

# PROSODIC DIFFERENCES BETWEEN TWO YAKUT DIALECTS

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## ABSTRACT

Varieties of languages are marked not only by their vowels and consonants but also by their prosody. The intonation of some varieties is often remarked on by outsiders using terms such as “sing-songy” or “flat”. Suntarsky dialect of Yakut language, which is one of the most distinctive dialects of Yakut from intonational point of view, is always considered as “sing-songy” and soft.

The article aims to phonetically visualize and analyze prosodic differences between two Yakut dialects (using PRAAT program). This article draws its data primarily from Suntarsky and Ust-Aldansky dialects of Yakut language. We hypothesize that comparative analysis on the phonological level of the data will show the empirical validity of differences.

**Key words:** prosody, intonation, Yakut dialects

## 1. INTRODUCTION

The term intonation refers to a means for conveying information in speech which is independent of the words and their sounds. Central to intonation is the modulation of pitch, and intonation is often thought of as the use of pitch over the domain of the utterance. However, the patterning of pitch in speech is so closely bound to patterns of timing and loudness, and sometimes voice quality, that we cannot consider pitch in isolation from these other dimensions. The interaction of intonation and stress – the patterns of relative prominence which characterize an utterance is particularly close in many languages. The word “prosody” is convenient as more general term to include patterns of pitch, timing, loudness, and sometimes voice quality. In this article, however, intonation, will be used to refer to the collaboration of all these dimensions, and, where necessary, the term “melody” will be used to refer specifically to the pitch-based component.

Intonation is used for a range of functions and carries a variety of different kinds of information. It signals grammatical structure, though not in a one-to-one way; whilst the end of a complete intonation pattern will normally coincide with the end of grammatical structure such as a sentence or clause, even quite major grammatical boundaries may lack intonational marking, particularly if the speech is fast. It signals the difference between statements and questions, and between different types of question. Intonation can reflect the information structure of an utterance, highlighting constituents of importance and focusing attention on important elements of spoken message or show what information in the utterance is new and what is already known. Intonation can indicate discourse function and can be used by a speaker to convey an attitude such as friendliness, irony, enthusiasm, or hostility; and listeners can use intonation-related phenomena in the voice to make inferences about a speaker's state, including surprise, excitement, depression, and tiredness. Intonation can also, for instance, help to regulate conversational interaction or turn-taking in conversation, since there are certain intonational mechanisms which can be used by speakers to indicate that they have had their say, or conversely, that they are in full flow and don't want be interrupted.

Although intonation is primarily a matter of pitch variation, it is important to be aware that functions attributed to intonation such as the expression of attitudes and emotions, or highlighting aspects of grammatical structure, almost always involve concomitant variation in other prosodic features. Crystal for example notes that “... intonation is not a single system of contours and levels, but the product of the interaction of features from different prosodic systems – tone, pitch-range, loudness, rhythmicity and tempo in particular” (3).

Varieties of languages are marked not only by their vowels and consonants but also by their prosody. The intonation of some varieties is often remarked on by outsiders using terms such as “sing-songy” or “flat”. Suntarsky dialect of Yakut language, which is one of the most distinctive dialects of Yakut from intonational point of view, is always considered as “sing-songy” and soft.

In this article we attempt to visualize and analyze prosodic differences between two Yakut dialects (using PRAAT program). This article draws its data primarily from Suntarsky and Ust-Aldansky dialects of Yakut language. We hypothesize that comparative analysis on the phonological level of the data will show the empirical validity of differences.

The article is set out as follows. Section 2 gives an information on comparative studies of intonation. Section 3 draws attention to dialects of Yakut language. It also gives some main characteristics on Yakut language. Section 4 looks at the variation in intonation to be found in the dialects of Yakut. Section 5 concludes the article with some general observations.

## 2. COMPARATIVE STUDIES OF INTONATION

The extreme difficulty of making meaningful comparisons among the intonation systems of different languages was pointed out by many linguists. The difficulty being compounded by the lack of an agreed descriptive framework.

