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INTERROGATIVE INTONATION OF TWO BULGARIAN ROMANI DIALECTS: SOFIA ERLI AND KALDERAŠ

1. INTRODUCTION

During the last two decades intonation has become a subject of increasing importance in fields from syntax to speech processing. Linguists and technicians have been suggesting various models where the boundaries between phonology and phonetics on the one hand, and between phonetics and hightechnology on the other are often too fine to be discerned.

This paper will try to present the interrogative intonation of two Bulgarian Romani dialects in an autosegmental framework without taking into consideration the typical problems of generative phonology such as underlying vs. surface phonetic realizations of the produced intonational patterns and will also not participate on the discussion about the theoretical status of the nuclear vs. the prenuclear tones. Here I shall aim at acquainting the audience with typical intonations of both dialects which are detected in the speech of the informants. A special software (X-Waves) made it possible to observe the melodies acoustically and labelling the text and the 'tones' in the sense of ToBI (Tone and Break Indices), a practical device for universal intonation labelling based on the principles of Autosegmental Phonology.

2. THEORETICAL BACKGROUND

At the beginning we have to:
1st – define the notion of intonation;
2nd – to give a schematic description of the Autosegmental Intonational Theory.

2.1. A definition of intonation

Linguists have been long adhering to the tradition of a 'polysemantical' usage of the term, the last being often understood as a lexical tone accent or prosody. The prevailing view defines intonation as a melody ('tune'), *psychophysically seen as the PITCH variations during the pronounciation of an utterance,* which serve the topic-focus-division, the delimitative, the communicative and the grammatical function of the utterance. In this view two different traditions of description are known: the holistic and the atomistic. The former describes the pitch contour as a whole, whereas the latter views the pitch contour as the

combination of various *PITCH ACCENTS*, which mark the rhythmically and syntactically prominent syllables. Some scholars – to whom the representatives of the Autosegmental Intonational Theory belong - introduce into the atomistic model *BOUNDARY TONES* too. They serve the description of the specific movement of the unaccented syllables at the right edge of the phrase, the latter highly contributing to the grammatical and communicative characterization of the utterance.

2.2. The Autosegmental Theory

The Autosegmental Intonational Theory postulates (see e. g. Goldsmith 1976 for tone languages) the independence of two tiers (Pierrehumbert 1980): a text tier for the segments (syllables, i. e. vowels) and a tonal tier for the tones. In fig.1 the possible associations between the text and the tone tier in accordance with the Wellformedness Condition (Selkirk 1984) are sketchy presented. The tones are described by only 2 relative pitch levels, namely low (L) and high (H), and within two different tone groups, namely pitch accents on the one hand and the combination of a phrase accent and a boundary tones on the other.

$$
\begin{array}{ccc@{\qquad}cc@{\qquad}ccc}
\textbf{T} & \textbf{T} & \textbf{T*} & \textbf{T} & \textbf{T*} & \textbf{T} & \textbf{T} & \textbf{T*} \\
\textbf{I} & \textbf{I} & \textbf{I} & \textbf{I\backslash} & \textbf{I} & \textbf{I/} & & \textbf{I} \\
\textbf{s} & \textbf{s} & \textbf{s*} & \textbf{s\ s} & \textbf{s*} & \textbf{s} & & \textbf{s}
\end{array}
$$

Fig. 1: Association lines between the tone and the syllable tier

2.2.1. ACCENT TONES: The starred tones – *H** or *L** – are associated with the prominent (stressed) syllables of the utterance. The contour tones *L*+H* and *L+H** consist of a starred tone and a trailing or a leading tone respectively. The leading tones describe the pitch curve before the starred tone, while the trailing tones show it after it.

2.2.2. PHRASE ACCENTS + BOUNDARY TONES: The notion of the pitch accent is stated first for Swedish by Bruce in order to represent phonologically the typical high tone at the right edge of the utterance before the very end (Bruce 1987). Pierrehumbert (1980) uses it first in this sense but in later works, e. g. Pierrehumbert/Beckman (1986), she regards it as a boundary tone (T-) of the intermediate phrase *ip*, the Intonational phrase *IP* which is the higher unit in the hierarchy is marked on the right by a boundary tone (T%). The end of the IP is characterized than by the combination of two boundary tones T- for the right most *ip* and T% for the end of the whole *IP*. In fact the boundary tone describes after convention most often the F0-movement on the last unaccented syllable of the utterance, for the phrase accent 'remains' then the balance between the nucleus (the last pitch accent) and the boundary tone.

