Sentence Prosody of Northeastern Pashto:
Declaratives, Exclamatives, and Contrastive Focus

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1 Introduction

This squib is concerned with the prosody of Northeastern sentence types, focusing on three categories: declaratives, exclamatives, and contrastive focus constructions. Except for question constructions, these sentence types illustrate a large portion of sentence-level intonation patterns in Pashto. Together, their description serves to clarify Pashto's treatment of such constructions with respect to the acoustic correlates of F0. In general, pitch excursions in Pashto reflect those attested in other Indo-European languages (discussed further in section 2).

The sentences employed in the elicitation sentences (see Appendix) originate from the Totem Field Storyboards collection of illustrated short stories. Specifically, two stories are employed, respectively titled: "Lakka and the Ghost" (Grubic, 2014), and "Tom and Mittens" (Rolka & Cable, 2014). The task asked our language consultant—a native speaker of the Northeastern dialect of Pashto—to translate the sentences, and then record them, with the intention of producing multiple instances of the target intonation patterns. The audio files were then processed using Praat (Boersma & Weenink, 2021). The selected stories do not employ question sentence constructions, and thus we limit our scope to the previously-mentioned intonational patterns.

2 Prosody

Of central concern to the prosodic system of a language is intonation, which Zsiga (2013) defines as "the use of pitch and other suprasegmental features to convey discourse-level meaning" (p. 392). Unlike features such as tone, which also manipulate pitch, intonation is not bound to distinguishing lexical items at a word or segmental level. Rather, as in other languages, intonation in Northeastern Pashto is employed for the purpose of distinguishing sentence construction types in discourse. As a whole, the present intonation system reflects Zsiga's observation that "within a language, specific syntactic patterns may receive specific intonational phrases" (p. 393). As an example, she offers the use of rising intonation in English yes-no questions, and falling intonation for wh-questions (Zsiga, 2013). Indeed, it is our aim to provide a light description of some such intonational patterns occurring in Pashto, namely those pertaining to declaratives, exclamatives, and in the use of contrastive focus.

2.1 *Declaratives*   The declarative sentences elicited with our consultant typically show a general downstep within the utterance, or downstep within a single clause followed by a pitch reset when the speaker produces a new clause. This is best illustrated in the intonation plot from the second story, provided figures 1 and 2.
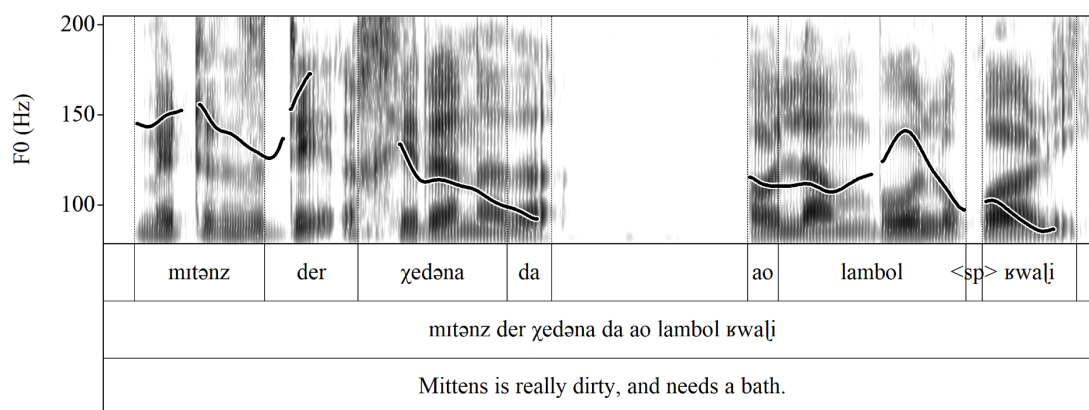

