

Paradigm Uniformity and Contrast in Russian Vowel Reduction

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Reduction of non-high vowels in unstressed syllables to [ɐ] or [ə] after non-palatalized consonants (*akan'e*) in Contemporary Standard Russian is complete in all positions in the native lexicon (Avanesov, 1972, and others) and it is analyzed as phonological vowel neutralization (Halle, 1959/1971; Crosswhite, 1999/2001, 2004; Barnes 2006a, b). But reduction of non-high vowels after palatal(ized) consonants (*ikan'e*) shows some exceptional behavior: There is a systematic sub-phonemic contrast between [ɪ] (approximately F1=300, F2=2000; Thelin 1971) and [ə] (approx. F1=375, F2=1775; Thelin 1971) in a set of inflectional suffixes where [ə] is found instead of the expected [ɪ], exemplified by the forms in (1) below. This reflects the standard pronunciation of Russian as described in Avanesov (1972:69-72, 152-62), Kuzmina (1968), Timberlake (2004:48-51), and holds for most speakers of CSR.

(1) Incomplete neutralization after palatalized consonants in suffixes (near-merger)

‘sea’	/mór ^j +o/	nom/acc sg	[mór ^j ə] ~ [mór ^j ɪ]
	/mór ^j +a/	gen sg	[mór ^j ə]
	/mór ^j +e/	prep sg	[mór ^j ɪ]

The incomplete neutralization occurs as **incomplete merger** for /e/, /o/, and /a/ in that /e/ is [ɪ], /a/ is most often [ə], and /o/ may be either [ɪ] or [ə], as in (1) above, and it also occurs as **phonemic split** in that unstressed /o/ and /a/ may be either [ɪ] or [ə], as shown in (2).

(2)	‘field’	/pól ^j -om/	[pól ^j əm], [pól ^j ɪm]	noun, neut instr sg
	‘weed’	/pól ^j -om/	[pól ^j ɪm]	verb, 1 pl nonpast
	‘lament’	/pláč ^j -om/	[pláč ^j əm], [pláč ^j ɪm]	noun, neut instr sg
	‘cry’	/pláč ^j -om/	[pláč ^j ɪm]	verb, 1 pl nonpast
	‘chase’	/gón ^j -at/	[gón ^j ət]	verb, 3 pl nonpast
	‘mean’	/znáč ^j -at/	[znáč ^j ət]	verb, 3 pl nonpast
	‘melon’	/dín ^j -am ^j ɪ/	[dín ^j ɪm ^j ɪ]	noun, instr pl

Grammatical analogy cannot account for cases where the same model produces different results; phonetic accounts cannot explain why different variants obtain under the same phonetic conditions; and it is not clear why orthography should influence the pronunciation of suffixes and then only certain suffixes and only after palatal(ized) consonants. Language change now favors [ɪ] in certain categories, but in others schwa remains predominant (Avanesov 1972; Kuz'mina 1966; Panov 2004; Timberlake 2004:48-51). So the questions are: 1) where and why is change to [ɪ] particularly favored?; and 2) where and why is schwa particularly entrenched?

I argue that vowel reduction after palatal(ized) consonants is constrained by paradigm uniformity and contrast (Kenstowicz 2005): In certain cases [ə] is entrenched because it maintains critical contrasts within the paradigm (e.g., singular vs. plural in nouns and verbs), while in other categories [ɪ] is especially favored because it enforces paradigm uniformity (adjective suffixes for palatal(ized) stems) or because it supports palatalization as the salient marker of a given morphosyntactic category (verbal non-past suffixes). Most examples of incomplete neutralization in the literature deal with incomplete merger (see Barnes 2006a; Yu 2007), so these exceptions to *ikan'e* are of interest because they also show a type of phonemic split. This preliminary study suggests that sub-phonemic contrasts in Standard Russian may be grammar-internal and maintained by the morphology (Yu 2007). It is not yet entirely clear whether *ikan'e* is

phonological neutralization (Jakobson 1929/1971:100; Halle 1959/1971:70-71; Lightner 1968; Trubetzkoy 1934) or a gradient phonetic process (see Thelin 1971; Padgett 2004; Padgett and Tabain 2005; Barnes 2006a, b), but under either view the implementation of paradigm uniformity and contrast in the grammar would give similar results.

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