In fig. 2a and 2b one possible and quite common presentation of the accent tones and the combination of phrase accent + a boundary tone can be seen.
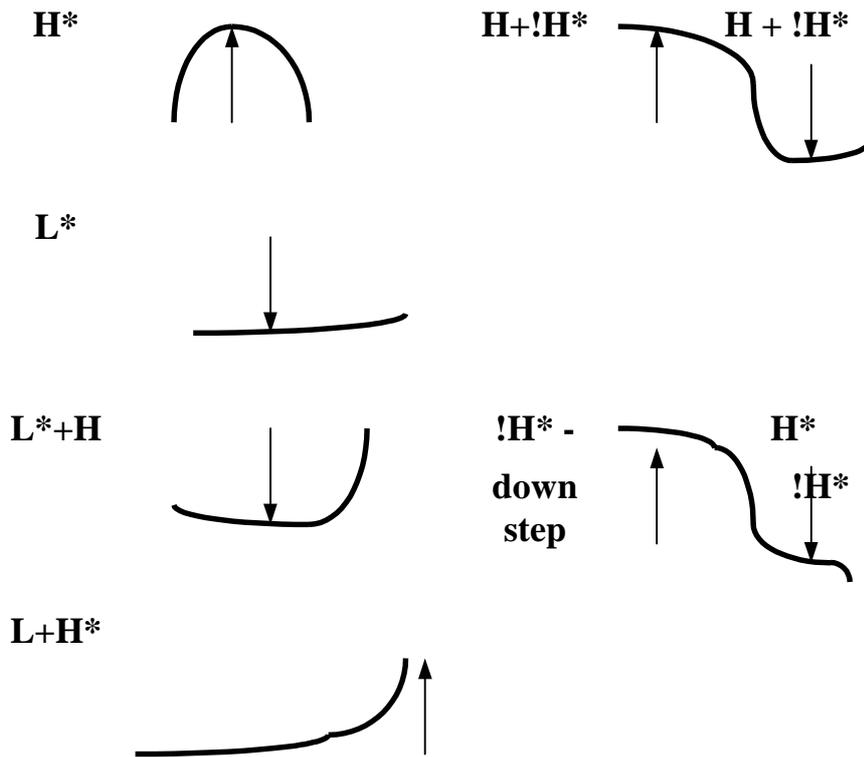
H*   **H+!H***   **H + !H***

L*

L*+H   **!H* -**   **H***
                          down   **!H***
                          step

L+H*

Fig. 2a: Accent tones in ToBI* (Beckman/Ayers 1994)

L-L%   **H-H%**   **L-H%**   **H-L%**
Fall   **Rise**   **Rise**   **Plateau**
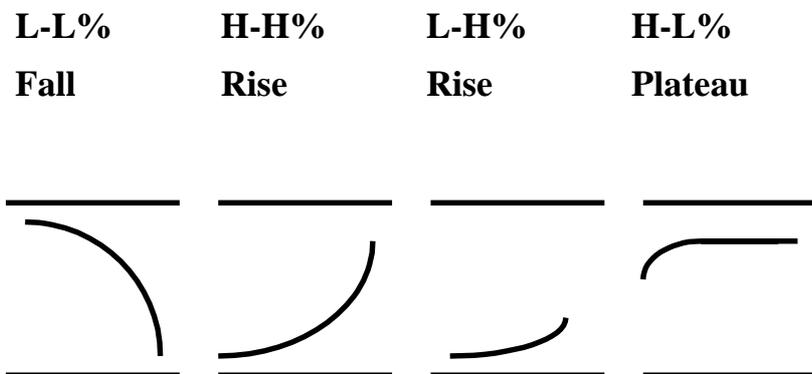
Fig. 2b: Phrase accents + boundary tones

3. Interrogative patterns in Sofia Erli and in Kalderaš

3.1. Preliminaries

The dialects under consideration belong to the two main Bulgarian dialect groups which differ slightly in their segmental phonological characteristics and in the way how 'yes-no'-questions are lexically marked (Boretzky 1994, 1996), namely, Erli uses the Bulgarian interrogative particle 'li', while Kalderaš mostly varies the intonation and accidentally uses 'li'.

3.1. The data: For Sofia Erli, recordings were conducted in 2 sessions with 3 speakers (female) – 42, 29 and 60 of age, respectively, all cleaners at the University of Sofia. For Kalderaš 2 recordings in 2 sessions with one informant (female) were used (Grigorova 1996).

3.2. Analysis of the data: All recordings were analysed first perceptively and then acoustically by means of X-Waves-program with the ToBI-tone inventory available at the Institute of Phonetics at the University of Saarland and a second time at the Institute of Natural Language Processing at the University of Stuttgart.

3.3. Results: The results are presented in table 1 and in fig. 3-22. My choice of the examples is based on the purpose of showing a most exhaustive picture of all possible tunes in combination with different pragmatic functions of the utterances.

3.4.1. WH-Questions

3.4.1.1. Kalderaš. Kalderaš belongs evidently to the languages that put the nuclear accent on the WH-word as long as the sentence is fairly short. In longer WHQs the nucleus can occur later in the phrase. This property Kalderaš is supposed to share with both Hungarian and Romanian (see Ladd 1996: 172). The WH-questions end usually low, i. e. L-L%. The rising-falling tune - L* H* L-L% – conveys at least for the foreigner's ear slightly emphatically but nevertheless seems to represent the unmarked case. The pattern L* L-H% sounds stylized i. e. 'singing' and is most likely to be interpreted as a polite, a non-persistent question.

3.4.1.2. Erli The patterns of prominence are almost identical with these of Kalderaš, while the accent tones seem to differ in their association with the text tier though the typical interrogative tone order for Bulgarian – LH – in both dialects is available. The right edge is usually described by L-L% and can be associated with the notion of unmarked question, while that ending on a high level tone – H-L%, sounds much more polite. Obviously both dialects differ in the way how 'politeness' in questions is expressed although both have something in common i.e. the interrogative phrase ends in the middle of the voice register.