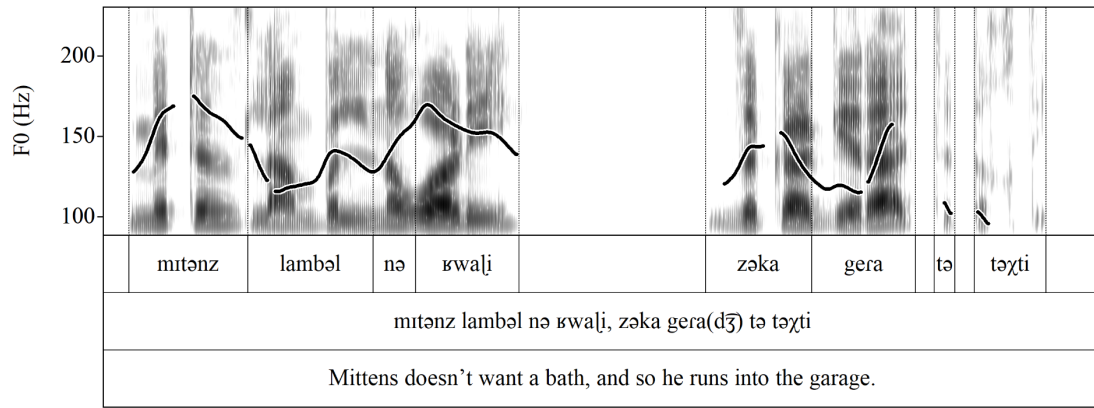Figure 1: 'Mittens is really dirty, and needs a bath.' (TSB2-002)

Figure 2: 'Mittens doesn't want a bath, and so he runs into the garage.' (TSB2-004)

From the above two plots, F0 peaks are observed where emphasis is being placed in the sentence, occurring twice, once in each clause. This pattern is more clearly observed in the following declarative sentences, where the speaker makes suggestions as to where the cat may be hiding.
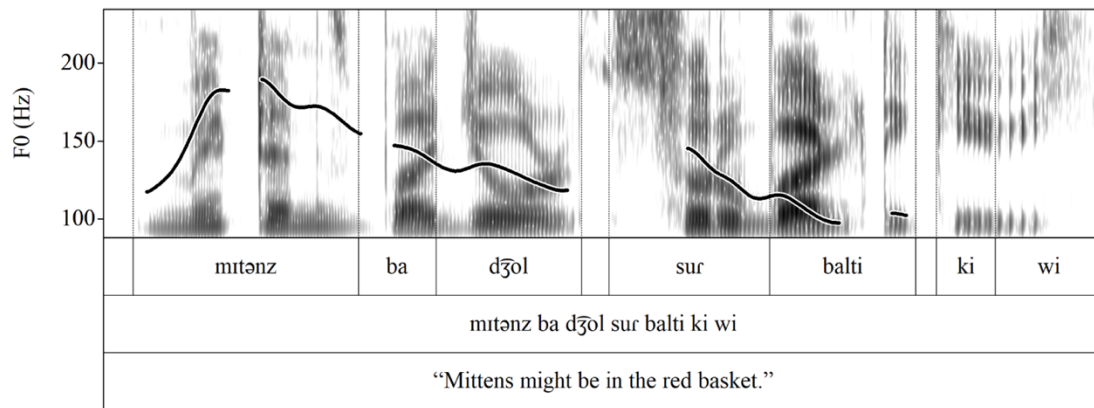

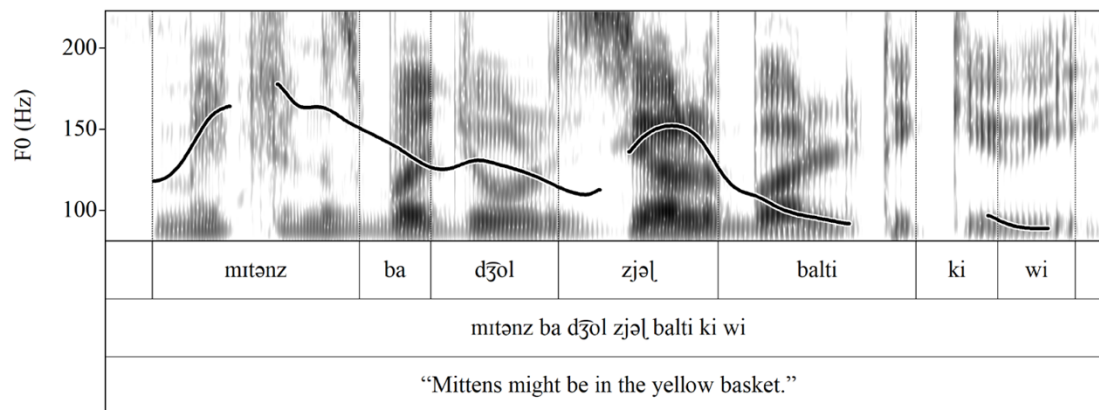Figure 3: 'Mittens might be in the red basket.' (TSB2-006)

