Second thought on the form and the substance of Russian vowel reduction

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Vowel reduction

Russian vowel inventory comprises 5 full vowels. Some Russian consonants have (non-)palatalized counterparts, while some are unpaired.

i	u
e	o
a	

Table 1. Russian vowel inventory

m’	m	n’	n				
p’	p	t’	t			(k’)	k
b’	b	d’	d			(g’)	k
				c	č		
f’	f	s’	s	š	šč	(x’)	x
v’	v	z’	z	ž			
		l’	l		j		
		r’		r			

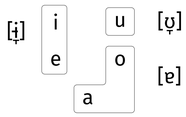
Table 2. Russian consonants (hard and soft unpaired)

Vowels are reduced in unstressed positions. The pattern varies between:

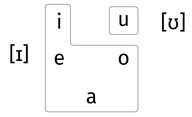
- pretonic/non-pretonic syllable
- soft/hard/hard unpaired onset

Iosad (2012): reduction in non-pretonic syllables is a side effect of dramatically decreased duration
⇒ only consider pretonic reduction

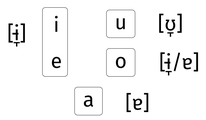
After hard onsets



After soft onsets



After hard unpaired onsets



/e ∼ o/ alternation

After hard unpaired consonants /š, ž, c/, /o/ can behave in two ways:

- /o/ alternates with /e/ (alt-/o/) ⇒ reduced to [i̯] (like /i/)
- /e/ before palatalized consonants, /o/ elsewhere (Lightner, 1969; Padgett, 2010)

(1) *ž*[ɔ]*ny* — *ž*[ɛ]*nščina* — *ž*[i̯]*ná* ‘wife.PL’ — ‘woman’ — ‘wife’
š[ɔ]*rstka* — *š*[ɛ]*rst’* – *š*[i̯]*rst’éj* ‘wool.DIM’ — ‘wool’ — ‘wool.GEN.PL’

- /o/ is stable ⇒ reduced to [ɐ] (like /a/)

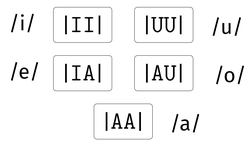
(2) *šort* [ʂɔ̲rt] – *šort’it’* [ʂɐ̲rtʲitʲ] ‘short sale’ – ‘to short’
p’ežó [pʲɪʐɔ̲] – *p’ežovód* [pʲɪʐɐ̲vɔd] ‘Peugeot’ – ‘Peugeot owner’

Quality as quantity

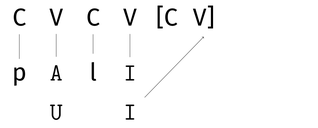
Russian vowel reduction has been analyzed as loss of contrastive features due to lack of timing slots (Crosswhite, 2000; Enguehard, 2018).

- Long vowels have two timing slots ⇒ host two contrastive features
- Unstressed vowels are monopositional ⇒ features lost, contrast neutralized
- Privative features — elements of Element Theory (Kaye et al., 1985)
- We develop Enguehard’s (2018) analysis with timing slots in Strict CV representations (Lowenstamm, 1996; Scheer, 2004)

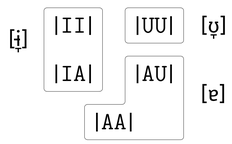
Full vowel representations



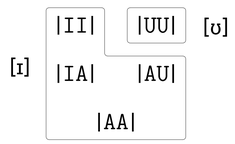
(3) *p*[ɔ]*l* ‘floor’ — *p*[ɐ]*ly* ‘floor.PL’



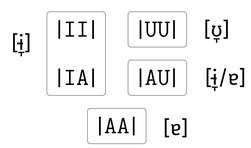
After hard onsets



After soft onsets

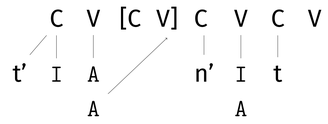


After hard unpaired onsets

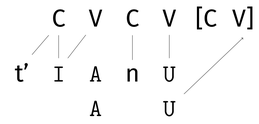


- Vowels that share a common feature are reduced to the same sound
- After soft consonants, a palatalizing element |I| spreads onto the nucleus, so all vowels but /u/ are reduced to |I| [ɪ]

(4) *t’*[a]*n’et* ‘pull.PRS.3SG’



(5) *t’*[ɪ]*nú* ‘pull.PRS.1SG’



Enguehard (2018) takes /o/ after hard unpaired onsets to always reduce to [i̯], that is, /o, e, i/ are reduced to |I| despite not sharing any features.

- Not completely accurate empirically: stable /o/ reduces to [ɐ]
- Not sharing the |I| element cannot be ascribed to palatalizing |I| spreading from the onset: this way, /a/ after palatals would also become [i̯]

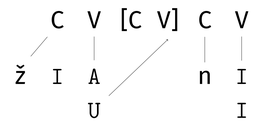
What does alt-/o/ (but not stable /o/) reduce like /i, e/?

Floating palatalization

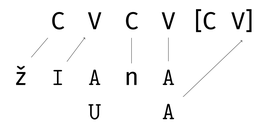
- Alt-/o/ only appears as /o/ under stress in between hard consonants
- It is tempting to treat alt-/o/ as underlying /e/ that assimilates to hard consonants
- Impossible with privative features: rules cannot target absence of elements
- Palatalization is marked (with |I|) ⇒ no assimilation to absence of palatalization

We suggest that the unexpected behavior of alt-/o/ is due to the preceding consonant: before alt-/o/, the palatal contains a floating |I|.

(6) *ž*[ɔ]*ny* ‘wife.PL’

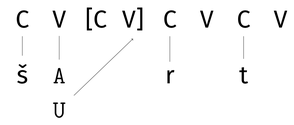


(7) *ž*[i̯]*ná* ‘wife’

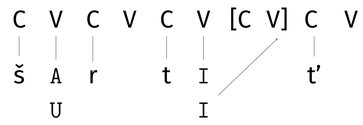


- The palatal is hard, so |I| is not associated
- However, it provides a soft-like context for the reduction of alt-/o/
- Stable /o/ comes after palatals with no floating |I|

(8) *š*[ɔ]*rt* ‘short sale’



(9) *š*[ɐ]*rtít’* ‘to short’



Loanwords behave exactly as predicted by the original analysis of Enguehard (2018); the counterexamples featuring alt-/o/ can be explained away with floating palatalization.

Selected references

Crosswhite, C. M. (2000). Vowel reduction in Russian: A unified account of standard, dialectal, and ‘dissimilative’ patterns. In Crosswhite, C. M. and McDonough, J., editors, *University of Rochester Working Papers in the Language Sciences*, pages 107–171. University of Rochester, Rochester, NY.

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