TABLE 1

Questions	Kalderaš			Erli		
	Examples	Accent tones	Ph+B tones	Examples	Accent tones	Ph+B tones
Wh-Q	1. Kaj žas? 2. Kaste djan o manro?	L* L* H*	L-H% L-L%	1. Kozome brešengeri sinjan? 2. Kozome brešengeri sinjan?	L* H* L* H*	L-L% H-L%
Echo-Q	Sar sam?	L* H*	L-L%	1. Kozom čhaves <u>si li ma</u>? 2. Sar pučljan ma <u>sar sinjom</u>?	L*+H L*	L-L% L-H%
Alternative-Q	Voj <u>k'avel ili ni k'avel</u>?	L+H* H*	L-L%	1. Ov k'avel ili nanaj t'avo? 2. Dnjan li čhes o manro <u>ili na dinjan</u>?	H* H+!H*	L-L% H-L%
Yes-No-Q	1. Manges manro? 2. Ka žas manca po Dorja? 3. K'aves manca gaveste? 4. Ka žas manca khăre? 5. Ka žas manca ande planina?	L* L*L+H* L*L+H* L* L*L+H*	L-H% L-L% L-L% L-H% L-L%	1. Manges li pani? 2. K'aves li manca ako Dunavi? 3. K'aves li manca ando gav? 4.K'aves li manca khere?	L*+ H* L*+(H)H*!H* L*+H H* L*+(H) H*	H-L% L-L% L-L% H-L%

Questions	Kalderaš			Erli		
	Examples	Accent tones	Ph+B tones	Examples	Accent tones	Ph+B tones
Wh-Q	1. Where are you going? 2. Whom did you give the bread?	L* L* H*	L-H% L-L%	1. How old are you? 2. How old are you?	L* H* L* H*	L-L% H-L%
Echo-Q	How am I?	L* H*	L-L%	1. How many children I have? 2. What are you asking me how am I?	L*+H L*	L-L% L-H%
Alternative-Q	Is he coming or is he not?	L+H* H*	L-L%	1. Is he coming or <u>is he not</u>? 2. Did you give the child some bread <u>or not</u>?	H* H+!H*	L-L% H-L%
Yes-No-Q	1. Do you like some bread? 2. Will you come with me to the Danube? 3. Will you come with me to the village? 4. Will you come with me to my house? 5. Will you come with me to the mountains?	L* L*L+H* L*L+H* L* L*L+H*	L-H% L-L% L-L% L-H% L-L%	1. Would you like water? 2. Will you come with me to the Danube? 3. Will you come with me to the village? 4. Will you come with me to my house?	L*+ H* L*+(H)H*!H* L*+H H* L*+(H) H*	H-L% L-L% L-L% H-L%

3.4.2. Echo Questions

3.4.2.1. KALDERAŠ. In this particular case it is only the intonation that conveys the meaning of interrogation. Prominence patterns in Kalderaš represent the marked case - even in a short utterance as in the example in Table 1 both words (syllables) are accented. This fact supports the unique status of echo-questions among other questions. The tail is labelled as L-L% that captures presumably the phonological representation of the boundary tone which obeys phonetical constrains.

3.4.2.2. ERLI. Hereby we encounter two differing examples: a. the 'li' particle stands for the question and there is no need for the tune to serve the interrogative function of the utterance. Only the nuclear tone characteristic of Bulgarian 'li'-questions is available – L*+H, with the tail being communicatively unmarked – L-L%; b. the intonation alone marks the interrogation by means of L-H%. The examples for both dialects consistently differ from the patterns of the echo-questions in Bulgarian and Romanian, traditionally viewed as their contact languages (see for Bulgarian Tilkov 1981; for Romanian Mallinson 1986)

3.4.3. Alternative Questions

3.4.3.1. KALDERAŠ. The examples for this type of question are strikingly similar to the Bulgarian intonation pattern. In this particular case both patterns of prominence concentrate on the negation – 'ni' in Kalderaš and 'njama' in Bulgarian; the phrase ends on the lower part of the voice register with L-L%.

3.4.3.2. ERLI. Two possible patterns emerge as a result of analysis: the first one being equivalent to that of Kalderaš and Bulgarian. The second one sounds polite or uncertain leaving no possibility for the audience to feel offended as by the somewhat imperatively put question.

3.4.4. 'Yes-No'-Questions

3.4.4.1. KALDERAŠ. It is reasonable to expect that the 'yes-no'-questions in Kalderaš should be marked by inversion and intonationally, as in Romanian, because the dialect speakers very rarely use the Bulgarian interrogative particle 'li'. Table 1 displays two different patterns L-L% and L-H%. The L-L%-questions sound somehow emphatic but seem nevertheless to represent the unmarked case. The L-H%-questions can be considered as polite. Some of the L-L%-questions sound intonationally incomplete. Their surface can be described by the combination of H* !H-L%. The same can be related also to the echo-questions (see the discussion below).

3.4.4.2. Erli. Erli uses consistently the Bulgarian 'li' particle but displays nevertheless various intonational patterns: L-L%, L-H% and H-L%. All of them seem to be independent of the phonetic context. The latter two are not typical for Bulgarian. The L-L%-pattern sounds as the unmarked case whereas both latter patterns convey the meaning of politeness.