Figure 4: 'Mittens might be in the yellow basket.' (TSB2-008)

In figures 3 and 4, the same pattern of F0 lowering continues within the single independent clause in each example. Similar to figures 1 and 2, F0 raising occurs, but instead of taking place at the beginning of a new clause, it occurs where emphasis is being placed, which is on the words corresponding to the colour of the baskets, /suɾ/ 'red' and /zjəḷ/ 'yellow'.

Throughout all four plots, it can also be observed that /mɪtənz/ 'Mittens' carries a rise-fall intonation where it is in the utterance-initial position, and this is due to it being the subject of the respective sentences, and thus one of the foci of the utterance.

2.2 *Exclamatives*   Exclamative sentences generally follow the following pattern in Pashto: a dip in F0 occurs before the focus of the prosodic phrase, followed by a step fall in intonation. Many such exclamations are also contained in quotatives, such as in figure 5, in which the narrator insists on having seen a ghost. This example is especially illustrative of the intonational pattern of exclamatives, as the pattern is repeated in both the prosodic units captured in the quotation.
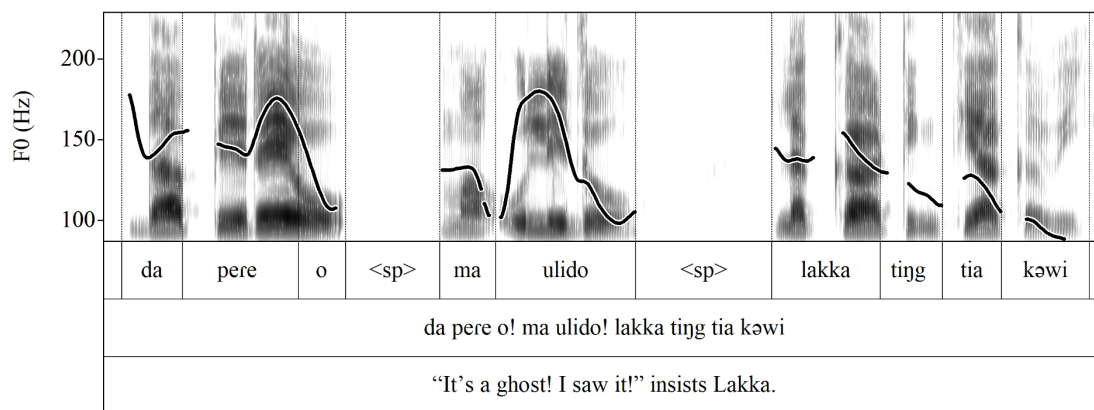

Figure 5: 'It's a ghost! I saw it!' insists Lakka." (TSB1-004)

In the second story, an exclamative not carried in a quotative phrase is provided. Below, we note that this sentence follows the same pattern as above, in which focus is put on the focus of the sentence, causing a u-like dip and rise in F0, followed by a steep fall. In this case, the fall occurs following /daʁalta/ 'there', which is followed by a rise in /ne/ 'not', and the subsequent fall in /ʃta/ 'available'. Together, the sentence in figure 6 illustrates the intonational pattern of exclamatives localized on a single prosodic unit, without the potential influence of being embedded in a quotative utterance.
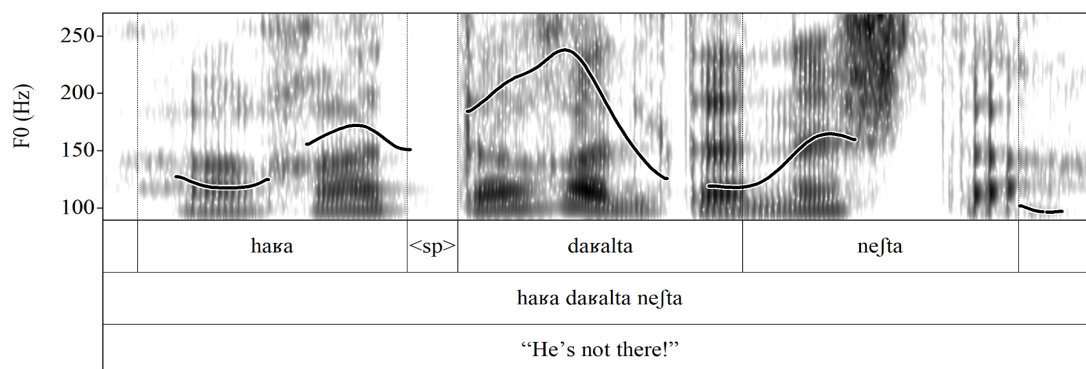