Falling intonation is said to be used at the end of questions in some languages, including Hawaiian, Fijian, and Samoan and in Greenlandic. It is also used in Hawaiian Creole English, presumably derived from Hawaiian. Rises are common on statements in urban Belfast; falls on most questions have been said to be typical of urban Leeds speech.

An ESRC-funded project (E. Grabe, B. Post and F. Nolan) to study the intonation of nine urban accents of British English in five different speaking styles has resulted in the IViE Corpus and a purpose-built transcription system. Following on this work is a paper explaining that the dialects of British and Irish English vary substantially.

A project to bring together descriptions of the intonation of twenty different languages, ideally using a unified descriptive framework (INTSINT), resulted in a book published in 1998 by D. Hirst and A. Di Cristo (4). The languages described are American English, British English, German, Dutch, Swedish, Danish, Spanish, European Portuguese, Brazilian Portuguese, French, Italian, Romanian, Russian, Bulgarian, Greek, Finnish, Hungarian, Western Arabic (Moroccan), Japanese, Thai, Vietnamese and Beijing Chinese. Regrettably, a number of contributing authors did not use the INTSINT system but preferred to use their own system.

Intonation of Yakut language remains less studied in comparison to other Turkic languages and needs to be developed. In works of Barashkov P.P., D'yachkovsky N.D., Kornilova O.S. and other linguists described the whole phonetic structure of Yakut language, and also partially discussed word stress and melody of Yakut sentences. Nowadays the systematic study of intonation of Turkic languages gains more and more attention. Basing on the method of comparison were written many works, which give main intonational characteristics of Yakut language. Barashkov P.P., for instance, in his fundamental book "Phonetic features of Yakut dialects" (2) summarizes all the information and results of empirical studies on Yakut dialects that had been collected for more than twenty years and gives main features of every dialect of Yakut language.

### 3. DIALECTS OF YAKUT LANGUAGE

Yakut, or Sakha is a member of the Northern Turkic family of languages, which includes Shor, Tuvan, and Dolgan in addition to Sakha. Like Hungarian, Finnish, and Turkish, Sakha has vowel harmony, is agglutinative and has no grammatical gender. For Yakut language as for other Turkic languages is typical the final stress (the final syllable is stressed), which is not connected with diphthongs and vowel length. Word order is usually subject-object-verb. Sakha with around 360,000 native speakers is spoken mainly in the Sakha Republic. It is also used by ethnic Sakha in Khabarovsk Region and a small diaspora in other parts of the Russian Federation, Turkey, and other parts of the world. Sakha is widely used as a lingua franca by other ethnic minorities in the Sakha Republic – more Dolgans, Evenks, Evens and Yukagirs speak Yakut than their own languages.

The Yakut alphabet uses the Cyrillic script and contains the same 33 letters as the Russian alphabet, plus 5 additional letters: ө, Һ, ҕ, ҕ, Һ and 2 combinations/digraphs: дь and нь. The modern Sakha alphabet was established in 1939 by the Soviet Union (Semyon Novgorodov – the inventor of the first IPA-based Yakut alphabet).

Sakha does not have a long literary tradition: the first text books in Sakha were published based on a writing system devised by S.A. Novgorodov in the 1920s; this writing system was exchanged for a unified Turkic alphabet in 1929, which in 1939 was replaced by the Russian-based Cyrillic alphabet still in use today. In the early 1930s the Sakha standard language was officially based on the dialects of the districts around Yakutsk: Kandalas, Namcy and Megin, with okan'e and word-initial [s] as its most salient features.

Yakut belongs to vocalic languages. The vowel system includes 16 phonemes coming in long and short varieties. Also it has 4 diphthongs: /iə/, /yɔ/, /ua/, /yœ/. There are 20 consonant phonemes in Yakut language.

Yakut is quite homogenous, and in general it is not divided into dialects as such. Unique phonetic, morphological, syntactic and lexical features can be found in all the regions of Yakut Republic, but they are so small that it is impossible to speak of different "dialects" of Yakut. But, there are some dialectal differences, which are grouped into four major dialectal groups: the central group, the Vilyuy group, the northwestern group, and the northeastern group. Ubriatova distinguishes four sub-dialectal (Mundart) groups: central, Vilyuy, north-western and Taimyr (8). Some scholars also consider Dolgan as a dialect of Yakut, but the two languages are not mutually intelligible, and therefore it is more proper to classify them as two separate languages. Originally, Dolgan was a dialect of Yakut, but it was isolated from Yakut early, and developed in its own way. Dolgan exhibits considerable influence from Evenki.