4. Discussion

Three problems remain for a short discussion:
1. Short remarks on the labelling of the final F0-movement in the Kalderaš echo- and 'yes-no'-questions, should it be L-L% or !H-L%.
2. The status of the final H-tone of the 'yes-no'-questions in Kalderaš: is it a 'postnuclear' accent tone nearly related to the main accent or should it be considered as a sort of phrase accent i.e. of *ip*-boundary tone.
3. The comparison of the observed interrogative patterns with these of the contact languages.

4.1. Some of the 'yes-no'-questions as for example *K'aves manca po Dorja* 'Will you come with me to the Danube' were first labelled H* !H-L%. As already pointed out the label !H-L% in Kalderaš is rather problematical. One possible explanation of the impression of 'non-completeness' gives the phonetic context – the last pitch accent (H*) together with the phrase accent+boundary tone shares the last syllable of the utterance. Phonetical constrains are then the cause of the phonologically underlying tones L-L% not to emerge on the surface. There are also some contra-arguments which could support the 'H* !H-L%'-label, e. g. the exclamation in fig. 12 *A-a-a ande Sofie!* ('Ah, from Sofia!') which show the tone tier H* !H-L%. The F0-curves of both 'yes-no'-questions and the exclamation are phonetically very similar but in the latter the edge tones can be regarded as "a special device" for expression of "incompleteness", namely the exclamation is followed by further exclamative phrases i. e. *Laše gavestar san! Laše forostar san!* 'You are from a nice village! You are from a nice town!'. Thus if the syntactic and the pragmatic function of intonation will be taken into account then the appropriate labelling should be H* !H-L%, where !H-L% is considered to convey the notion of "non-final", its function being to point on the following phrase i. e. on the fact that a continuation follows. In this version of the analysis I still prefer the L-L%-label for the 'yes-no'-questions because of the difference in the pragmatic function between the "question" and the "continuation rise" (see for the notion of "continuation rise" e. g. Pierrehumbert 1980).

4.2. Kalderaš posits as Romanian and Greek (Ladd 1996: 212) a theoretical problem of how to interpret the last H-tone in the 'yes-no'-questions (for more detail for Romanian see Daskălu 1975; Ladd, 1981). Ladd (Ladd 1996: 212) analyzes Greek and Romanian contours of

this type and introduces the notion of a "postnuclear tone" (similar problem arises evidently also in Palermo Italian – see Grice 1995, and in Irish English – see Nolan/Grabe 1997). The point of interest for us is that the Kalderaš F0-contours are very similar to those described by Daskălu (1975) and Ladd (1981), but in Kaladeraš there is more evidence for the "postnuclear" notion because the H-right-edge-tone does not "behave" as a boundary tone like in Romanian and in Greek. The exclamation example *A-a-a ande So'fie!* (H* !H-L%) supports this interpretation, moreover the utterance represents also a sort of rhetorical question.

4.3. As already pointed out Kalderaš displays in its interrogative intonational patterns some similarities with two Balkan languages, namely Romanian and Greek, and with Hungarian. This supports to some extent Ladd's hypothesis that there are some areal features of intonation (Ladd 1996) what makes the universalists' view less convincing.

The data of this analysis for Erli are stable and show a well-outlined inventory of tones without considerable labelling problems. No influence either from Bulgarian or from any neighbouring language can be established. Recent results posit more specific questions that cannot be solved within a relatively short pioneer study. My preliminary hypothesis was that a strong Bulgarian influence should be observable in Erli. The data display much more similarities (in the deep structures) between both Romani dialects than between Erli and Bulgarian.