Figure 6: 'He's not there!' (TSB2-009)

In the exclamative sentences of figures 5 and 6, the focus of the intonational phrase occurs in the final position of the prosodic word. Thus, as expected, the final fall in intonation marks the end of the intonational phrase as a whole. However, we may wish to note in figure 7 that the focus occurs utterance-medially, and that following a sharp fall in intonation, we see a pause, followed by a resumption of the standard declarative-like intonation for the remainder of the sentence. The focus, in this case, sees a dip in /...mɪtəns ba/ 'Mittens', followed by a peak and subsequent dip in the focus word /χamaχa/ 'must'. This is followed by a pause, and the resumption of a long falling intonation across the remainder of the utterance.
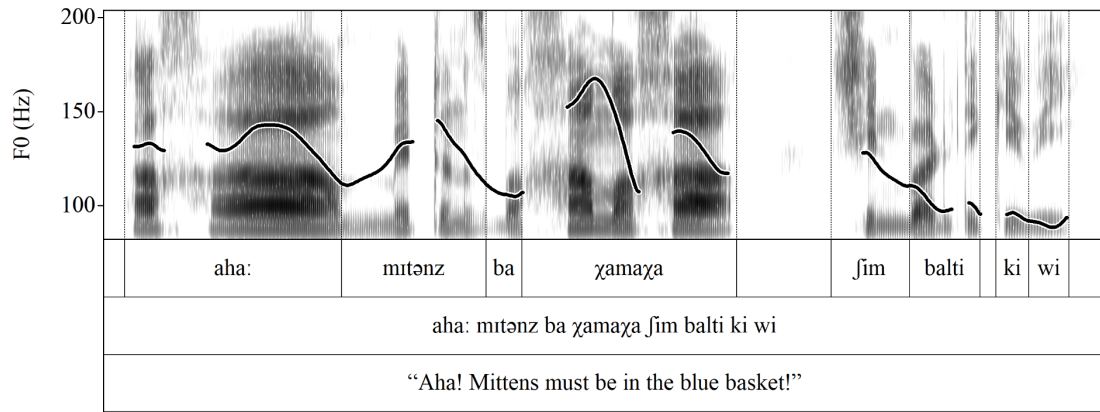
Figure 7: 'Aha! Mittens must be in the blue basket!' (TSB2-010)

2.3 *Contrastive Focus*   For this section, we elicited three tokens demonstrating contrastive focus in Pashto. These tokens consist of sentences conveying the meaning *not A, but B*, which is shown in (1). Note that in the following transcriptions, focused segments are in bold, and minor and major prosodic unit boundaries are denoted by /|/ and /||/, respectively.

(1) a.   /ɾor   wəɾta wai | daʁa χo **peɾe na de** | da jo   **t͡ʃile   da** ||/
            Her brother explains,   "That is not a ghost!   That's a goat!"

     b.   /ɾor wəɾta wai | daʁa χo **peɾe na de** | daʁa jo **kəmis de** ||/
            Her brother explains,   "That is not a ghost!   That's a shirt!"

     c.   /ɾor wəɾta wai | daʁa χo **peɾe na de** | da də marjam **malgəre   da** ||/
            Her brother explains,   "That is not a ghost!   That's Maryam's friend!"

