Intonation and focus marking in Ulyap Kabardian

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Abstract

This paper presents a pilot study that aims at establishing a model for the intonation of Ulyap Kabardian in the ToBI framework. On the basis of data gathered during a fieldtrip in 2012, it is suggested that four/three pitch accents and three boundary tones are needed to describe intonation in four communicative contexts. Additionally, it is shown that for focus marking in Ulyap Kabardian questions, a stress shifting rule dislocates word stress to a prosodically determined position. This shift rule is extraordinary in that it is insensitive to stress clashes. From a cross-linguistic perspective, the intonation system of Ulyap Kabardian bears a higher resemblance to the system of one of the Kabardian dialects spoken in Turkey than to Russian, the principal contact language.

Index Terms: Kabardian, intonation, focus, ToBI, polysynthetism, prominence

1. Introduction

The Kabardian language belongs to the Circassian branch of the North Western Caucasian family. The most characteristic typological features of all Circassian dialects are an abundance of consonant phonemes as opposed to only three vowel phonemes, a lack of lexical tones, a highly polysynthetic verb morphology and an ergative/absolutive case marking. There are about 360,000 speakers of Kabardian in Russia [5] and about 1,000,000 speakers in Turkey [11], all of whom are at least bilingual. It is important to note that the Circassian dialects spoken in Turkey differ substantially from those spoken in Russia due to a higher degree of exposure to the contact language [8]. The village of Ulyap (Улян) is located in the eastern part of the Republic of Adygeya in Russia. The Ulyap vernacular is a unique idiom in the Circassian family; its status as Besleney dialect, as postulated by [2], is highly questionable.

The aim of this paper is to provide a description of Ulyap Kabardian intonation used in neutral statements, wh-questions, lists and focus constructions. The study will include a prosodic description in the ToBI framework, phonetic measurements and a comparison to related languages and contact languages.

2. Methodology

Five adult female informants with permanent residence in Ulyap were recorded during multiple sessions using a hama EL-80 headset attached to an Olympus LS-5. The recordings were stored as wav-files (44.1 kHz, stereo, 16 kbit/s) and analysed using Praat [4]. The informants were asked to read out loud the sentences given in (1) – (4). The stimuli served to elicit the intonation patterns of neutral statements (1), wh-questions (2)[1], enumerations (3) and questions with narrow focus (4). There are several versions of (4) due to alternations of the verbal prefixes depending on the grammatical role of the focussed phrase; for the sake of simplicity, only two (A and DO focus) will be discussed here.

(1) *se   s-jə-dze   me-wəz*
     1SG   1SG-POSS-tooth   DYN-hurt
     'My tooth hurts.'

(2) *sjə   we   q'-w-e-wəzə-r*
     what   2SG   DIR-2SG-DYN-hurt-ABS
     'Where is the pain?' (lit: What is it that hurts you?)

(3) *babəʃ-əm   ŝhe dame q'amzjə-xe-r   jə-ʔa-xe*
     duck-OBL   head wing feather-PL-ABS POSS-have-PL
     'Ducks have a head, wings and feathers.'

(4) a. AGENS focus:
fatjəme *asłen adəɣa+bze   mə   kabjənet-əm*
Fatima Aslan Adyghe+language   PROX classroom-OBL
ʃ-j-e-z-ʁa-ŝ'e-te-r
LOC-IO-APPL-REL.A-CAUS-know-IPFV-ABS
'Was it Fatima who taught Aslan Adyghe in this classroom?'

  b. DO focus:
*fatjəme asłen **adəɣa+bze**   mə   kabjənet-əm*
Fatima Aslan **Adyghe+language**   PROX classroom-OBL
ʃjə-r-jə-ʁa-ŝ'e-te-r
LOC-IO-APPL-3SG.A-CAUS-know-IPFV-ABS
'Was it Adyghe that Fatima taught Aslan in this classroom?'

3. Results

The model for the description of Ulyap Kabardian intonation follows the ToBI convention [3]. Based on the examples that will be discussed in this section, the intonation model for Ulyap Kabardian consists of the following components.

