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KARAÇAY-MALKARDA GENİŞ ODAK TÜMCE EZGİSİ

Aslı GÜNER*

ÖZET

Bu çalışma Kıpçak dil grubunda yer alan Karaçay-Malkar Türkçesinde dar odak bileşen içermeyen olumlu tümcelerin ezgisel özelliklerini ortaya çıkarmayı hedeflemektedir. Sistemik deneysel çalışmaya dayanan bu araştırmada Türkiye’de yaşayan anadil konuşucularına seslettirilen hedef tümceler geniş odaklı bağlamlar olacak şekilde diyaloglar içine yerleştirilmiştir. Hedef tümceler Özne-Nesne-Yüklem sıralamasında hazırlanmıştır. Temel frekans (f0) ölçümüne dayalı fonetik analizin düzensizliklerden arınmış olarak yürütülebilmesi için hedef tümcelerin kelimeleri tınlı sesler ya da ötümlü duraklamalı ünsüz sesler içeren kelimelerden seçilmiştir. Tüm kelimeler son hece vurgulu seçilmiştir. Ezgisel çalışma, hedef tümcelerin Praat programı (Boersma ve Weenink 1992-2017) ile ses perdesi yüksekliği çizgisi incelenmesine ve hecelerin ölçüm alanları olarak seçildiği, temel frekans ölçümlerinin ortalamasının yansıtıldığı ses perdesi yüksekliği çizgi karşılaştırmalarına dayanmaktadır. Çalışma sonuçları göstermektedir ki (i) öznenin içinde bulunduğu ilk alanın sağ sınırında bir yükseliş ortaya çıkıyor, (ii) nesnenin yer aldığı orta bölümde son heceye denk gelen alanda küçük bir yükseliş ortaya çıkıyor, (iii) orta bölüme kadar korunan referans yüksekliği bu alanın sağ sınırından itibaren düşüşe geçmektedir ki bu bize bu alanın ezgi öbeğinde ana önemi üstüne çeken çekirdek alan olduğunu gösteriyor, (iv) eylemi içeren son bölümde düşük referans yüksekliği görülmektedir ki bu alan da çekirdek alan sonrası alan olarak adlandırılır. Son hece vurgulu kelimelerden oluşan tümcelerin ezgisinin son hece vurgusu almayan kelimelerle karşılaştırılması bu diyalektin ezgisel özelliklerine daha fazla ışık tutacaktır.

Anahtar Kelimeler: Karaçay-Malkar, ezgi, ezgisel öbek, ses bilimsel öbek, çekirdek önem

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PROSODY OF KARACHAY-BALKAR BROAD FOCUS SENTENCES

ABSTRACT

This study aims to shed light on the prosodic properties of broad focus sentences in Karachay-Balkar Turkic language, which belongs to Kipchak language group. Within this systematic experimental study, the target sentences which are embedded in broad focus contexts are acted out by native speakers of the language living in Turkey. The target sentences are all in SOV order. With the aim of carrying out a phonetic analysis based on fundamental frequency measurements without perturbations, the words of the target sentences are chosen as words composed of sonorant or voiced obstruent sounds. All the words are finally stressed words. The prosodic investigation focuses on pitch tracks of the target sentences using Praat (Boersma and Weenink 1992-2017) and comparison of the pitch tracks based on normalized values taking syllables as measurement domains for fundamental frequency. The results of the study indicate that (i) a rise surfaces at the right edge of the domain including the subject, (ii) a slight bump is realized on the final syllable of the object in the medial domain, (iii) the reference height preserved till the medial domain is lowered following the right edge of this domain which indicates that the immediately preverbal domain is the nuclear domain attracting main prominence within the intonational phrase, (iv) a low reference height is retained in the final domain including the verb which is labeled the post-nuclear domain. Comparing the prosody of sentences with finally stressed words with sentences composed of non-finally stressed words will shed further light on the prosodic organization of this dialect.

STRUCTURED ABSTRACT

This study aims to shed light on the prosodic properties of broad focus sentences in Karachay-Balkar Turkic, which belongs to Kipchak language group. Similar to Turkish, Karachay-Balkar is not a rigid word order language. Based on information structuring, focus and topic marking, word order variation is possible. Instead of investigating the prosody of sentences in natural speech, we conducted a controlled study because in natural speech there can be mis-starts, hesitation pauses, slips of the tongue which may confound the results. Additionally due to continuous information packaging within natural speech, the speakers can choose different word orders and the same measurement points may not surface with all the speakers which is essential for a systematic analysis. Hence the target sentences used in this study are all in SOV order which is suggested to be the unmarked word order in Karachay-Balkar (Seegmiller 1996).

