

Intonation of complex declarative sentences and interrogatives in Tatar

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This study presents an updated model of the intonational phonology of Kazan Tatar, a Turkic language spoken in Tatarstan, Russia, in the Autosegmental-Metrical (AM) framework [6, 1, 5], based on syntactically simple and complex declarative sentences, polar questions, and information-seeking questions. The information structure of the polar questions and simple declarative sentences was manipulated in order to elicit narrow focus intonation in addition to broad focus intonation. The data were elicited from 5 native speakers of Kazan Tatar. The information structure of the polar questions and simple declarative sentences was manipulated in order to elicit narrow focus intonation in addition to broad focus intonation.

Preliminary results confirm the previous proposal made based on the broad focus declarative utterances by showing that Tatar marks two levels of prosodic structure above the word with intonation; the Intermediate Phrase (ip) and the Intonational Phrase (IP). An ip is marked by a phrase-final boundary tone, [H-] or [L-], realized on an ip-final syllable, which is accompanied by a small degree of final lengthening. An IP is marked by a phrase-final boundary tone, [H%] or [L%], realized on a substantially lengthened IP-final syllable. The IP final syllable is notably longer than that of an ip final syllable. Like the ip boundary tone, an IP-final syllable with H% shows an f0 peak higher than the preceding high target, above the declination line. Fig. 1 shows an example of the [H-] and [L%] boundaries.

Stressed syllables (which are word-final) are marked by rising post-lexical pitch accents, [L+H*]. The f0 peak in [L+H*] is often aligned with the end of the stressed syllable. As shown in Fig. 2, the low target of [L+H*] on the first word ‘children’ is realized on the second syllable [la], i.e., immediately before the stressed final syllable of the word, showing that the L tone is not aligned to the left edge of the word as in Turkish [3, 4]. However, when the word is monosyllabic, the low tone is not always realized (see the second word ‘song’ in Fig. 2). [H*] is labeled for such cases to mark the surface f0 shape. Sometimes, H* is also observed on an utterance-initial word even though the word is longer than two syllables. Since the distribution of [H*] is often predictable and variable, we propose [H*] is a surface variant of [L+H*].

Sentence-final words (typically verbs), however, typically do not receive a pitch accent. Instead, they are optionally marked with a high tone, [Hi], on their initial syllable. The [Hi] tone may also be realized as [L+Hi], particularly when in narrow focus with an expanded pitch range. Fig. 3 shows an example pitch track illustrating the verb without any prominence tone, while Fig. 4 shows an example pitch track where the initial syllable of the verb receives an [Hi] tone, followed by a [L%] boundary tone on the verb-final syllable. When the word with the [Hi] is narrowly focused, it may be realized with an expanded pitch range as a [L+Hi].

Figure 1: Sample pitch track of phrase with two ips.

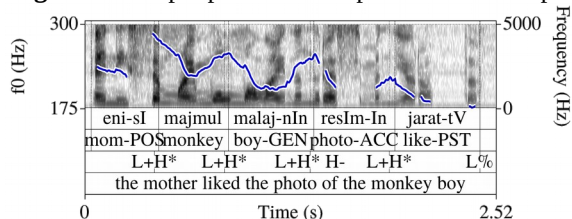


Figure 3: Broad focus declarative sentence showing L+H* pitch accent on the subject and the object, but no Hi or pitch accent on the verb.

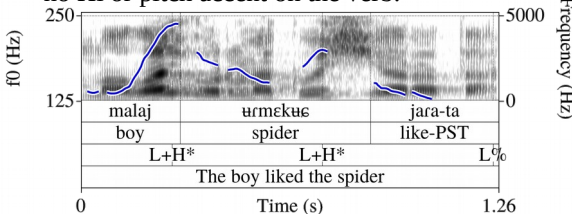


Figure 2: Sample pitch track showing the realization of the L+H* and H* in the sentence “The children sang a song”.