In this respect more information must be offered. Intonational study of Bengali reveals a high tone on the right-utterance-edge followed by a short fall in questions (Hayes/Lahiri 1991) which can be interpreted only as a boundary tone (either of the Phonological phrase or of the Intonational phrase). The patterns resemble a little my results. This gives me good grounds for a further comparison of both dialects with other Indian languages as well as with other Bulgarian or Balkan Romani dialects. Another step of investigation should be establishing a more phonologically oriented model of the intonation of both dialects.
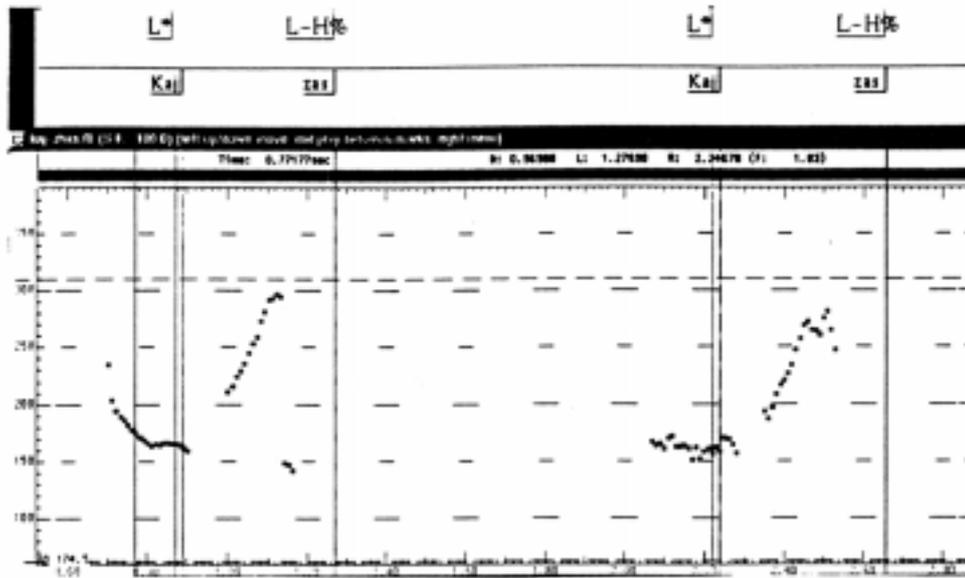
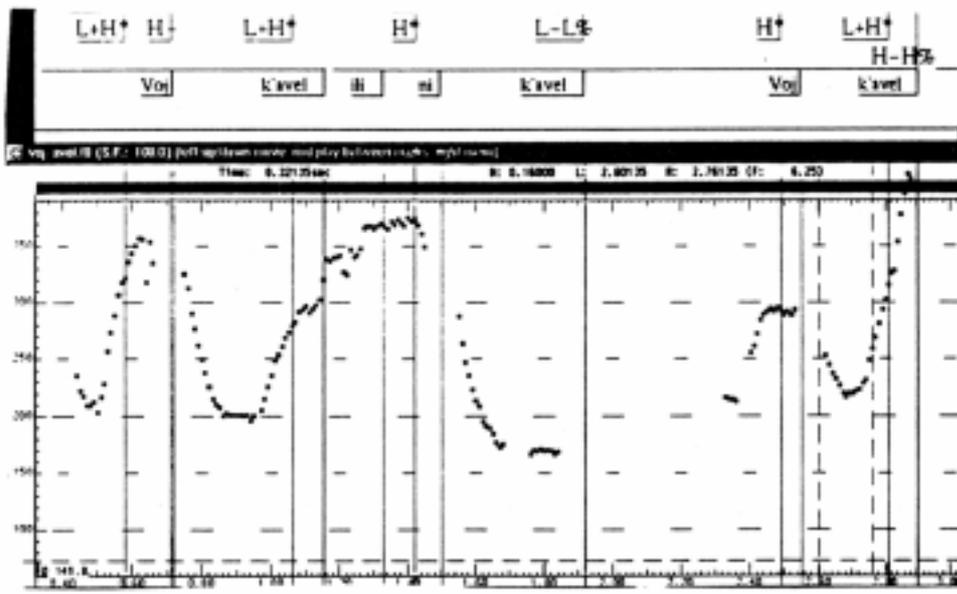## Fig. 3