Tiers:
1. *tone* (T): pitch accents, boundary tones and prosodic boundaries
2. *Ulyap* (U): (phonemic) transcription of the Ulyap Kabardian speech sample on the word level
3. *English* (E): translation on the word level

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[1] (1) and (2) were presented separately and did not form a dialogue-like sequence.

4. *break indices* (B): numeric values, perceived breaks

5. *word stress* (S): the syllable that has the lexical word stress; also used to indicate stress movement (applicable only in special focus constructions)

6. *misc* (M): notes regarding voice, timing and other comments

Symbols:

*   H*, L*   high/low tone on the stressed syllable
*   H*+L   high rising tone on the stressed syllable, followed by a steep fall
*   H+L*   falling tone which reaches its low target on the stressed syllable
*   -   ip-boundary without tonal specification
*   H-, L-   high/low final boundary tone of an ip
*   L%   low final boundary tone of an IP
*   *   stressed (prominent) syllable
*   (*)   destressed (non-prominent) syllable
*   ¬   movement of prominent syllable (*stress shift*)

3.1. Neutral statements

The phrase *se sjədze mewəz* 'my tooth hurts' is a neutral statement in which no constituent is specially marked for focus or emphasis. The contour depicted in fig. 1 shows two H- at the end of both ω *se* 'my' and *sjədze* 'tooth', both lacking pitch accents. The only pitch accent in this IP is H+L* on the stressed syllable of the verb. Since the low target is reached late, H+L* (and not L*) was chosen as label. Note that in this example, the second H- is somewhat obfuscated by the following H+L* accent. It is safe to assume that the break and H- after *se* 'my' is due to elicitation as there is no obvious reason why the pronoun should be prosodically separated from its head and form a single ω and even a φ. Later on, it will be argued that NPs in Ulyap usually form a φ and that φs in non-prominent positions are marked with H-. The phrase-final L% may well be preceded by L-, but as of now no evidence for an additional L- can be furnished, which is why the annotation includes only one boundary tone.

3.2. wh-questions

The intonation pattern for open questions in Ulyap Kabardian is composed of one pitch accent and one boundary tone. As shown in figure 2, the wh-word *sjə* 'what' is accompanied by a high tone which is followed by a steep fall that continues to the left edge of the final verb. One could be led to consider a simple pitch accent H* sufficient to describe the pitch contour because of the obvious deaccentuation of the post-nuclear part of the utterance. However, in order to account for the steep fall that reaches its target well before the final L%, it appears to be more reasonable to assume a complex pitch accent H*+L. Note that the timing of the fall is late, reaching to the end of the second word *we* 'you'. The deaccentuated part is analysed as still belonging to the intonation phrase (but cf. e.g. [16]), therefore L% is placed at the right border of the phrase. Since F0 is stable and level during the whole final ω *q'wewəzər* 'hurts', again no ip-tone L- is set at the end of the phrase.
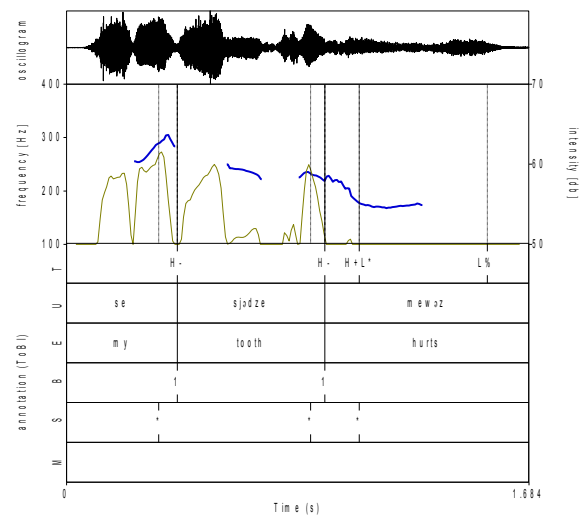