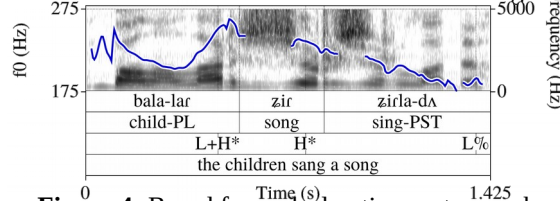
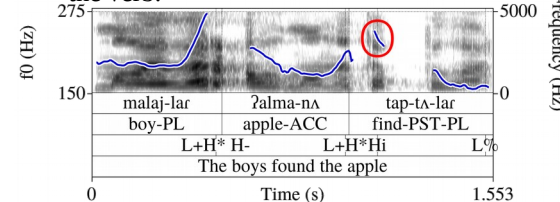


Figure 4: Broad focus declarative sentence, showing L+H* on the subject and the object, and a Hi tone on the verb.



Analysis of the narrow focus data shows that when a word is narrowly focused, one of the three options is used. The first option is to carry a [L+H*] pitch accent on the stressed syllable of the focused word, with expanded pitch range. This means that even the verb, when focused, carries this type of pitch accent to mark its prominence. The second option is to carry an [Hi] tone on the initial syllable of the word, with expanded pitch range and increased amplitude, but without carrying any pitch accent. This pattern is found in polysyllabic words. While this tonal pattern is attested on the verb in the broad focus condition, it was found on the focused subjects and objects as well. The third option is a combination of the two tones in a single word, i.e., an [Hi] on the initial syllable and a [L+H*] on the stressed syllable (see Figure 5). Speakers used the first option ([L+H*] on the focused word) 39% of the time, the second option ([Hi]) 31% of the time, and the third option ([Hi L+H*]) 25% of the time. The remaining 5% could not be categorized because of errors in the location of focus.

Figure 5: Narrow focus on the subject “Leila”, by using both Hi and L+H* tones.

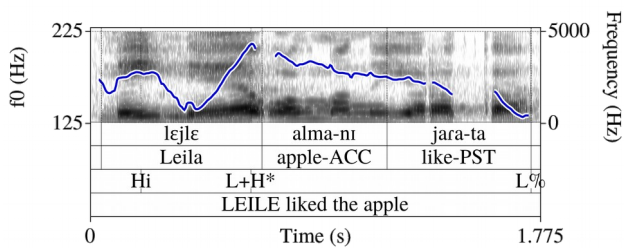
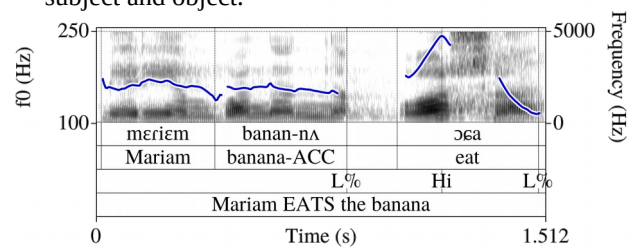


Figure 6: Narrow focus on the verb, showing deaccenting and pitch compression of the pre-focal subject and object.



Across all speakers, words following focused subjects and objects tended to be deaccented and/or compressed in their pitch range, maintaining a minor f0 peak from a pitch accent. See Figure 5, for an example of a deaccented post-focus string.

In pre-focal position, however, speakers vary in their realization of accents. One speaker in particular strongly reduced the prominence of the pre-focal words by completely deaccenting and/or drastically compressing the pitch range on those words, thereby realizing them with an f0 plateau. Fig. 6 shows an example where the pre-focus string is compressed in pitch range (It is also separated from the focused word by a large break).

The analysis of intonation of questions and syntactically complex sentences is currently in progress. Examination of information-seeking and polar questions will present new directions of investigation above and beyond the fact that they are different speech act types. This is because these interrogatives involve morphemes that realize stress differently from the default word-final location. Question words in Tatar have initial stress and the question particle [-ma] attracts word stress, thus shifting stress to non-canonical locations. This will allow us to better understand tonal alignment within the ip and the pitch accent’s interaction with boundary tones.

References

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