Within this systematic experimental study, we prepared 4 target sentences and 16 filler sentences to keep the speakers naïve to the purpose of the study. With the aim of carrying out a phonetic analysis based on fundamental frequency measurements without perturbations,

the words of the target sentences are chosen as words composed of sonorant or voiced obstruent sounds. All the words are finally stressed words. The target sentences are embedded in broad focus contexts. Although the stimuli are controlled, with the aim of leading the speakers to natural intonation, the target sentences and the fillers are put within dialogues. 3 native speakers of Karachay-Balkar living in Konya took part in the study. They received the randomly ordered target sentences and the fillers on a paper. They were matched with one another and they acted out these dialogues. The recording was carried out in a single session on a computer and the target sentences were extracted for analysis in Praat (Boersma and Weenink 1992-2017).

The prosodic investigation focuses on pitch tracks of the target sentences using Praat and comparison of the pitch tracks based on normalized values taking syllables as measurement domains for fundamental frequency. Using the spectrogram and based on our auditory impressions we parsed the target sentences into their constituents as subject, object and verb. The pitch tracks of the target sentences reveal that (i) a rise surfaces at the right edge of the domain including the subject, (ii) a slight bump is realized on the final syllable of the object in the medial domain, (iii) the reference height preserved till the medial domain is lowered following the right edge of this domain, (iv) a low reference height is retained in the final domain including the verb which is labeled the post-nuclear domain. The main prominence within the intonational phrase is realized on the preverbal constituent as the right edge of this domain marks the beginning of a fall. The fall continues until the end of the utterance including the verb at sentence final position. The prominent preverbal domain is labeled as the nuclear domain attracting main prominence within the intonational phrase. The initial domain including the subject is labeled as the prenuclear domain. A rise always surfaces at the right edge of this domain and optionally a break surfaces at the right edge of this domain which indicate that the subject forms an independent phonological phrase. There is not a break following the object but a fall and a low pitch height is retained in the final domain including the verb which indicate that the object and the verb are parsed in a single phonological phrase.

As for the nature of the rise at the right edge of the initial domain, one cannot safely conclude that the rise is a boundary tone marking the right edge of the prenuclear domain or pitch accent marking the final syllable of the subject. Because the target structures are exclusively composed of finally stressed words. Comparing the prosody of sentences composed of finally stressed words with sentences composed of non-finally stressed words will shed further light on the prosodic organization of Karachay-Balkar. A similar rise is observed at the right edge of the prenuclear domains in Turkish and the nature of the rise is still under discussion (Kan 2009, Kamali 2011, İpek and Jun 2013). Hence a follow up study on Karachay-Balkar broad focus sentences with non-finally stressed words can lead to implications for the prosody of Turkic languages in general. However we can safely conclude that it is the immediately preverbal position that receives main prominence as the steep fall starts following this domain. These results are in line with the findings of Kan (2009) for the prosodic phrasing patterns of Turkish.

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Based on a systematic study on Turkish broad focus sentences, Kan (2009) reveals that the object is parsed in the same phonological phrase with the verb. However it is the immediately preverbal constituent namely the leftmost constituent within the phonological phrase that receives prominence. Within the intonational phrase which maps onto the sentence, main prominence is realized on the object namely the leftmost constituent within the rightmost phonological phrase.

As a second step of the study, we parsed the pitch tracks of the target sentences into syllables and measured the mean fundamental frequency for each syllable semi-automatically using ProsodyPro (Xu 2013). With the aim of having measurements reflecting only the prosody of broad focus condition leaving out confounding variable such as speaker dependent pitch range variations, we normalized the measurements based on speaker specific baselines (Pierrehumbert 1980). The figures clearly illustrate that there is a slight bump with the final syllable of the object and the fall starts following this bump. However the final syllable of the verb is not realized with a significant bump as this domain maps onto post-nuclear domain. This is similar to prosody of Turkish finally stressed words according to the studies of Konrot (1981) and Levi (2005). They found out that with Turkish finally stressed words the pitch accent of the finally stressed words is higher than the non-final syllables and hence Levi (2005) concludes that Turkish is a pitch accent language. In line with these studies we found out that although the fall following the final syllable of the object is steeper than the bump on the final syllable, there is certainly not a bump with the non-final syllables of the object.

Keywords: Karachay-Balkar, intonation, intonational phrase, phonological phrase, nuclear prominence

1. Introduction

Karachay-Balkar is a Turkic language spoken mainly in the south parts of Karachay-Cherkessia and Kabard-Balkar Republics of Russia. Karachay-Balkar is spoken in Russia by nearly 300.000 speakers but it is cited as a vulnerable language by UNESCO which means that children learn it as their mother tongue but it is restricted to certain contexts in usage. Karachay-Balkar is also spoken in Turkey mainly in the cities of Konya, Eskişehir, Afyon, Tokat, Yalova. Some of the immigrants coming from Caucasia after the war of 93 were located in these cities. Although we do not know the exact number of speakers in all these cities, the dialect seems to be endangered as the majority of the children do not learn it as their mother tongue. Boz and Günay Aktaş (2016) have found out that Karachay-Balkar spoken in Eskişehir is hardly ever spoken by 1-20 year-old generation and it is restricted to home with 30 year-old and above generation.