Figure 1: *Neutral statement intonation.*

3.3. Lists and incompleteness

It has been proposed that high F0 universally serves as a prosodic equivalent to incompleteness (e.g. [12], [7]). [1] choose H% to transcribe a final rise in non-final elements of lists in Turkish Kabardian. For Ulyap Kabardian, however, a different tonal analysis is needed, as the contour of the three-item list (fig. 3) suggests. First of all, the lack of resets suggests that the items do not constitute complete intonation phrases but intermediate phrases (the disjuncture between the ips discussed under 3.1 is weaker than here, but for the sake of simplicity, I shall restrict myself to only one phrase type below the IP). Second, the polysyllabic *q'amzjə́xər* 'feathers' has a high tone in the stressed syllable, but not at the right boundary of their ip. It therefore appears appropriate to use H* followed by an unmarked ip-boundary to account for both the level contour on the monosyllabic *ŝhe* 'head' and the stepped contour on *q'amzjəxər*. A downstep can be observed for the second, but not for the third H*.
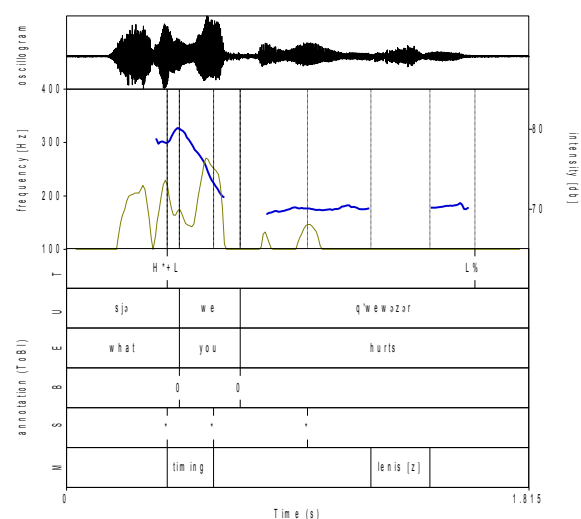

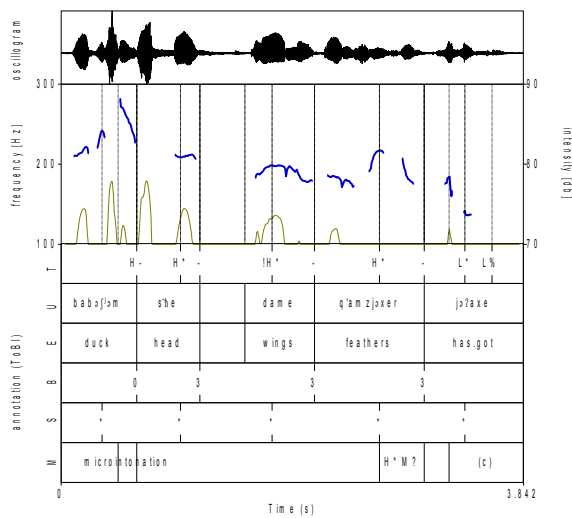Figure 2: *Wh-question intonation.*

Figure 3: *List intonation.*

F0 on the first word *babə́ʃʲəm* 'duck' is rising steadily, which is best accounted for by a high ip-tone (although no real break can be perceived between the first two words). H- may have to be seen in the context of the topic-like function of *babə́ʃʲəm*, as H- is also used for background elements in questions with narrow focus (see next section). In order to determine the exact function of H- in Ulyap IS, however, further research is necessary.

The final low pitch accent L*, which has already reached its target on the stressed syllable, is followed by a creaky portion that ranges to the end of the phrase. The final *diminuendo* and the voice properties hint at a preceding long breath group, which supports the idea that the list elements constitute only ips, as one would usually expect at least one inhalation in a sequence with three IP-boundaries (H%).

3.4. Focus

In Ulyap Kabardian questions with contrastive focus, non-focussed elements form a φ and are marked with H-, as can be seen in fig. 4 and 5. The most striking feature of those questions is that the position of the most prominent syllable does not coincide with the normal position that word stress predicts. For instance, fig. 4 shows a phrase with focus on the first noun *fatjə̀ma* 'Fatima' with obvious stress on the first syllable: not only is it perceptually highly prominent, but it also exceeds the remaining syllables in terms of intensity and spectral clearity. The relevant pitch movement – a high rise followed by a steep fall – should therefore not be ascribed to the left edge of the ip but to the neo-stressed syllable /fa/ (H*+L). Since the post-nuclear fall continues to the right edge of the first word, after which a clear break ensues, an additional low ip-tone L- was added in the annotation.

