

Russian vowel reduction without “functional” motivation

Modern Standard Russian is known for its vowel reduction system, where unstressed syllables license fewer segmental contrasts than stressed syllables. According to standard accounts (Crosswhite, 2001; Timberlake, 2004; Padgett and Tabain, 2005), there is a difference in degree of reduction between first pretonic syllables and other unstressed syllables (with some qualifications, e. g. onsetless syllables pattern with first pretonic ones irrespective of their position). The former license a four-vowel system after non-palatalised consonants and a three- or two-vowel system after palatalised consonants (depending on conservative vs. innovative norm). The latter license a two-vowel system, where one vowel is essentially a schwa. Reduction of /a/ is exemplified as follows:

- (1) [sat] [sɐ'dam] [sədə'vot]
 'garden (nom. sg.)' 'garden (dat. pl.)' 'gardener (nom. sg.)'
- (2) [p'at'] [p'r't']i [p'itɐ'tʃok]
 'five' 'five (gen.)' 'five-ruble coin (dim.); snout (nom. sg.)'

Much of the phonological literature on Russian vowel reduction involves harnessing “functional” notions, such as contrast dispersion and cramping of the vowel space, whether directly (Padgett and Tabain, 2005) or indirectly (Crosswhite, 2001), to provide a phonological account. In this paper I argue that these considerations are unnecessary, and indeed make incorrect predictions. Instead I propose a substance-free (Morén, 2003; Hale and Reiss, 2008; Blaho, 2008) approach to Russian vowel reduction, arguing that an analysis involving simple markedness and faithfulness constraints of Optimality Theory, coupled with a less phonetically determined phonological representation, is more adequate.

I start with providing further evidence to the assertion of Barnes (2007) that the distinction between two degrees of reduction is irrelevant from a phonological point of view, the more “extreme” reduction being an epiphenomenon of phonetically determined shortened duration. In particular, I point out that increased duration is conducive to the disappearance of “extreme reduction” outside experimental contexts (Kasatkina, 2005; Bethin, 2006), that coarticulatory pressure plays a greater role in “extreme reduction” than standardly assumed (Paufošima, 1980) and that dispersion-based models incorrectly predict the outcome of the neutralisation of /a/ and /o/.

Having established the correct patterns of Russian vowel reduction, I argue that they are not due to any sort of “functional pressure” in the literal sense. Instead, I propose a simple analysis in terms of Optimality Theory, using the Parallel Structures Model of feature geometry (Morén, 2003), which only utilises the standard devices of markedness, faithfulness, positional faithfulness and spreading (though unlike Zubritskaya, 1995 I propose that spreading in Russian is used only as a last resort to repair illicit representations, not that it is enforced by a pro-spreading constraint). I analyse the modern (“younger”) norm and the conservative early twentieth century (“elder”) norm and argue that the difference between them should be captured not only through constraint ranking (the standard Optimality Theoretic position) but also through differences in representations.

I also discuss some corollary issues. Thus, I argue that functional considerations are unnecessary in accounting for dialectal patterns (*contra* Crosswhite, 2001), for largely the same reasons, and thus that purely feature-based accounts in the spirit of Nessel (2002) are to be preferred. In particular, I argue that if functional dispersion-based accounts are to be taken seriously, they make quite incorrect empirical predictions: for example, in Russian dialects with “assimilative reduction” the sound phonemicised as /ə/ is in fact often realised as a variety of non-back non-low segments (Kasatkin, 1999). This undermines the “functionalist” accounts’ claim to being phonetically grounded; in essence, it would seem that for these accounts to make correct empirical predictions, they need to refer to phonological rather than phonetic features. In that sense, they are also “substance-free” and thus have no “grounding advantage” over the approaches such as the one espoused in the proposed paper.

The paper also provides opportunity for discussion of the often-raised question regarding the existence of a sixth contrastive vowel /i/ in Russian (which I answer in the negative).