The dialectal differences are assumed to be due to different substrate influences (especially Evenki influence in the northwest), and also to isolation of the inhabitants of individual regions from one another. The most salient feature of the dialectal system is a phonetic difference in approximately 200 words which in some dialects are pronounced with unrounded vowels (akan'e in the Sakha linguistic literature), while in others they are pronounced with rounded vowels (okan'e), e.g. atin/otun 'housewife', a:iy/o:uy 'spider', seri:n/sö:rü:n 'cool'. These are words which in Common Turkic or Mongolic (in the case of copying) contained labially unmatched vowels, i.e. the first syllable was unrounded, while the vowel of the second syllable was rounded, such as qatun 'housewife'. Such words go against the Sakha system of labial vowel harmony, in which all vowels must be either rounded or unrounded. In order to resolve this discrepancy, in some areas the second vowel assimilated to the quality of the first vowel (akan'e), while in others the first vowel assimilated to the second vowel (okan'e). This development is presumably a fairly recent event: in Dolgan, which follows the same labial harmony as Sakha, some of these words have retained their ancient pronunciation, e.g. katun (Sakha atin/otun 'housewife').

In Yakutia as a whole, the northeastern region belongs to the dialects with akan'e, while the Vilyuy and northwestern areas belong to the okan'e dialects.

Barashkov P.P. suggested the following classification of dialects or groups of dialects (2):

I. Namsko-Aldanskaya group of dialects (Ust'-Aldansky, Namsky regions, a part of Tattinsky region, Bahsytsky district of Churapchinsky region, Doydunsky and Megyurensky districts of Megino-Kangalassky region, Kobyaysky, Kuokuysky, Nizhilinsky, Tyayynsky, I и II Sitinsk districts of Kobyaysky region, Oktyabrsky and I и II Atamaysky districts of Gorny region, and also the north regions of Oymyakonsky, Verhoyansky, Abyysky, Allaihovskiy, Momskiy, Sakkyryrskiy).

II. Kangalassko-Vilyuyskaya group of dialects (regions: Vilyuysky, Verhne-Vilyuysky, Suntarsky, Nyrbinsky, Olekminsky, Lensky, Ordzhonikidzevskiy, Oleneksky, Anabarsky, Bulunsky and part of Zhigansky region on the left bank of Lena river).

III. Megino-Tattinskaya group of dialects (Megino-Kangalassky, Alekseevskiy, Churapchinsky, Ust-Maysky regions — the former Meginsky and Tattinsky regions).

A big amount of local dialectal features was noted еще by O. Boehtlingk in his fundamental work «Über die Sprache der Jakuten». A lot of dialectal material gives "The dictionary of Yakut language" by E.K. Pekarsky, which is composed mainly of folklore data collected from different parts of central Yakutia. The systematic study of dialects of Yakut language began in early 1950's. Gathering of information and primary analysis of the data are completed. A number of articles and monographs are written basing on the material.

Thus, Suntarsky dialect belongs to the okan'e dialects and Kangalassko-Vilyuyskaya group of dialects (or Vilyuy group of dialects). Ust-Aldansky dialect belongs to akan'e dialects and Namsko-Aldanskaya group of dialects.

#### 4. COMPARATIVE ANALYSIS OF TWO YAKUT DIALECTS

In this Section we attempt to analyze the intonational features of two Yakut dialects (Suntarsky and Ust-Aldansky dialects). To show the intonational difference more evident we have chosen the dialects belonging to different groups of Yakut dialects.

