

Stress shift in Russian prepositional phrases: a strict CV approach

Daniar Kasenov, Alexandra Shikunova

antidanyar@protonmail.com, notalexandrashikunova@gmail.com

Intro: In Russian, most prepositional phrases (PPs) with one-syllable prepositions act as prosodic words, with a syllable of the noun being stressed. However, some nouns allow for PPs that may alternate wrt. stress and have the preposition stressed (see Blumenfeld 2011 for discussion of lexical restrictions on stress shift). Note also that nouns in (2a) are interpreted as non-definite.

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| (1) No stress shift | (2) Stress shift |
| a. po pólyu ‘through a/the field’
na rúku ‘on an/the arm’ | a. pó polyu ‘through a/*the field’
ná ruku ‘on an/*the arm’ |
| b. po polyáne ‘through a/the meadow’
na ladón’ ‘on a/the hand’ | b. *pó polyane
*ná ladon’ |

To account for stress shift, previous accounts (such as Griбанова and Blumenfeld 2013) have posited two different types of prepositions: ones that can cliticize into the minimal prosodic word and ones that cannot, creating the pattern. This work attempts to account for stress shift in a more minimal fashion without resorting to two different classes of prepositions in a strict CV approach to stress assignment (Ulfsbjorninn 2014; Faust and Ulfsbjorninn 2018), while also capturing the syntactic properties of it.

Syntactic properties: Stress shift is not only constrained by the noun itself, but also by the syntactic environment. The noun phrase should be non-branching: no adjectives, participles, relative clauses, or possessors allowed, even in a post-nominal position (pre-nominal position would block cliticization of preposition into noun’s prosodic word). Note that all the examples below are grammatical without stress shift.

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|---|--|
| (3) Ban on adjectives | (4) Ban on possessors |
| a. *pó polyu zholtomu ‘through yellow field’ | a. *pó polyu bitvy ‘through a battlefield’ |
| b. *ná ruku zhenskuyu ‘on a female arm’ | b. *ná ruku mamy ‘on mom’s arm’ |
| (5) Ban on relative clauses | (6) Ban on participle clauses |
| a. *pó polyu, na kotorom rastyot rozh ‘through a field, on which rye grows’ | a. *pó polyu, ukrashennomu tsvetami ‘through a field decorated with flowers’ |
| b. *ná ruku, kotoraya vsya v krovi ‘on arm, which is fully in blood’ | b. *ná ruku, pokrytuyu tatu ‘on arm covered with tattoos’ |

This shows that no morphosyntactic boundary may intervene between the preposition and the noun: [P N] structure allows for stress shift, while [P [N XP]] does not. Another important syntactic property is that the stress shift is much more acceptable if PP acts as an adjunct, not as argument: when the PP forms idiosyncratic meaning with the verb, stress shift becomes ungrammatical.

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|--|---|
| (7) Argument PP | (8) Adjunct PP |
| a. vystupat’ za górod ‘to defend a/the city’ | a. vystupat’ za górod ‘to step out of a/the city’ |
| b. *vystupat’ zá gorod | b. ^{OK} vystupat’ zá gorod |

Given that adjuncts spell-out wholly (Stepanov 2007), we may conclude that the [P N] structure

may allow stress shift only if spelled out together (argument PP will not give rise to that, due to weak PIC; Chomsky 2008), or, alternatively, when no spell-out induced boundary intervenes (ban on [P [N]] in stress shift).

Summing up, the stress shift in Russian PPs is impossible in environments where a morphosyntactic boundary is inbetween the preposition and the noun. This allows for analyzing shift’s optionality via positing nominals of different sizes (D, being a phase head, triggers spellout of the noun). Based on Pereltsvaig (2006), we suggest that it may explain the non-definite semantics of nouns in PPs with stress shift.

Analysis of stress shift: Following Faust and Ulfsbjorninn (2018), we assume that contentful nuclei project 2 lines of the metrical grid, while empty nuclei project one or zero (a parametrized choice for different empty nuclei, for example, final or non-final). Relevant empty nuclei here are the empty CV units acting like phonological encoders of morphosyntactic boundaries (Scheer 2012).

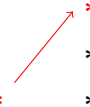
The stress assignment process is as follows: (a) incorporate projections of empty nuclei into their closest to the right non-empty nucleus; (b) establish head on the L3-projecting nucleus; (c) if there are no L3 projections, assign stress to the leftmost projecting nucleus. Look at a simpler example without empty nuclei in (9): there are three L2-projecting nuclei and nothing else. Because of that, only (c) applies to it \Rightarrow the preposition is stressed. In (10), on the other hand, there is a projecting empty nucleus of the boundary, which needs to be incorporated. Parallel to Faust and Ulfsbjornin’s treatment of Cairene, the projections of empty nuclei are **incorporated** rightwards, making the first syllable of the noun have an L3-projecting nucleus \Rightarrow the noun is stressed.

(9) Stress shift

L3						
L2	*	*	*			
L1	*	*	*			
	C	V	C	V	C	V
	p	ó	p	o	l'	u

(10) No stress shift

L3							*	
L2	*				*	*		
L1	*		*		*	*		
	C	V	C	V	C	V	C	V
	p	o			p	ó	l'	u



Conclusion: We have given an account of Russian stress shift that does not require postulating two different phonological entities and captures the syntactic restrictions on the phenomenon rather straightforwardly. The core idea is that phonological encoders of morphosyntactic boundaries may act as phonological objects for prosodic processes, allowing for unification of syntax and prosody in a novel way.

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