

# Post-Nuclear Prominence Patterns in Northern Russian Question Intonation

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## Abstract

In the intonation of polar questions in the Northern Russian dialect of Varzuga (Kola Peninsula), two different intonation patterns are frequently used: the Standard Russian H\*L pitch accent, with a high rise and immediate fall, but also a “broad hat” pattern, in which the high rise is followed by a late fall, aligned to the first syllable after the last lexical stress. This contour does not fit into the existing transcription systems developed for Standard Russian. The analysis presented in this paper suggests that the late fall does not present a fully-fledged pitch accent, but is subordinate to the preceding, nuclear accent, similar to phrase accents in the sense of [4].

## 1. Introduction

Although the Russian traditional dialects show comparatively little variation, they differ substantially in the field of prosody. The Northern Russian dialects deviate from the Central and Southern Russian dialects and Standard Russian in syllable structure [17], in the relative duration and reduction of stressed and unstressed syllables ([1]; [20]) and in the prosodic structure of the utterance, which is less centralised, due to a tendency to attach equally prominent pitch accents to a larger number of words ([1]; [18]).

A remarkable difference between the dialect of the Northern Russian village Varzuga (Kola Peninsula) and standard, Central Russian pronunciation concerns the intonation of polar questions. In Russian, yes/no questions can be formed by using the question particle *li* and by means of intonation only. In Standard Russian, the most common nuclear pitch accent used in polar questions without *li* has a high rise on the stressed syllable, immediately followed by a fall to low level, known as i.a. IK-3 in [3]; RI- in [14]; LH L in [23]; L+H\* L(\*) in [13] and H\*L in the most recent version of ToRI (*Transcription of Russian Intonation*; see [15]; [16]); cf. ex. (1) and Fig. (1).

The dialect examples are given in latinicised orthographic transcription. Lexical stress is marked by an accent on the stressed vowel. The syllables pronounced on a high pitch level are underlined. Final intonation phrase boundaries are marked with % when no pitch change occurs after the syllable marked with L, and with L% when pitch keeps falling, as in ToRI ([16]).

H\* L                      L%

(1) Vy govorite po-anglijski?  
*you speak in-English*  
“Do you speak English?”

Following Ladd, the nucleus is defined as the most important accent from the point of view of focus ([12], p. 217). As in

many other Eastern European languages ([5]; [12]), the locus of the main, nuclear pitch accent in an “out of the blue”, broad focus polar question with no special contextual requirements is the finite verb ([13], or other carrier of modality; see [21]), as indicated in (1). Any words following after the nuclear rise are usually deaccented. The pattern does not convey an implication that deaccented elements count as given in the discourse ([13]; [21]). The post-nuclear words can carry small, secondary pitch accents, subordinate to the main, falling pitch movement of the post-nuclear stretch, as in (2) and Fig. (3), under conditions that remain to be described; cf. [13]; [21]:

H\* L (h l\*)                      (h l\*) L%

(2) A vy lično ne znáte proféssora Kulikóva?  
*But you personally not know professor.acc Kulikov.acc*  
“So you don’t know professor Kulikov personally?”

In the Varzuga dialect, apart from this “pointed hat” contour, a “broad hat” pitch pattern is used, as indicated in (3) and Fig. (2). The locus of the nuclear rise is the same as in (2), but the fall is preceded by a long stretch of high pitch:

H\*                      \* L %

(3) Vy govorite po-anglijski?  
*you speak in-English*  
“Do you speak English?”

This “broad hat” pattern appears to represent a phonological difference between the dialect and Standard Russian. It cannot be described by the available inventories of intonation constructions, pitch accents, phrase and boundary tones, developed for Standard Russian, as described in [3]; [14]; [16]; [23].

The late fall causes several questions concerning its distribution (see §2.1), the alignment of the fall (§3), its phonological status (§4), and the functional difference with the peak pattern, a question for further research (see §5). Section 2 describes the data on which the present analysis is based.