There have been numerous studies on Karachay-Balkar spoken in Turkey with an emphasis on its history, sources of literature (epic literature, poems, proverbs, and lexicon), sociocultural and socioeconomic history (Seegmiller 1996, Appa 2002, 2006, 2007, Doğan 2012, Sarı and Balkan 2009, Tavkul 1989, 1994, 1995a, 1995b, 2000, 2001, 2003a, 2003b, 2007, Yılmaz 2002). However

stress at word or sentence level has not been explored. This study aims to contribute to this field by investigating the prosodic properties of declarative sentences in broad focus condition.¹

2. Prosodic investigation

Karachay-Balkar is cited as a free-word order language, SOV being the basic word order (Seegmiller 1996: 37). In one of our elicitation sessions, we wanted the speakers to talk about the pictures that were presented on a computer screen. The informants described the pictures using sentences in SOV order which indicates that broad focus sentences in which none of the constituents are narrowly focused has SOV order as the default order.

- (1) Sabiy alma-nı aşı-y-dı.² SOV
 child apple-ACC eat-PROG-3SG
 ‘The child is eating the apple.’

However, depending on the context namely information structuring, ordering may change as illustrated below. In 2(a-d) the position of the adverb changes keeping SOV order fixed, while in (2e) we have OSV order.

- (2) a. Men tam(b)la sen-i kör-rük-me S-ADV-O-V
 I tomorrow you-ACC see-FUT-1SG
 ‘I will see you tomorrow.’
 b. Tam(b)la men sen-i kör-rük-me ADV-S-O-V
 c. Men sen-i kör-rük-me tam(b)la S-O-V-ADV
 d. Men sen-i tam(b)la kör-rük-me S-O-ADV-V
 e. Tam(b)la sen-i men kör-rük-me ADV-O-S-V
 (Seegmiller 1996: 38)

This paper aims to find out the prosodic properties of broad focus sentences in Karachay-Balkar and hence we restricted the investigation to SOV order. The next section presents the target sentences used in the experimental study.

2.1 The Stimuli and the participants

The target sentences are all in SOV order, which are given in bold in the following examples. The object bears nominative, accusative or dative case marker. The verb bears progressive (3) or past tense marker (4).

¹ The data discussed in this paper is based on audio recordings elicited during the field study which is in progress in Konya. The study is part of a project funded by Tübitak Research Fund, project # 116K692. I would also like to thank Alan Karaketov, Hilal Akan, Aysun Bilgiç, Mine Çalışkan, Zehra Duru, Tuğba Ormanoğlu, Emine Öztürk, Gizem Salkım, Kadriye Yumuk for their help with the annotation of the data. All errors are mine.

² Abbreviations used in the article include: ACC, accusative; AOR, aorist; DAT, dative; EVID.PAST, evidential past; FUT, NEC, necessity; future tense; 1SG, first person singular; 3SG, third person singular; 3PL, third person plural; PAST, past tense; PL, plural; PROG, progressive, REL, relativizer.

With the aim of making sure that the target sentences are uttered as broad focus sentences, not as a part of background information shared between the speakers, they are given as answers to a second question within the dialogue with an unrelated first answer as illustrated below.

- (3) A: Ne bol-a-dı?
 what happen-PROG-3SG
 ‘What is happening?’
 B: Sabiy cüz-e-di.
 child swim-PROG-3SG
 ‘The child is swimming.’
 A: Başha?³
 ‘What else?’
 B: **Ayüv-le börü-le-ni buv-a-dıla.**
 bear-PL wolf-PL-ACC strangle-PROG-3PL
 ‘The bears are strangling the wolves.’
- (4) A: Ne bol-a-dı?
 what happen-PROG-3SG
 ‘What is happening?’
 B: Kız kül-e-di.
 girl laugh-PROG-3SG
 ‘The girl is laughing.’
 A: Başha?
 ‘What else?’
 B: **Loban-la örge örle-dile.**⁴
 mole-PL upward climb-3PL
 ‘The moles climbed upwards.’

³ Some of the speakers prefer ‘başğa’ or ‘başga’ forms of this word.

⁴ The past tense marker shares the same morphological form with third person singular –dI. When the predicate bears past tense and third person agreement morphology, in order to avoid repetition, a single instance of the same form surfaces. The other important point with this structure is that the immediately preverbal constituent can be analyzed more like an adverbial phrase indicating the position of the action. It is also possible to analyze the same constituent as an argument bearing dative marker as illustrated below.