We found that focus on the objects /peɾe/ 'ghost', /t͡ʃile/ 'goat', /kəmis/ 'shirt', and /malgəre/ 'friend' manifested as a pitch rise on the succeeding functional words, namely /da/ and /de/ 'to be', and the negation /na/. The pitch tracks are given in figures 8-10:
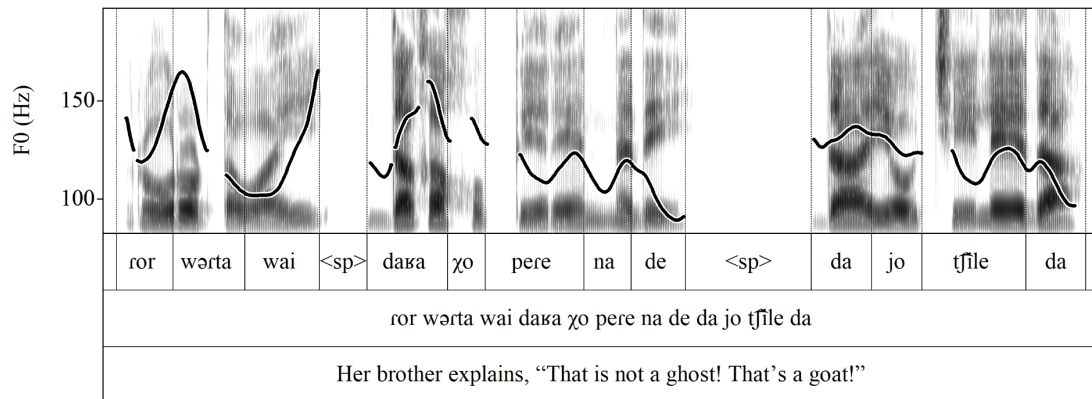

Figure 8: 'Her brother explains, 'That is not a ghost! That's a goat!' (TSB1-003)
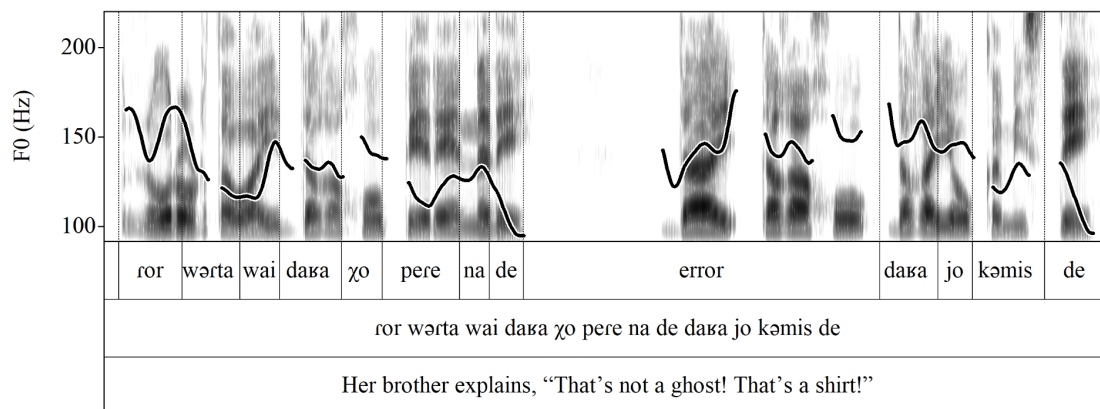
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Figure 9: 'Her brother explains, 'That is not a ghost! That's a shirt!' (TSB1-007)
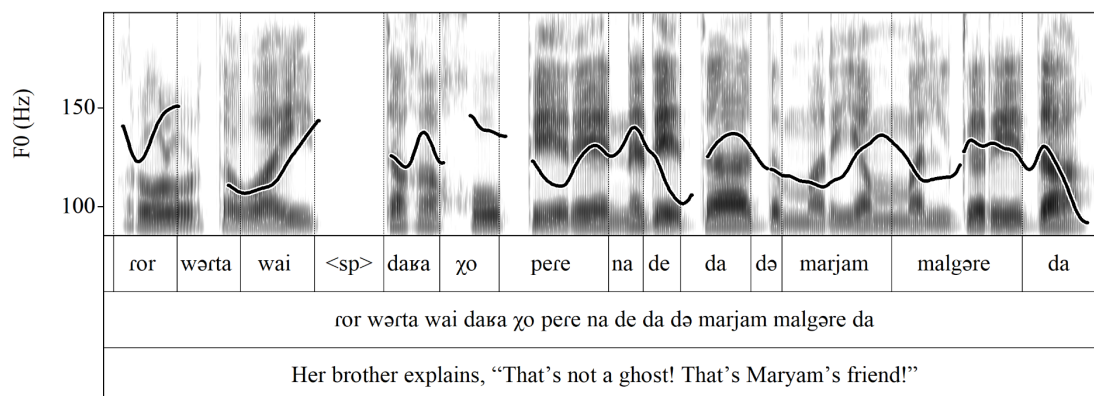