## 2. Corpus and experiments

The analysis of the broad hat contour is founded on 1) more than one hundred question utterances from a corpus of spontaneous speech, recorded from elderly speakers of the local Northern Russian dialect in Varzuga between 2001-2007 (see [19] for a description of this corpus); 2) on read transcriptions of the original dialogues and of constructed questions by ten speakers of Standard Russian; and 3) on the same material, read by three dialect speakers from Varzuga.

In order to compare the dialect intonation with Standard Russian, which has a very similar intonation system in other respects, ten speakers of Standard Russian were asked to read



of the fall is not due to the presence of extra words, since the opposition in the dialect between early and late fall is retained when no post-nuclear words are available; cf. the late fall in *Polodinnacatogo?* in (8) with the early fall in (10):

- H\* L L%
- (10) Možet, popróbueté? Répu-to?  
*perhaps you-will-taste turnip.acc.sg-prt*  
 “Would you like to taste it? The turnip?”

#### 4.2. Phrase accent or secondary pitch accent

As argued in §4.1, the final, late fall is subordinate to the preceding H\* tone, which is the accent that signals focus. The alignment of the fall to a stressed syllable shows that it is not an ordinary boundary tone; cf. [12], p. 213. The final fall can possibly be described as a non-prominence lending pitch movement – a phrase accent or a trailing tone of the nuclear accent, or as representing a secondary pitch accent, subordinate to the preceding, main accent (nucleus), similar to the post-nuclear secondary accents in Standard Russian (see §1).

The final fall is similar to a phrase accent in the sense of [4] and [5]; cf. [8], p. 138; [12], p. 212ff. Like the final fall of the broad hat pattern, phrase accents associate with a stressed syllable when there is an accentable word available, but with the final syllable, similar to boundary tones, when there is not. An analysis of the late fall in the Varzuga question contour as a phrase accent would fit with the phonological structure of question intonation in other Eastern European languages, such as Romanian and Standard Greek, the only difference being the form of the pitch accent, which is L\* in these languages, but H\* in Varzuga. Even the locus of the pitch accent is the same. These languages have the so-called East European Question Tune, consisting of an L\*-marked focused element and a final HL tune, which is a boundary tone in some languages, but a phrase tone in others ([4]; see also [12], p. 173; [13]). In this respect, the Varzuga broad hat question tune is closer to other Eastern European languages than Standard Russian, with its H\*L (L)% contour (cf. [13]).

As in ToDI ([7]; [9]), phrase accents are not used in ToRI ([15]; [16]). Yokoyama includes phrase tones in her phonology of Russian intonation, described in [23], but in a different sense, for pitch movements following directly after the stressed syllable of pitch accents. The contour LH H- L% is already used for a different accent, known as H\*M in ToRI.

A phrase accent interpretation of the late fall implies the introduction of phrase accents in all intonation phrases in the Varzuga dialect, which does not seem to be warranted. In a framework without phrase accents, the late fall could be regarded as a trailing tone of the nuclear pitch accent with a late association, instead of a phrase accent; cf. [8], p. 140f.

However, there are several arguments in favour of a secondary pitch accent interpretation, two of which are the possible occurrence of secondary pitch accents in post-nuclear stretches in Standard Russian, which are not aligned to a boundary and not obligatory, as described in §1, and the occurrence of delayed falls in Standard Russian as well (see §2.1.1), which remain to be described. Moreover, the late falls are perceived as prominence-lending by speakers of Standard Russian, even by dialectologists with knowledge of Northern Russian dialect prosody. However, this is not a valid argument if the dialect speakers themselves do not perceive them as prominent, which at present is an open question. No conclusive analysis of the phonological status of the fall can

be made before the complete intonation structure of the Varzuga dialect has been described.

## 5. Conclusions and further research

The broad hat contour, attested in the Northern Russian dialect of Varzuga, can be analysed as consisting of a main, nuclear accent involving a high rise on the accented syllable of the nucleus, followed by a final tune, aligned to the last lexical stress. The final tune is subordinate to the nuclear high rise. This contour does not fit into the existing descriptions of (Standard) Russian intonation.