(1) ör-ge
 upland-DAT
 ‘to the upper part’

As no prosodic difference was detected between this structure and the structures with accusative or dative case marked objects, we will not focus on the structure of this target sentence.

In total we prepared 4 target sentences. The target sentences contain words composed of sonorant or voiced obstruent sounds so there will not be a perturbation in the pitch tracks. None of the words have lexical accent namely prominence is realized on a non-final syllable.⁵

We wanted to avoid listing effect and keep the participants naïve to the purpose of the study so we prepared 16 filler sentences in addition to the target sentences. The filler sentences were also presented within a dialogue which were given as answers to wh- questions.

The recording session was conducted in a single session, in a quiet setting. 3 native speakers EY, MK, TB took part in the study and one of them was a female. All the participants were in their mid-forties and two of them were Konya Karachay-Balkar speakers while the third participant was from Eskişehir.⁶ The participants received the dialogues on a paper. They were matched with one another to act out the dialogues. They took their turns as speaker A and B to utter the target sentences as illustrated in (3-4). The whole session was recorded on a computer using the software Audacity. At the end of the session the target sentences were clipped for analysis in Praat.

2.2 The findings

Relying on auditory impressions and the properties of the spectrogram and the sound wave, we labeled the constituents for each sentence as illustrated in the following figures.

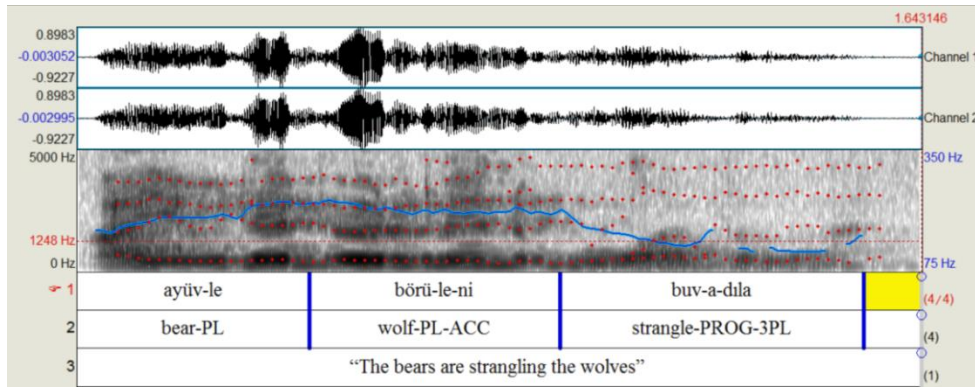


Figure 1: broad focus, speaker EY

⁵ The words with a lexical accent have prominence realized on a non-final syllable (1a), while words without a lexical accent have prominence realized on the final syllable (1b). In this paper we use the terms lexically accented or non-finally stressed, unaccented or finally stressed terms interchangeably.

(1) a. Kafkasya b. hambal
'Caucasus' 'porter'

⁶ The speakers of Eskişehir Karachay-Balkar use *-mİş* as evidential past marker while the speakers from Konya use *-ğAn*, *-gAn*, *-hAn* in the same environment. Hence we did not use evidential marker in the dialogues.