If one compares this IP to another IP in which a different word (*adəɣábze* 'Adyghe language') is focussed (fig. 5), it becomes evident that it is indeed the first syllable to which stress is (re-)assigned, regardless of its original position. In fig. 5, both intensity and pitch peak are located late on the first syllable, whereas the usually stressed third syllable is

now less prominent (though it retains its normal length[2]). The same tonal analysis as in the first example can also be applied to this phrase. Irrespective of the (yet-to-be-defined) prosodic properties of feet in Ulyap Kabardian, the stress shift can be accounted for by the following rule.

(5) *focus stress shift*
$(\sigma_1 \dots \sigma_n)_\omega \rightarrow (\text{'}\sigma_1 \dots \sigma_n)_\omega$ / [__]$_{FOC}$

Similar stress shift rules on the word level have been reported for English in two contexts: focussing bound morphemes (as in *She was íncluded, not éxcluded.*) [14] and when speakers want to avoid stress clash (as in *Japanése mágazines*) [6]. The shift discussed here does not fit either category: there are no bound morphemes in *fatjə̀ma*, and the shift can even provoke a stress clash (fig. 5). Curiously, [16] report a similar phenomenon (though not an obligatory rule) for Turkish narrow focus in statements with H*+L, but unfortunately do not elaborate on the matter.

Measuring vowel length revealed that vowels in newly stressed syllables had an average 147.0% duration compared to their counterparts in non-focussed words. However, the deaccentuated vowels were longer (122.9%) as well. In fact, the only vowel that was found to be shorter in the focussed phrase than in unmarked contexts was the first /ə/ of *adəɣabze* 'Adyghe language'.

Intensity was a more reliable indicator for the acoustic measurement of stress. Table 1 and Figure 6 provide an overview of the intensity values of word-stressed vowels in non-focussed constituents (*fatjə̀ma*), neo-stressed vowels in focussed constituents (*fátjə̱ma*$_{FOC}$) and their respective counterparts (*fatjə̱ma*, *fátjə̱ma*$_{FOC}$). The highly significant differences indicate that the beginning peaks cannot be merely due to an initial rise but have to be the result of prosodic restructuring taking place before the post-lexical level.
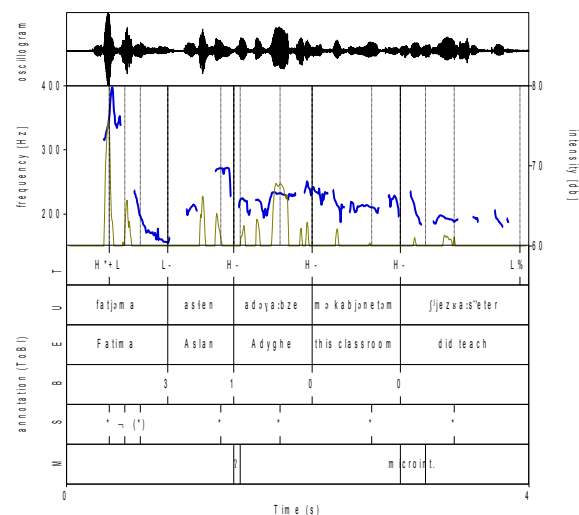