For a detailed phonological analysis of this contour the intonation system of the dialect has to be described as a whole. However, the phonology of Standard Russian intonation is not yet completely understood either. For instance, little attention has been paid to pitch patterns with delayed pitch movements in Standard Russian, occurring in non-neutral speech, and to prominence patterns in post-nuclear sequences. The conditions and semantics of secondary pitch accents in the post-nuclear stretch of the intonation of polar questions remain to be described.

Another task for future research is to find out the distribution of the broad hat contour in other Russian dialects.

The coexistence in the dialect of broad hat contours besides peak patterns suggests a difference in pragmatic meaning. That it is not a simple difference between broad and narrow focus is shown by the fact that both patterns are attested in utterances with narrow focus on the first element; cf. ex. (4) and (7). A preliminary analysis of the pragmatic conditions suggest that the opposition is related to the knowledge of the speaker regarding the information under current concern, similar to differences found in (varieties of) other languages, such as German and Italian (see [6]; [11]). The broad hat is typically used in utterances with a strong bias to a positive answer and a lesser degree of questionhood, such as in requests for confirmation of an inference going counter to an earlier presupposition of the speaker. Further research will have to show whether this explanation can account for all occurrences of the contour in the dialect of Varzuga.

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## 7. Figures

The following fundamental frequency curves are made with Praat ([2]) and given on a logarithmic scale. Accents on the stressed vowels indicate stress. Sound files of the examples can be retrieved from <http://uit.no/humfak/tilsette/95>.

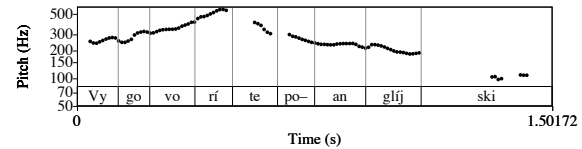


Figure 1: F0 curve of ex. (1) (Standard Russian)

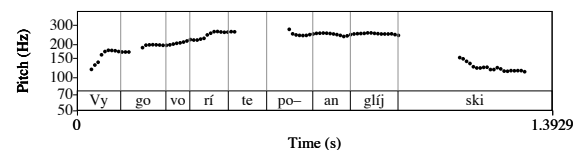


Figure 2: F0 curve of ex. (3) (Varzuga dialect)

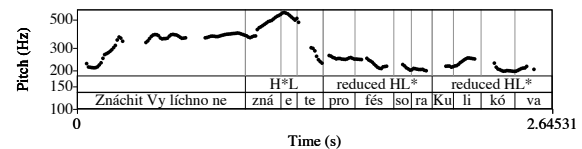


Figure 3: F0 curve of ex. (2) (Standard Russian)

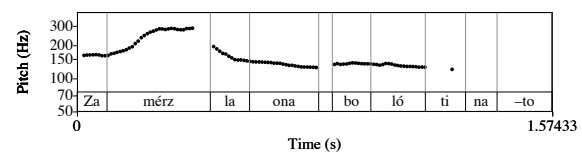


Figure 4: F0 curve of ex. (4) (Varzuga dialect)

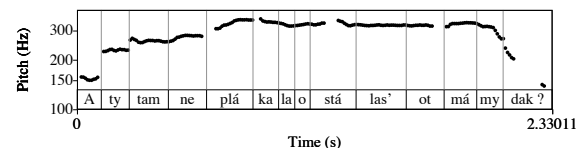


Figure 5: F0 curve of ex. (5) (Varzuga dialect)

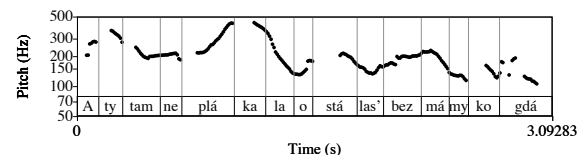


Figure 6: Pitch contour of ex. (6) (Standard Russian)