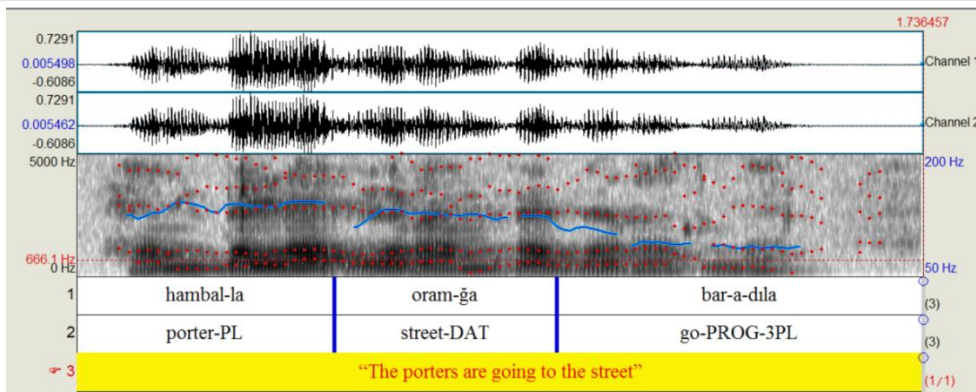


Figure 2: broad focus, speaker TB

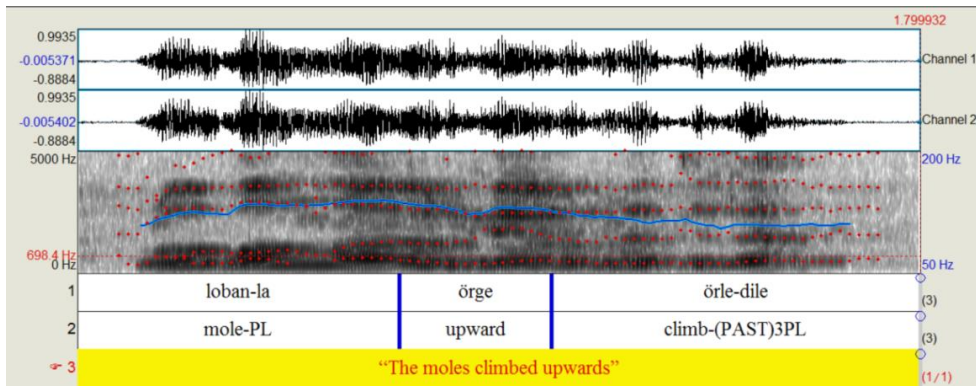


Figure 3: broad focus, MK

As one can see in the figures given above, the right edge of the domain in which the subject surfaces has the highest pitch height. At the end of this domain a pause may also surface as in Figure 2.

In the domain in which the object surfaces the pitch height at the beginning of the same domain seems to be preserved. Note that there is a fall following the domain including the object which is very clear in Figures 1 and 2.

Taking each utterance as an instantiation of intonational phrase and based on the observation that the fall starts immediately after the domain in which the object surfaces, we take this domain as the nuclear domain namely the domain that receives main prominence within an utterance. The domain in which the verb surfaces, a low pitch height is retained till the end of the utterance which we take as the post-nuclear domain. The initial domain, in which we have the subject, is the pre-nuclear domain.

An immediate question arises at this point with respect to the nature of the rise at the right edge of the domain including the subject. Given that a finally stressed word surfaces in this domain the rise can be (i) the pitch accent of the final syllable or (ii) a boundary tone marking the edge of

the prenuclear domain.⁷ The same question is raised for the nature of the rise at the right edge of the prenuclear domain in Turkish. Kan (2009) takes this bump as a pitch accent of the finally stressed word, Kamali (2011) as a boundary tone marking the right edge of the prenuclear domain and İpek and Jun (2013) as a ‘double functioning’ H tone. Kamali (2011) bases her arguments on the fact that the same H tone is observed at the right edge of the prenuclear domain even in the presence of a word with non-final stress. We cannot conclude that the rise at the right edge of the prenuclear domain is boundary tone or a pitch accent without testing the same sentences with non-finally stressed words. We leave this issue for future research.

Based on our findings so far we conclude that main prominence within a broad focus sentence is realized on the immediately preverbal constituent as illustrated below with grid marks.

(5)

(x)	Intonational Phrase (IP)		
(x)	(x)	Phonological Phrase (PhP)
Hambal-la oram-ğa bar-a-dıla					
porter -PL street-DAT go-PROG-3PL					
‘The porters are going to the street.’					

The subject surfaces in an independent phonological phrase as there is a break at the right edge of this constituent in many pitch tracks as illustrated in Figure 2. The right edge of this domain also has the highest reference height. The object and the verb surfaces in the same phonological phrase but main prominence is on the nuclear domain including the object. Because the fall starts immediately after this domain. The object which is the leftmost constituent within the phonological phrase attracts main prominence within the utterance.

Our hypothesis that the immediately preverbal constituent attracts main prominence is further supported by the recording sessions with another native speaker. We presented the speaker with affirmative sentences as in (6) and wanted him to ask questions about each of the arguments in the sentence and give relevant answers. Encoding new information within a sentence, wh- phrases and the answers of wh- phrases are predicted to bear main prominence within a sentence. The speaker preferred putting the wh- question and the answer in the immediately preverbal position as in (7-8).

(6) Debet tav-la-ğa ket-gen-di
 Debet mountain-PL-DAT go-EVID.PAST-3SG
 ‘Debet went to the mountains.’

⁷ A boundary tone is a rising or falling tone marking the edge of a phrase or sentence while a pitch accent marks the prominent syllable of a word. Fundamental frequency, duration, intensity or a combination of these criteria can mark prominence.

(7) A: Tav-la-ğa kim ket-gen-di?
 mountain-PL-DAT who go-EVID.PAST-3SG
 ‘Who went to the mountains?’

B: Tav-la-ğa Debet ket-gen-di.

(8) A: Debet kayrı ket-gen-di?
 Debet where go-EVID.PAST-3SG
 ‘Where did Debet go?’

B: Debet tav-la-ğa ket-gen-di.

The observation that the leftmost constituent within a phonological phrase receives prominence is further supported by stress pattern in compounds. In compounds, it is always the non-head constituent namely the leftmost constituent that receives main prominence.

