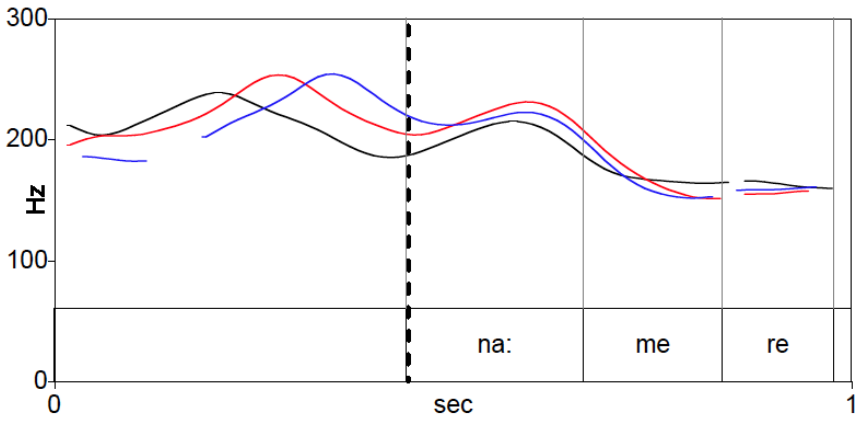
- Serbo-Croatian (also Slovene) has two tone accents: the falling vs. the rising accent
- Can occur on monomoraic syllables (short vowels) and bimoraic syllables (long vowels)

Some minimal pairs (Mandic and Wagner 2005)

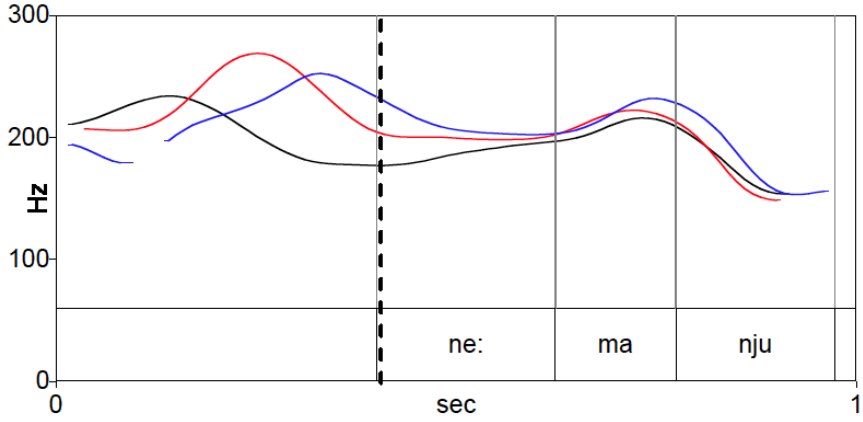
- Falling vs. rising tone
- ˥para ‘steam’ vs. ˩para ‘money’
- ˥mlada ‘bride’ vs. ˩mlada ‘young woman’
- Long vs. short vowels
  - Rise: ˩zavesti ‘to seduce’ vs. ˩zavesti ‘to stitch’
  - Rise: ˩pas ‘dog’ vs. ˩pas ‘belt’

The tone accent contrast in Standard Serbian

A. Falling accent



B. Rising accent



Analysis by Zec and Zsiga (2009); from now: ZZ

- Tone and stress interact
- Two levels: lexical and postlexical stratum
- Lexical tone determines the placement of tone in the lexical stratum
- Stress determines the placement of tone in the postlexical stratum
- Formalized in Stratal Optimality Theory
- Note: all further tableaux / graphs are taken from ZZ

Distribution of pitch accents

Table 1. Distribution of Pitch Accents

	Monosyllables	Polysyllables		
		Initial σ	Medial σ	Final σ
Falling	✓	✓		
Rising		✓	✓	

Patterns (stress in bold)
1 syl: **H**
2 syl: **H**L / **L**H
3 syl: **H**LL / **L**HL / L**L**H
4 syl: **H**LLL / **L**HLL / L**L**HL / LL**L**H

Lexical level

(2) Distribution of Pitch Accents.

a. Falling PA

na_H mere	→	**ná**$_H$ mere	'intentions'
la_H v	→	**lá**$_H$ v	'lion'

b. Rising PA

$nema_H$ nja	→	**néma**$_H$ nja	proper name
$nena_H$	→	**néna**$_H$	proper name
$parada_H$	→	**parád**$_H$**a**	'parade'
$limunada_H$	→	**limunád**$_H$**a**	'lemonade'

Typology of tone / stress interactions

(1) Types of tone and stress interactions.

a. Type 1: tone attracts stress

$CaCa_{H}Ca \rightarrow Ca(C\acute{a}_{H})Ca$

b. Type 2: stress attracts tone

$Ca(C\acute{a})Ca \rightarrow Ca(C\acute{a}_{H})Ca$

c. Type 3: tone and stress do not interact

$CaCa_{H}Ca \rightarrow (C\acute{a})Ca_{H}Ca$

$CaCaCa_{H} \rightarrow (C\acute{a})CaCa_{H}$

Typology of tone / stress interactions

- ZZ argue that Serbo-Croatian is…
- Type 1 at the lexical level (tone governs stress)
- Type 2 at the postlexical level (stress governs tone)

Stress head vs. tone head

- A word has two heads
  - A stress head, where stress is located
  - A tone head, i.e., the syllable that carries a high tone (H = Prominence)

Stress head vs. tone head

(3) The Stress Head and the Tone Head: three possibilities on tri-syllabic words

a. Falling accent

H

({ná}) me re

b. Rising accent, initial stress

H

(né) {ma} nja

c. Rising accent, non-initial stress

H

pa (rá) {da}

Descriptive generalizations

- The stress always has to precede the high tone, if possible, but never by more than one syllable
- How do ZZ derive this pattern?