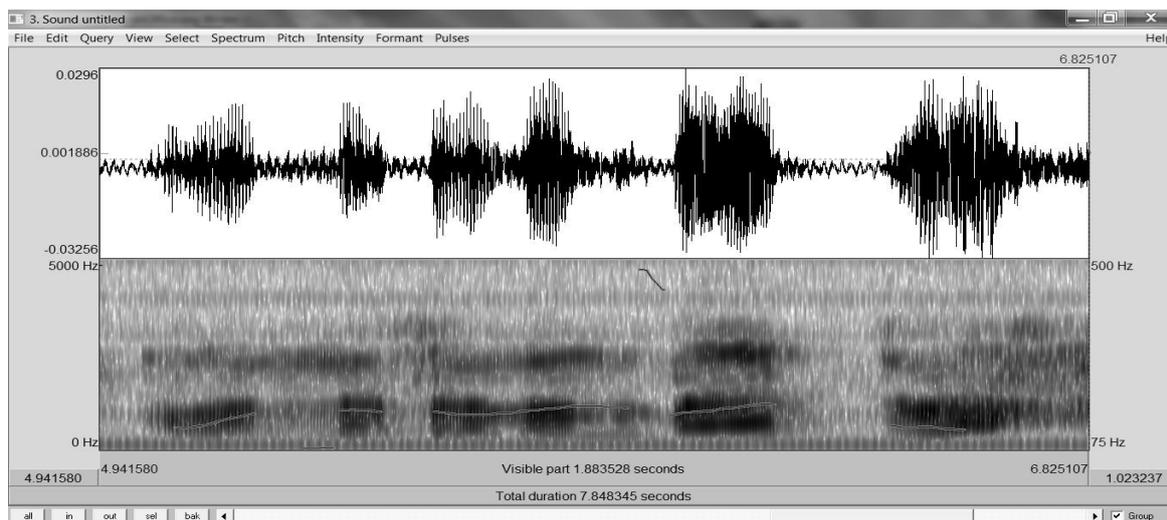
For comparison analysis of intonation of the given dialects we used the recorded speech of native speakers (male). These speech utterances are simple indicative and interrogative sentences which contain the same information. The data was processed by PRAAT acoustic laboratory.

PRAAT is a computer program which is used for analyzing, synthesizing, manipulating speech, creating high-quality pictures, making spectral, pitch, formant and intensity analysis.

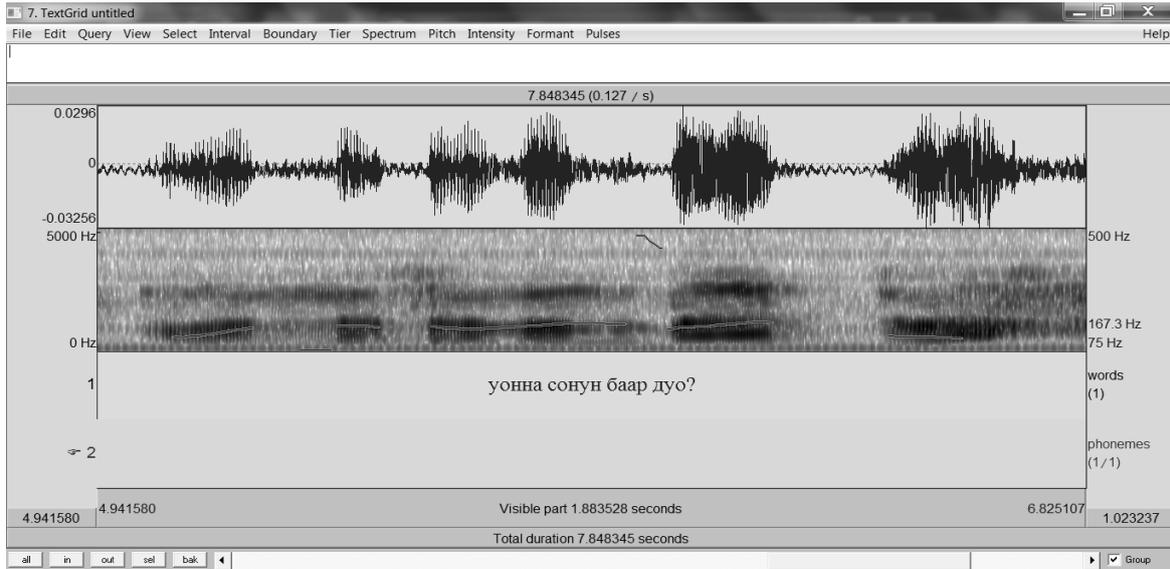
Figures 1 and 2 show two acoustic analyses of the utterance 'Уонна сонун баар дуо'. The top analysis is a spectrogram, showing how the resonances and other acoustic components of speech evolve and change over time. A phonetic transcription has been added to show roughly which parts of the signal correspond to which linguistic elements. The bottom analysis shows a plot of the fundamental frequency, the acoustic consequence of the rate at which the vocal cords are vibrating in voiced speech. The fundamental frequency contour is more or less what we hear as the changing pitch of the speech. The contour is not continuous because voiceless sounds inevitably interrupt it; and furthermore whenever the vocal tract is obstructed the fundamental frequency is perturbed. However the general trend of the pitch is clear. The utterance starts mid-low on 'Уонна', goes low on 'сонун', rises to a peak on 'баар', and falls sharply and thereafter stays low and level. This of course is not the only way the sentence could be said, but it is one appropriate way given the context described above.