Kaj žas?
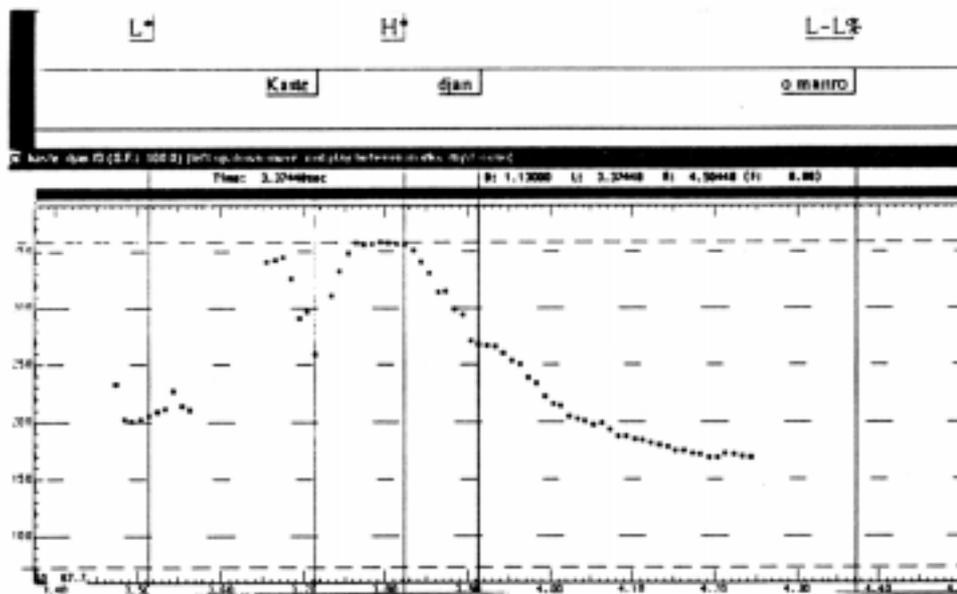
Fig. 4

Kaste djan o manro?
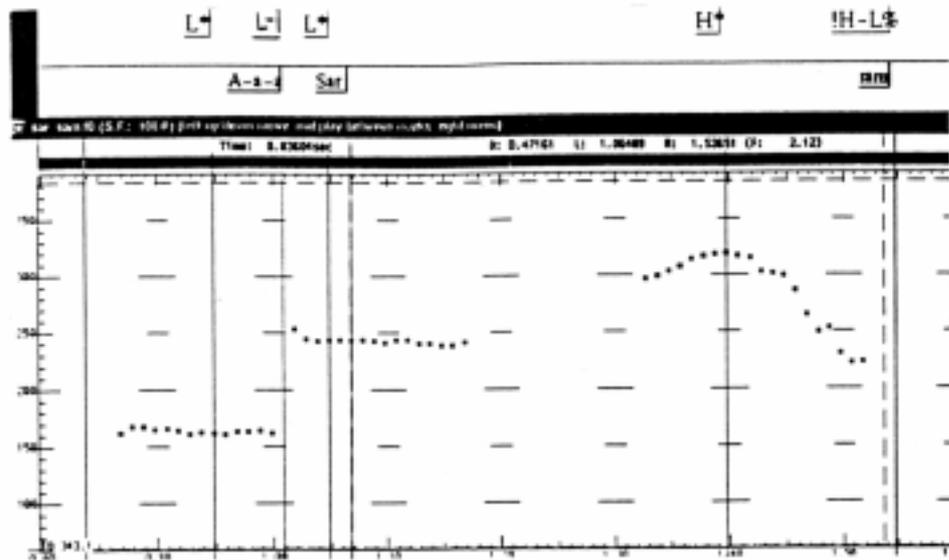
Fig. 5

Sar sam?
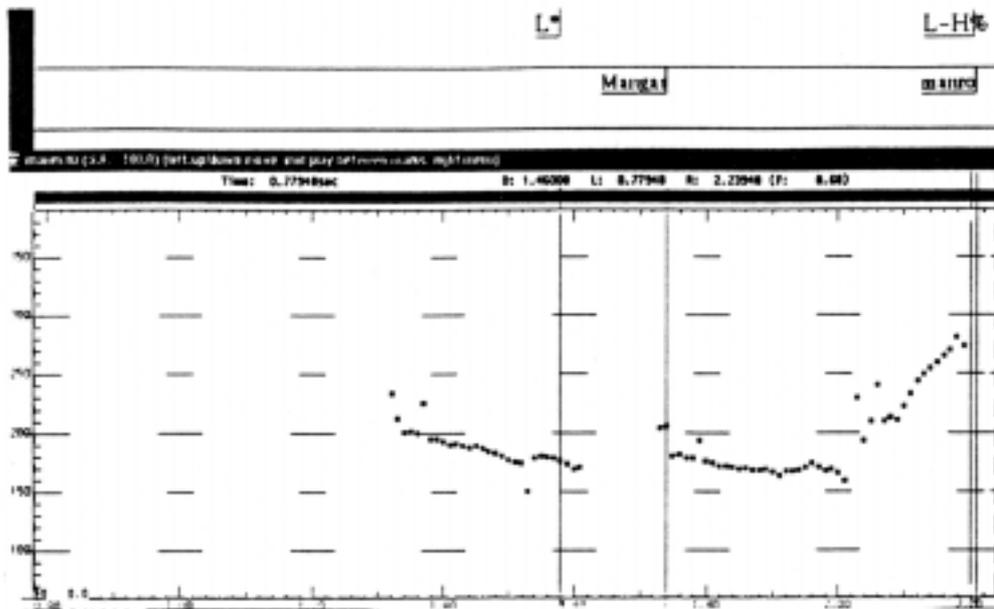
Fig. 6

Voj k'avel ili ni k'avel?