(4) Constraints on Stress and Tone

a. STRESSHEAD
The metrical, or stress, head is aligned with the left edge of the prosodic word.

b. TONEHEAD
The tonal head corresponds with the syllable linked to the High tone.

c. IDENTHIGH
Correspondent tones must be identical.

d. OCP-HIGH
Multiple High tones are prohibited.

(5) Constraints on the Interaction of Stress and Tone

a. StrongCulminativity

If σ_i is a ToneHead and σ_j is a StressHead, then $\sigma_i = \sigma_j$.

b. WeakCulminativity

If σ_i is a ToneHead and σ_j is a StressHead, then no syllable may intervene between σ_i and σ_j.

(6) Falling pitch accent initial in a polysyllable: na $_H$ mere → ({ná $_H$}) mere

na$_H$mere	IDENTHIGH	TONEHEAD	STRESSHEAD	STRCULMIN
☞ ({ná $_H$}) mere				
(ná) mere	* !			
(ná $_H$) mere		* !		
{na $_H$} (mé) re			* !	*

(7) Rising pitch accent initial in a polysyllable: nema$_H$nja → (né) {ma$_H$} nja

nema$_H$nja	IDENTHIGH	TONEHEAD	STRESSHEAD	STRCULMIN
☞ (né){ma$_H$}nja				*
ne ({má$_H$}) nja			* !	
(né) ma$_H$nja		* !		
({né$_H$}) ma nja	* * !			

(8) Rising pitch accent non-initial in a polysyllable: parada$_H$ → pa (rá) {da$_H$}

parada$_H$	WkCulmin	IdentHigh	ToneHead	StressHead	StrCulmin
☞ pa (rá){da$_H$}				*	*
pa ra ({dá$_H$})				* * !	
(pá) ra {da$_H$}	* !				*
(pá) ra da		* !			
({pá$_H$}) ra da		* * !			
(pá) ra da$_H$			* !		

(9) Monosyllables have Falling accent: $la_{H}v \rightarrow (\{ \textbf{lá}_{H}v \})$

$la_{H}v$	IDENTHIGH	TONEHEAD	STRESSHEAD	STRCULMIN
☞ ({$lá_{H}v$})				
($lá_{H}v$)		* !		
(láv)	* !			

(10) No more than one H per word: na_H me re_H → ({ **ná**$_H$ }) mere

na_Hmere $_H$	OCP-HIGH	WKCULMIN	IDENTHIGH	STRESSHEAD	STRCULMIN
☞ ({ná $_H$}) mere			*		
({ná $_H$}) me{re$_H$}	*!	*			*
na me ({ré$_H$ })			*	*!*	
na (mé) {re$_H$}			*	*!	*

(11) Toneless polysyllable: d e v e r a → (d **é**) v e r a

devera	IDENTHIGH	TONEHEAD	STRESSHEAD	STRCULMIN
☞ (dé) vera				
de (vé) ra			* !	
deve (rá)			* ! *	

Why toneless forms?

- One the one hand, one would expect that there should be a default (i.e., not all words may need to have a lexical tone that determines the position of stress)
- On the other hand, ZZ discuss evidence from stress shifts in prefixation

(12) Toneless forms (aorist) vs. forms with an initial High (present)

a. Present	({v $\acute{i}_H$}) d i	(n é){ v i_H } d i
	'see, pres, 3sg'	'not see, pres, 3sg'
b. Aorist	(v í) d e	(n é) v i d e
	'see, aorist, 3sg'	'not see, aorist, 3sg'

Postlexical stratum

(14) Postlexical stratum: tonal interactions

a. Toneless

(d é) v e r a → (d é $_H$) v e r a

b. Falling PA

({n á $_H$ }) m e r e → ({n á $_H$ }) m e r e

c. Rising PA

(n é){m a $_H$ }nj a → (n é $_L$){m a $_H$ }nj a

(15) Head Salience constraints

a. HEAD/HIGH — Head of a prosodic word is associated with a High tone.

b. HEAD/LOW — Head of a prosodic word is associated with a Low tone.

(16) FAITH constraints

a. DEPHIGH

b. DEPLOW

c. IDENTHIGH

(17) Postlexical stratum: constraint ranking

OCP >> HEAD/HIGH >> HEAD/LOW >> FAITH

(18) Postlexical: toneless polysyllable (d é) v e r a → (d é $_H$) v e r a

(dé) vera	HEAD/HIGH	HEAD/LOW	DEPHIGH	DEPLOW
☞ (dé $_H$) vera		*	*	
(dé $_L$) vera	* !			*
(dé) vera	* !	*		

(19) Postlexical: Falling PA ({n á $_H$}) m e r e → ({n á $_H$}) m e r e

({ná$_H$}) mere	HEAD/HIGH	HEAD/LOW	DEP-LOW
☞ ({ná$_H$}) me re		*	
({ná$_H$}) me$_L$ re		*	* !

(20) Postlexical: Rising PA (n é){m a $_H$}nj a → (n é$_L$){m a $_H$}nj a

(né){ma $_H$} nja	OCP	HEAD/HIGH	HEAD/LOW	DEP-HIGH	DEP-LOW
☞ (né $_L$){ma $_H$} nja		*	*		*
(né $_H$){ma $_H$} nja	* !		* *	*	
(né){ma $_H$} nja		*	* * !		

What do you think?

- What do you like about the analysis?
- Are there things you would consider problematic?
- What might be problematic about the facts for a metrical approach?
- How could this system have come into existence?