Intonational pitch works hand in hand with other prosodic dimensions, notably duration. It is clear from the spectrogram that the most prominent syllable in the utterance 'баар' takes up a disproportionate time compared to other syllables. It is because of the particle "дуо", which always appears at the end of the sentence. And the words that stay before this particle as a rule become stressed. Other durational correlates of prominence are less straightforward, since they interact with segmental determinants of duration (e.g. phonological vowel length). Note too that the utterance spoken in Suntarsky dialect is longer than the one spoken in Ust-Aldansky dialect; this is partly as a result of the former's more complex syllable structure, but also because a lengthening of sounds (a rallentando) is found at the end of an intonation pattern.

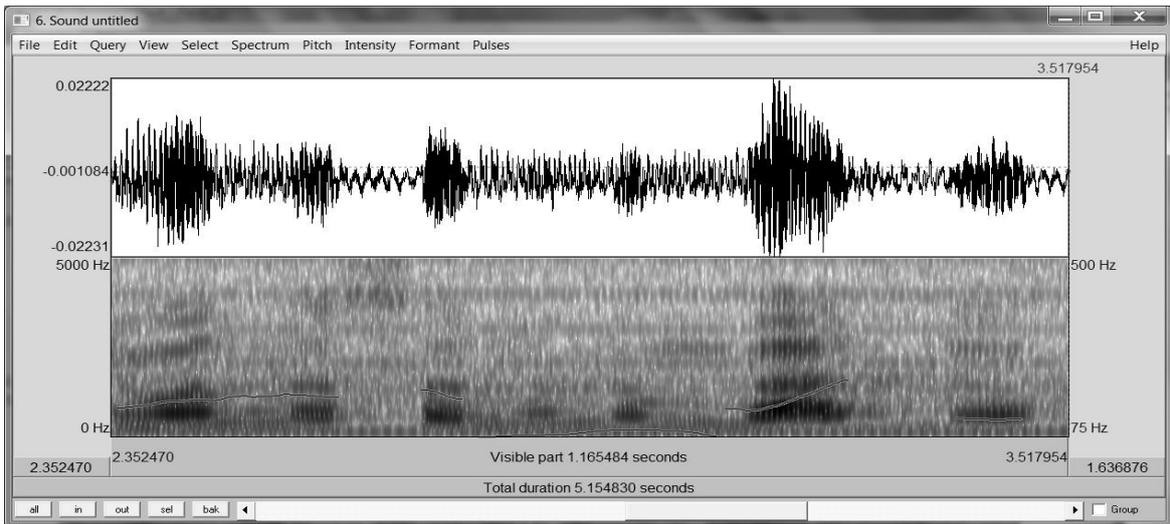
**Fig. 1.** Acoustic representation of "Уонна сонун баар дуо" (Suntarsky dialect). The spectrogram revealing segmental timing information and time aligned fundamental frequency contour