Figure 10: 'Her brother explains, 'That is not a ghost! That's Maryam's friend!' (TSB1-011)

In figures 8-10, we see F0 peaks in the vowels of the phrase-final functional words /da/, /de/, and /na/ after the focused subjects. Though we still observe a general recession of F0 from the initial to phrase final positions, the F0 values in the peak of these phrase-final items do not exhibit a large difference when compared to the phrase initial items. This is different from what we see in a declarative sentence. In a normal declarative sentence, such peaks do not occur in functional words, and a gradual downtrend usually takes place, such that the F0 value at the end of the phrase is much lower than at the initial position. In the phrase /mɪtənz der χedəna da/ 'Mittens is really dirty', we see that there is no peak in the phrase-final /da/, and F0 is much lower at around 100 Hz compared to the phrase initial F0 which is around 160 Hz.
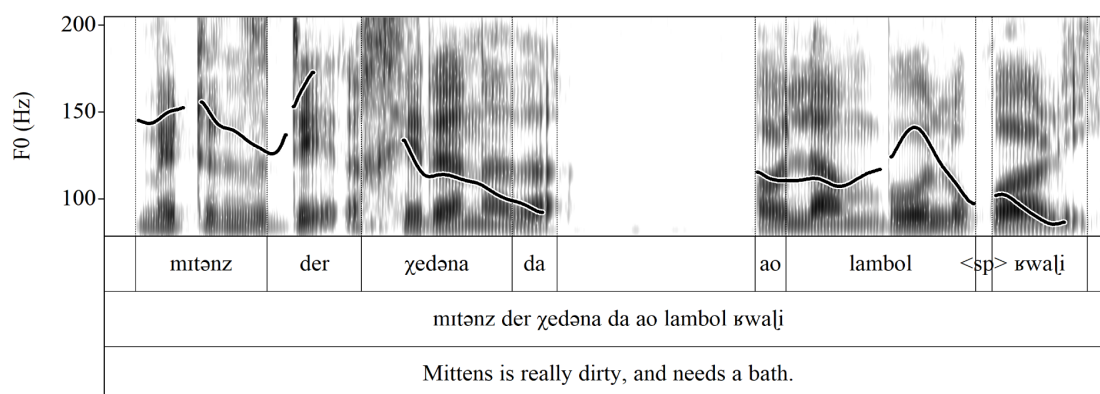

Figure 11: 'Mittens is really dirty, and needs a bath.' (TSB2-002)

Hence, as the F0 peak observed in the phrase-final /da/ is absent in the normal declarative sentence, we can then attribute this occurrence to focus marking. As such, we propose that when the focused

segment is followed by a functional word, contrastive focus manifests as an F0 peak in the functional word in Pashto.

3 Discussion

This paper serves as a brief introduction to sentence-level intonation and the patterns that are employed across different construction types in Northeastern Pashto. In section 2.1, we observe that declarative sentences receive a simple sentence-length falling intonation, with occasional rises in pitch where emphasis is made. In (2.2), the intonation pattern of exclamatives is explored. Here, we observe that exclamations are supplemented by a fall in pitch prior to the focus of the intonational phrase, followed by a rapid rise, and another subsequent fall. In most cases, this pattern is observed adjacent the right-edge of the intonational phrase, but where it is not (as in (7)), regular declarative-like intonation resumes for the remainder of the utterance. Finally, in (2.3), we note the intonational correlates of contrastive focus. Here, the objects of focus receive a rise in pitch at their point of utterance. Also of note is that phrase-final functional words, such as /na/ 'no/not' (as in examples 10 and 11) show a slight increase in F0 in spite of the contounter of phrasal intonation.

Due to a lack of data, it remains to be seen whether F0 is the best signal for focus marking in Pashto. Although the existing data does show some interactions between F0 and focus, perhaps other acoustic cues such as intensity might be more relevant to focus. Also of interest to further research on Pashto prosody is the patterning of intonation in question constructions. Subsequent research in this area should consider both these factors in order to develop a fuller picture of the prosodic system of the language.