Figure 4: *Question intonation with contrastive focus on the first element.*

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[2] The interaction of vowel quality and length in the Circassian dialects is quite complex and cannot be elaborated upon in this paper.
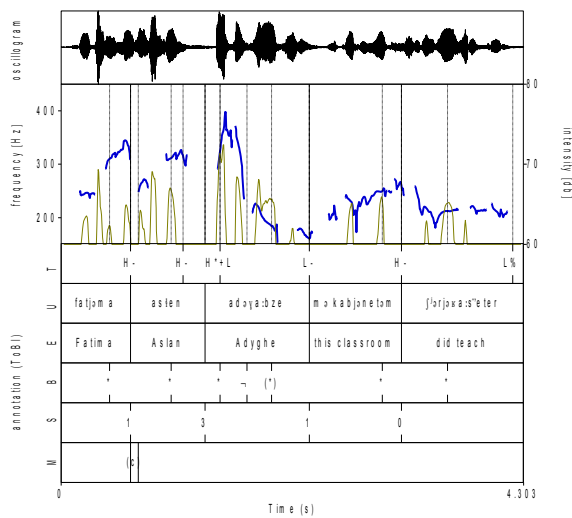
Figure 5: *Question intonation with narrow focus on the third element.*

		word-stress		neo-stress	
		-foc	+foc	-foc	+foc
word-stress	-foc	---	n.s.	*	**
	+foc		---	n.s.	*
neo-stress	-foc			---	***
	+foc				---

Table 1: *Significance levels of intensity values measured in various environments. Vowels in neo-stressed syllables were found to differ significantly (2-tailed t-test, 4 stimuli, 3 speakers) under focus from those in other contexts.*
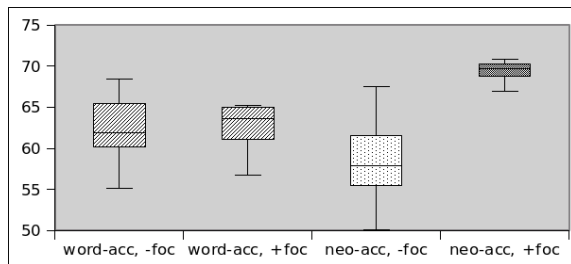

Figure 6: *Boxplot diagrams for intensity values (y-axis, mean energy [dB]) of vowels in different focus and stress environments (cf. Table 1).*

4. Discussion

4.1. Boundary tones

A common feature of all examples discussed so far is the absence of initial and the redundancy of final IP boundary tones. It would be premature to draw any conclusion about IP boundary tones in general at the current state of research. It has become clear, however, that at least for the contexts examined, IP boundary tones – in contrast to ip tones – do not appear to bear any functional weight at all.

4.2. Typological considerations

Table 2 offers a compact synopsis of typical tune patterns in Ulyap Kabardian, Turkish Kabardian [1], Russian [13] and Turkish [9], [16], [10]. The prosodic structure of Ulyap Kabardian shows some remarkable similarities to Turkish Kabardian, the main differences being the tonal interpretations and not the general tune trends. Fewer common features are shared with Russian, the major contact language of Ulyap Kabardian, whereas Turkish Kabardian exhibits remarkable parallels to Standard Turkish. *Stress shift* appears to be present in Turkish [16] but was not reported for Turkish Kabardian [1].

idiom → ↓ context	Ulyap Kabardian	Turkish Kabardian	Russian	Turkish
1 neutral statement	(H-)^x H+L* L%	%L H* L%	L* L%	(L H*)^x L%
2 wh-question	H*+L L%	%L H* L%	HL* L%	H* {L,H} %
3 list / incompl.	(H-) H*-^{x} L* L%	(H%)$_{x-1}$(H*)$_x$ L%	H*M %	?
4 focus question	H*+L L- L%	%L H*HL L%	H*L L%	?

Table 2: *Comparison of intonation patterns for two Kabardian variants and the respective contact languages.*

5. Summary

In this paper, a first model for Ulyap Kabardian intonation in the ToBI-framework was presented. Non-focussed non-verbal constituents in neutral statements are marked with H- only, whereas wh-words have H*+L and list elements have H* and an additional ip-tone. Focus constructions include H*+L and a prosodic rule that shifts word stress of focussed elements to the leftmost ω-position.

As the data analysed in this pilot study cover but a fragment of the Ulyap Kabardian dialect, further studies must take into account a broader data set. It is also beyond doubt that perceptive experiments are necessary to verify the tonal analyses proposed in this paper.

6. Acknowledgements

7. References

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