Fig. 7

Manges manro?
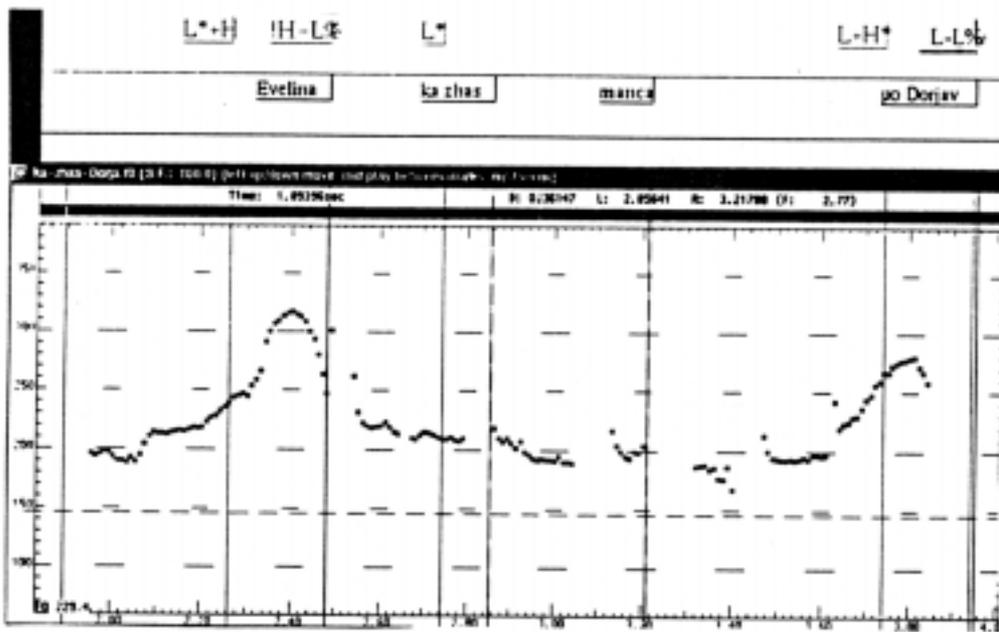
Fig. 8

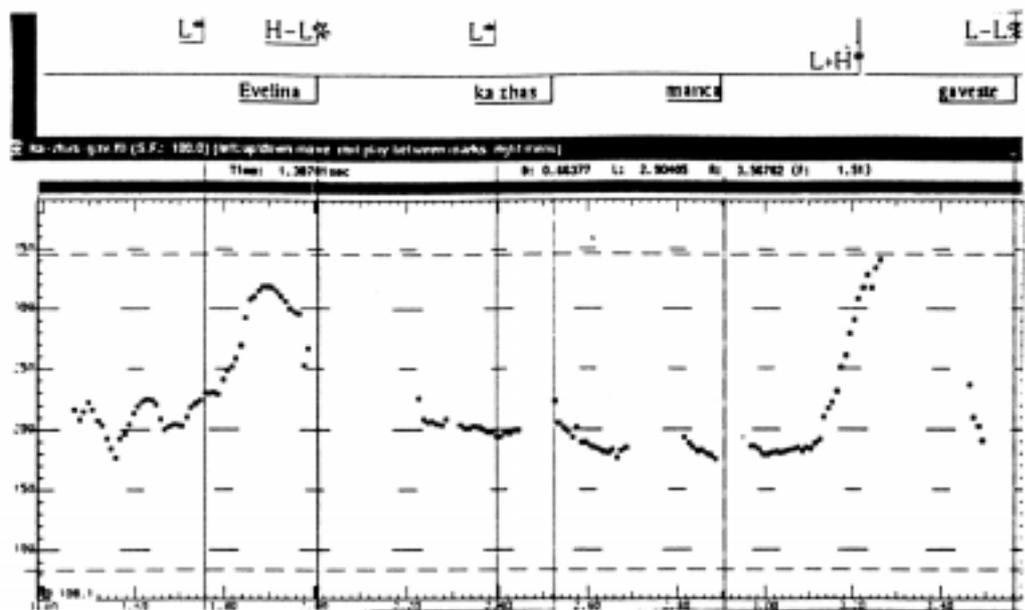**Ka žas manca po Dorja?**

Fig. 9

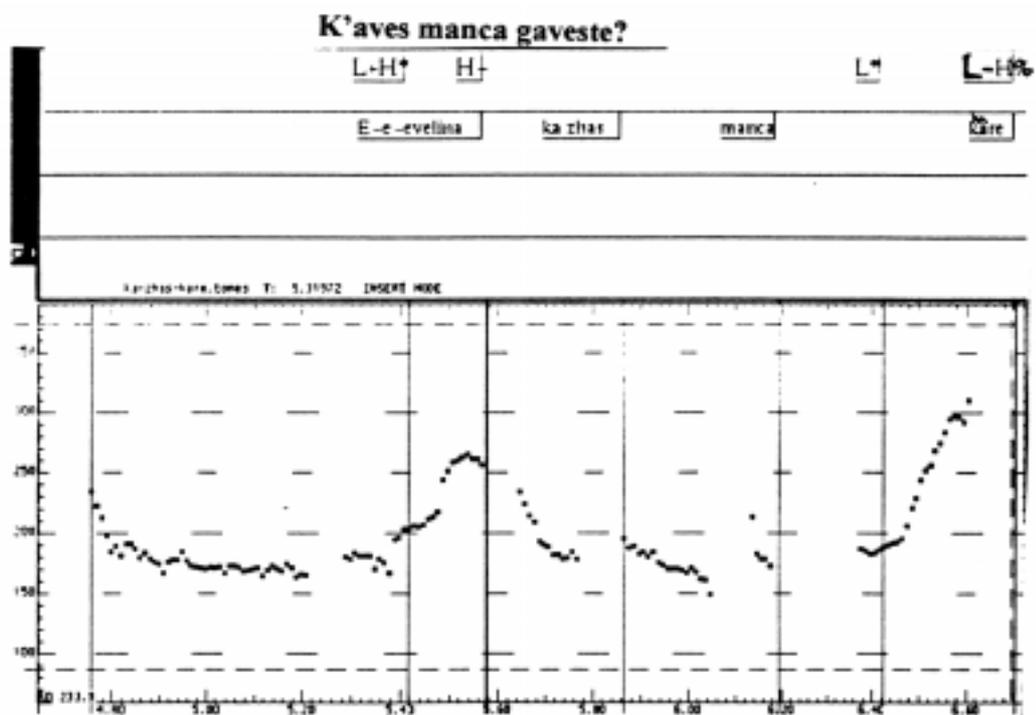**K'aves manca gaveste?**