4 Appendix

Story 1: Totem Story Board - Lakka and the Ghosts (Grubic, 2014)		
ID	**Pashto**	**English**
TSB1-000	lakka au perian	Lakka and the Ghosts
TSB1-001	lakka mudam perian βini	Lakka is always seeing ghosts.
TSB1-002	də buti ʃa: ta jo peɾe pətde lakka t͡ʃəʁekle	"A ghost is hiding behind a tree!" Lakka shouts.
TSB1-003	ɾor wəɾta wai daʁa χo peɾe na de da jo t͡ʃile da	Her brother explains, "That is not a ghost! That's a goat!"
TSB1-004	da peɾe o! ma ulido! lakka tiŋ tia kəwi	"It's a ghost! I saw it!" insists Lakka.
TSB1-005	peɾe d͡ʒoļ patʃo	"Maybe the ghost is hiding!"
TSB1-006	bala ras, lakka t͡ʃəʁekle ma pə almare ke peɾe ulido	The next day, Lakka shouts "I saw a ghost in the wardrobe!"
TSB1-007	ɾor wəɾta wai daʁa χo peɾe na de daʁa jo kəmis de	Her brother explains, "That's not a ghost! That's a shirt!"
TSB1-008	da peɾe o! ma ulido! lakka tiŋ tia kəwi	"It was a ghost! I saw it!" insists Lakka.
TSB1-009	peɾe d͡ʒoļ otəχtedo	"Maybe the ghost went away!"
TSB1-010	bala ras, aʁe t͡ʃəʁekle maɾjam pə piɾi kali χəɾsəwi	The next day, she shouts "Maryam is selling jewelry to a ghost!"
TSB1-011	ɾor wəɾta wai daʁa χo peɾe na de da də marjam malgəɾe da	Her brother explains, "That's not a ghost! That's Maryam's friend!"
TSB1-012	da peɾe o! ma ulido! lakka tiŋ tia kəwi	"It was a ghost! I saw it!" insists Lakka.
TSB1-013	də marjam malgəɾe d͡ʒoļ peɾe da	"Maybe Maryam's friend is the ghost!"
TSB1-014	zaka, ɾor haʁa enake aʁesto la buzi	So her brother takes her to get eyeglasses.
TSB1-015	wos haʁa nor peɾian ne βini	Now she doesn't see ghosts anymore!

ID	Pashto	English
Story 2: Totem Story Board - Tom and Mittens (Rolka & Cable, 2014)		
ID	Pashto	English
TSB2-000	tom ao mɪtəns	Tom and Mittens
TSB2-001	daga tom de ao da də haχə piʃo da mɪtəns	This is Tom. And, this is his cat, Mittens.
TSB2-002	mɪtənz der χedəna da ao lambol ʁwaḻi	Mittens is really dirty and needs a bath.
TSB2-003	ta de lambolo waχt ʃo mɪtəns	Time for your bath, Mittens!
TSB2-004	mɪtənz lambəl nə ʁwaḻi, zəka geɾa tə təχti	Mittens doesn't want a bath, and so he runs into the garage.
TSB2-005	dagalta χo seɾof dɾe balto na elawa sə nəʃta	There's nothing there, except for three baskets.
TSB2-006	mɪtənz ba d͡ʒol suɾ balti ki wi	Mittens might be in the red basket.
TSB2-007	haʁa daʁalta neʃta	He's not there!
TSB2-008	mɪtənz ba d͡ʒol zjəḻ balti ki wi	Mittens might be in the yellow basket.
TSB2-009	haʁa daʁalta neʃta	He's not there!
TSB2-010b	aha: mɪtəns ba χamaχa ʃin balti ki wi	Aha! Mittens must be in the blue basket!
TSB2-011	sta de lambolo waχt ʃo mɪtəns	Time for your bath, Mittens!

5 References

Boersma, P. & Weenink, D. (2021). Praat: doing phonetics by computer [Computer program]. Version 6.1.50, retrieved 10 June 2021 from http://www.praat.org/

Grubic, M. (2014). *Lakka and the Ghosts*. Totem Field Storyboards . Retrieved from http://www.totemfieldstoryboards.org on Jun 12, 2021.

Rolka, M. & Cable, S. (2014). *Tom and Mittens*. Totem Field Storyboards . Retrieved from http://www.totemfieldstoryboards.org on Jun 12, 2021.

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