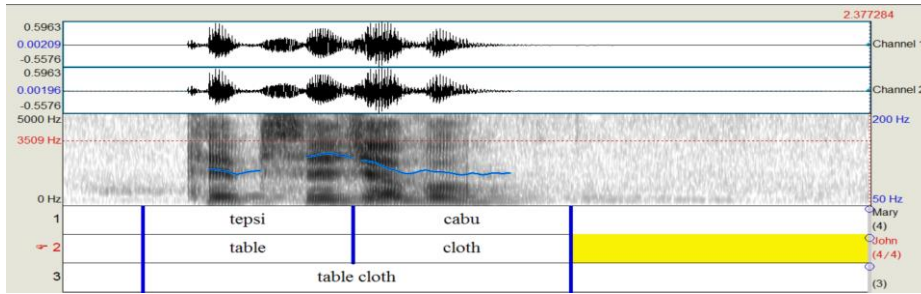


Figure 4: compound ‘table cloth’

To sum up, within the intonational phrase it is the rightmost phonological phrase that receives main prominence. The fall starts immediately after the nuclear domain. The prosodic properties of Karachay-Balkar declarative sentences in broad focus condition do not seem to be different than prosody of Turkish declarative sentences as illustrated in the following figure.

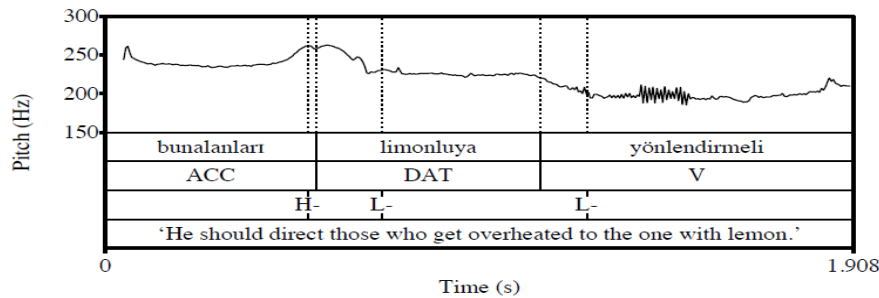


Figure 5: broad focus, affirmative sentence

(Kamali 2011 pg. 67)

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With finally stressed words, Kamali (2011) finds out that (i) at the right edge of the prenuclear domain a H boundary tone is observed, (ii) the reference height is retained in the nuclear domain but there is not a rise at the right edge of the nuclear domain, (iii) the fall starts following the nuclear domain and low reference height is preserved till the end of the utterance. We can represent the prominence marking for the sentence in Figure 5 using the grid marks in the following way.

(9)

(x)	IP		
(x)	(x)	PhP
Bunal-an-lar-ı	limonlu-ya	yönlendir-meli			
get.overheated-REL-PL-ACC	with.lemon-DAT	forward-NEC			
‘He should direct those who get overheated to the one with lemon’					

The subject forms a phonological phrase and being the single prosodic word in the phrase it receives phonological phrase level prominence. The object receives the highest level of prominence being the leftmost constituent in the rightmost phonological phrase.

For Turkish, Kamali (2011) suggests that finally stressed words are not marked with an accent and hence we do not expect a bump at the right edge of the nuclear domain. When we look at the pitch tracks given in Figures 1-3 this also seems to be case for Karachay-Balkar. With the aim of having an overall evaluation of each structure based on systematic measurements, we went over the pitch tracks parsing the target sentences into syllables. The next section discusses the results of this analysis.

2.3 Normalized Pitch Tracks

We parsed each of the pitch tracks into syllables using the sound wave and the spectrogram as a cue as illustrated in the following figure. We measured the mean F0 value for each syllable semi-automatically using ProsodyPro (Xu 2013). Ladefoged (2010: 24) defines frequency and pitch in the following way: frequency is “the number of complete repetitions (cycles) of a pattern of air pressure variation occurring in a second..... The pitch of a sound is an auditory property that enables a listener to place it on a scale going from low to high, without considering its acoustic properties. In practice, when a speech sound goes up in frequency, it also goes up in pitch.” Hence the measurement of F0 values gives us ideas about the pitch of the sound.