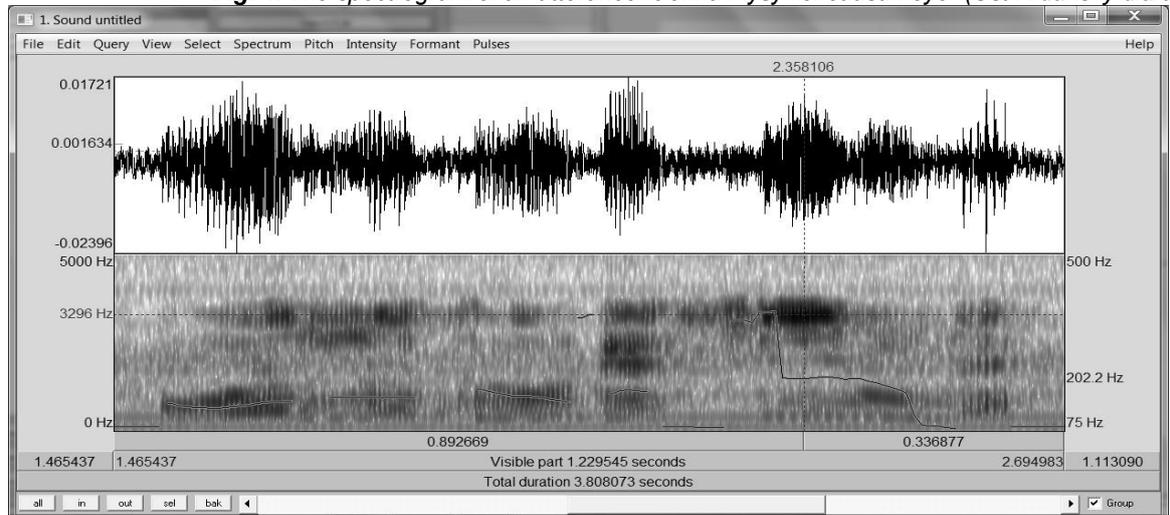
**Fig. 2.** The spectrogram of an utterance “Уонна сонун баар дуо” (Suntarsky dialect).



**Fig. 3.** The spectrogram of an utterance “Уонна сонун баар дуо” (Ust-Aldansky dialect).



**Fig. 4.** The spectrogram of an utterance “Уонна түгү кэпсиигин дуо” (Ust-Aldansky dialect).



Here we have what appears to be a phonological difference between dialects. There is (at least) one another way in which Yakut dialects can manifest a difference in their intonational phonology. Namely, dialects can differ in terms of what intonational elements they have in their inventory, just as a dialect may lack a phoneme or have variations of phonemes (Ust-Aldansky does not have the phoneme /r/ in the word "orto" (mid/middle), while Suntarsky does ("orto"), for instance). Such variations are described and detailed by P.P. Barashkov in his book "Phonetic features of Yakut dialects" (2) and then supplemented by M.S. Voronkin in "The system of dialects of Sakha language" (9).

## 5. CONCLUSION

One of the "design features" of speech is that pitch is variable independently of the sounds being produced. This is possible because the rate of vibration of the larynx does not have to match a resonant frequency of the vocal tract. As a consequence pitch can be recruited to carry information over and above that borne by the vowels and consonants of language, functioning (as we saw in Section 1) either as lexically significant tone, or non-lexically as intonation. In doing so, pitch operates in tandem with durational factors and loudness.

Intonation, as an information channel independent of the words chosen, carries a number of quite distinct strands of information. We have seen that the ways in which it does so include signals mirroring physiologically-determined changes in pitch, on the one hand, and abstract phonological intonational categories on the other. The latter may originally derive from grammaticalisation of biologically-determined frequency effects, but the status of phonological intonational categories as members of an abstract linguistic system means that their relationship to information is potentially arbitrary.

This arbitrariness should lead us to expect variation across languages and dialects, and Section 4 discussed such variation between two Yakut dialects. Even those intonational effects whose basis in biology is more transparent are highly conventionalized, and so can vary. Intonation, then, is just as significant a component of a dialect as the pronunciation of its vowels and consonants.

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