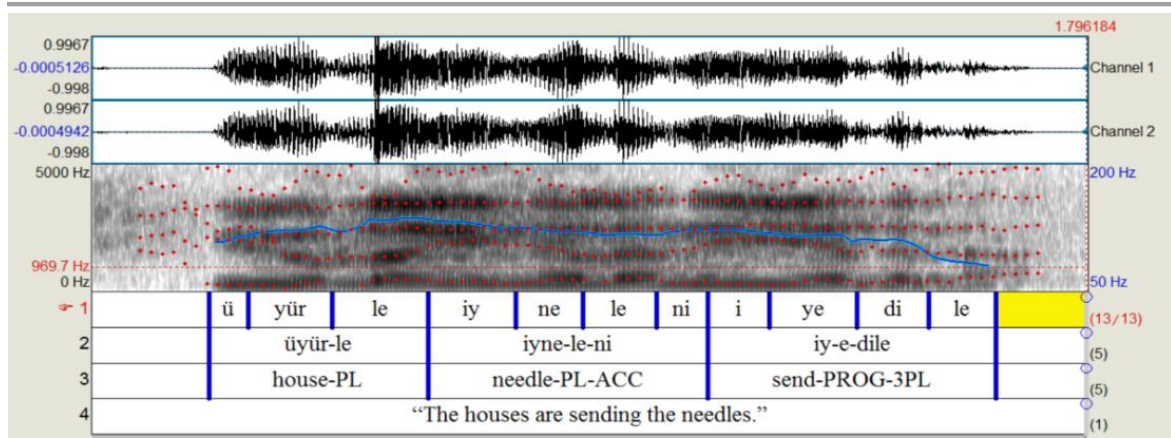


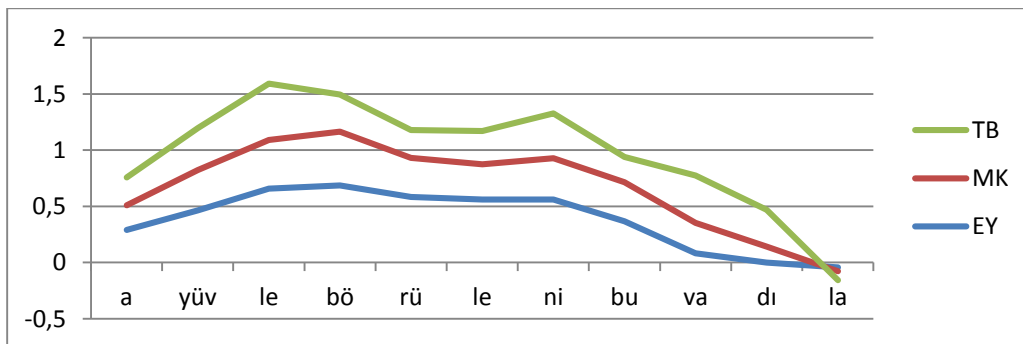
Figure 6: broad focus, speaker MK

We put the F0 values to Excel for the analysis. The pitch range of speakers may show variation. The pitch range of a speaker can start with 50 Hz and go up to 250 Hz, while for another speaker the pitch range can be between 100 and 300 Hz. Although they have the same range, when the pitch tracks of these speakers are shown with a graph, one is regarded to have a higher pitch height than the other one. In order to rule out variances based on speaker dependent pitch variation, we used a formula to normalize the estimated F0 values of the target structures (Pierrehumbert 1980: 49). First we found the baseline for each speaker based on the minimum value in the final domain which mapped onto the last syllable of the verb. We measured the mean minimum value of all verb final syllables of the target sentences and came up with a baseline for each speaker. Finally for all target structures, we measured the transformed values using the following formula.

$$(10) \text{ Transformed value} = \text{measured f0} - \text{baseline}$$

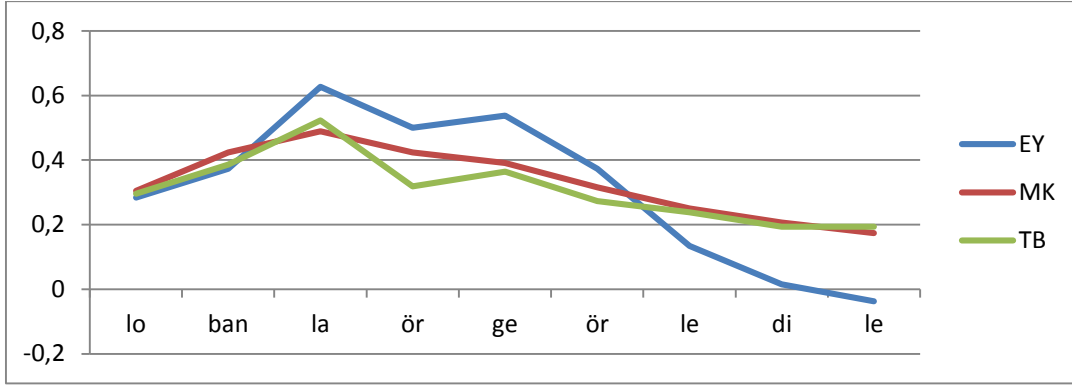
Now we will go over the pitch tracks of each target structure based on these transformed values.

- (11) Ayüv-le bürü-le-ni buv-a-dıla.
 bear-PL wolf-PL-ACC strangle-PROG-3PL
 'The bears are strangling the wolves.'

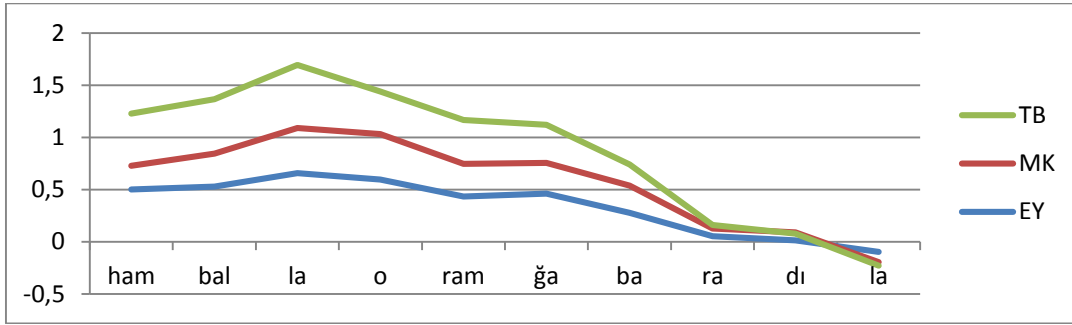


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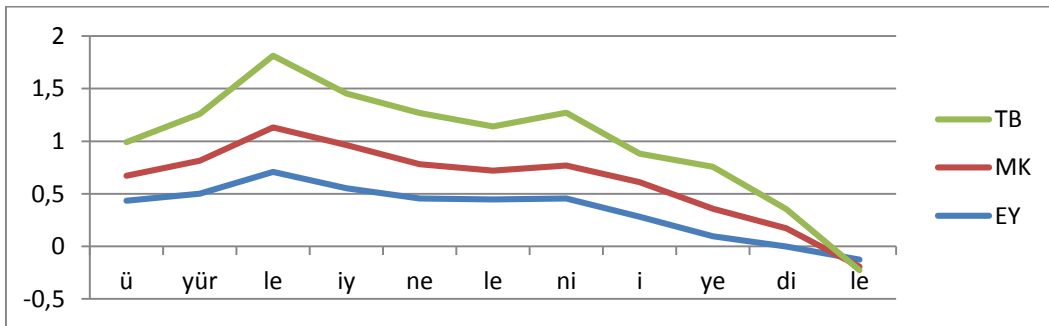
- 12) Loban-la örge örle-dile.
 mole-PL upward climb-3PL
 ‘The moles climbed upwards.’



- (13) Hambal-la oram-ğa bar-a-dıla.
 porter -PL street-DAT go-PROG-3PL
 ‘The porters are going to the street.’



- (14) Üyür-le iyne-le-ni iy-e-dile.
 house-PL needle-PL-ACC send-PROG-3PL
 ‘The houses are sending the needles.’



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As is clear from the figures given above, at the right edge of the prenuclear domain including the subject a rise is observed. The rise is realized on the last syllable of the subject. As pointed out earlier, one should check if there is such as rise with non-finally stressed words to find out whether this rise is a boundary tone or a pitch accent.

The domain including the object has relatively lower pitch height than the prenuclear domain. However a slight bump is also realized at the right edge of this domain which maps onto the final syllable of the object. Note that this rise is not as high as the rise at the right edge of the prenuclear domain. In all the target structures the fall starts following the final syllable of the object.

Levi (2005) investigates the prosodic properties of finally and non-finally accented words in Turkish taking F0, duration and intensity as the measurement criteria. In a similar line with Konrot (1981), based on experimental phonetic investigation she concludes that Turkish is a pitch accent language in that F0 values differentiate accented syllables from unaccented syllables. The other important finding of this study is that with unaccented words, namely words with final stress, although the fall following the final syllable is higher, F0 value of the final syllable is higher than the F0 values of unaccented syllables. Although it is not clear from the pitch tracks given in Figure 1, 2, 3 and 6, the pitch tracks with normalized values given under examples (11-14) clearly indicate that in Karachay-Balkar there is still a rise with the final syllable of the finally stressed object. Note that this is also in line with the findings of Levi (2005) for Turkish.

In the final domain a lower reference height is observed. In the postnuclear domain word level prominence seems to be realized on the penultimate syllable.

3. Conclusion

This paper is an investigation of prosodic properties of broad focus declarative sentences in Karachay-Balkar. When we have finally stressed words in the target sentences a rise is noted at the right edge of the initial domain including the subject. Whether this rise is a boundary tone marking the edge of the prenuclear domain or a pitch accent marking the final syllable of the subject needs further systematic investigation with non-finally stressed words. The pitch tracks further illustrate that there is a slight bump at the right edge of the medial domain including the object. As the fall starts following this domain we concluded that main prominence is realized on this domain which maps onto nuclear domain. Finally a low pitch height is preserved in the final post-nuclear domain. The position of wh- phrases and constituents conveying new information also supports the hypothesis that the immediately preverbal position hosts nuclear prominence within the sentence. Finally, in Karachay-Balkar prominence on the final syllable is realized as a slight rise in F0 values in the nuclear domain.

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