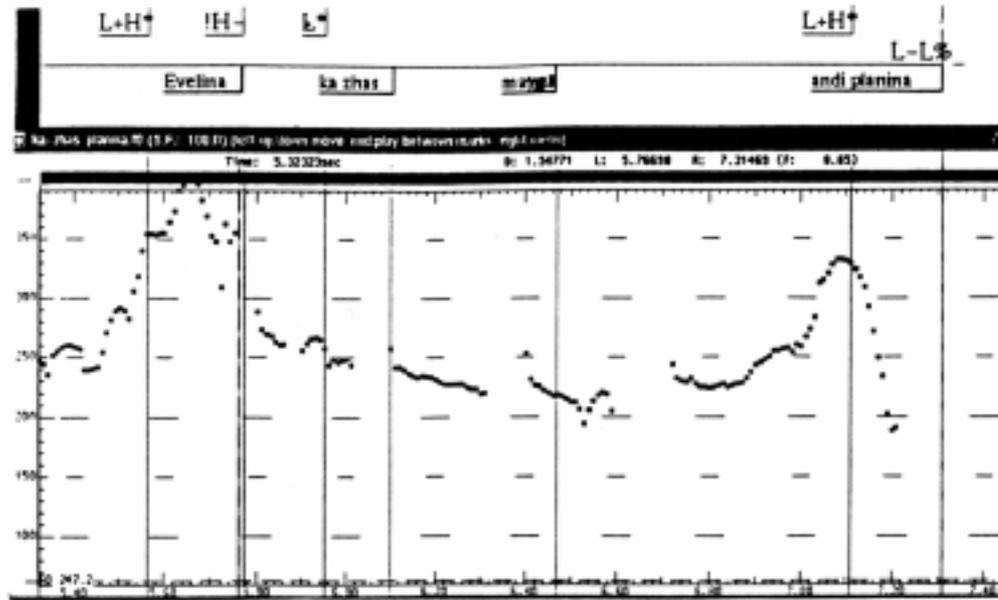**Fig. 10**

Ka žas manca khâre?
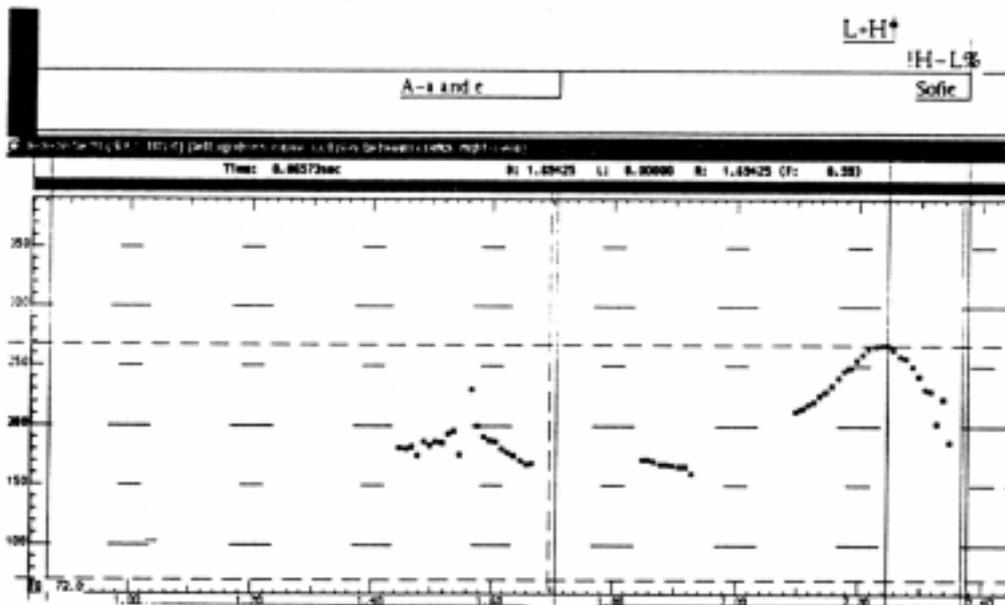
Fig. 11

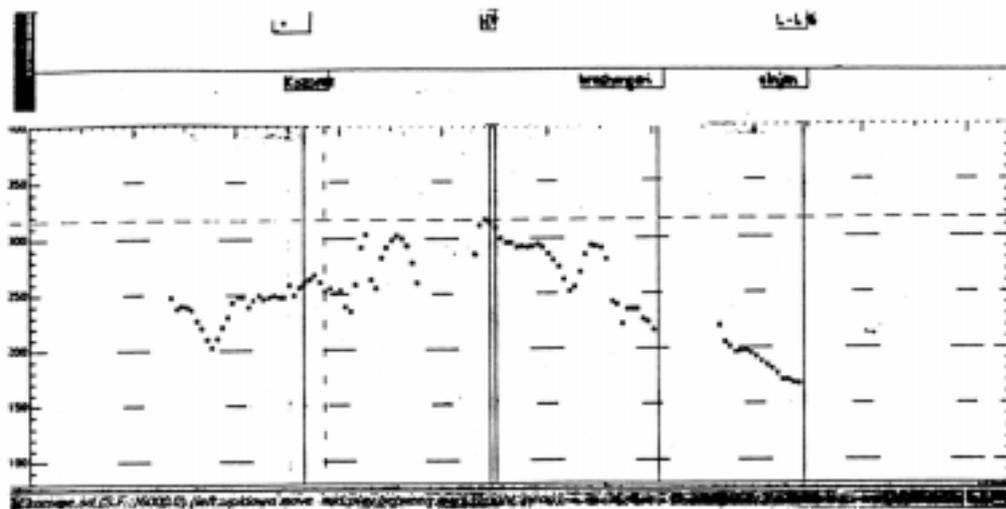Ka žas manca ande planina?

Fig. 12

A-a-a, ande Sofie!
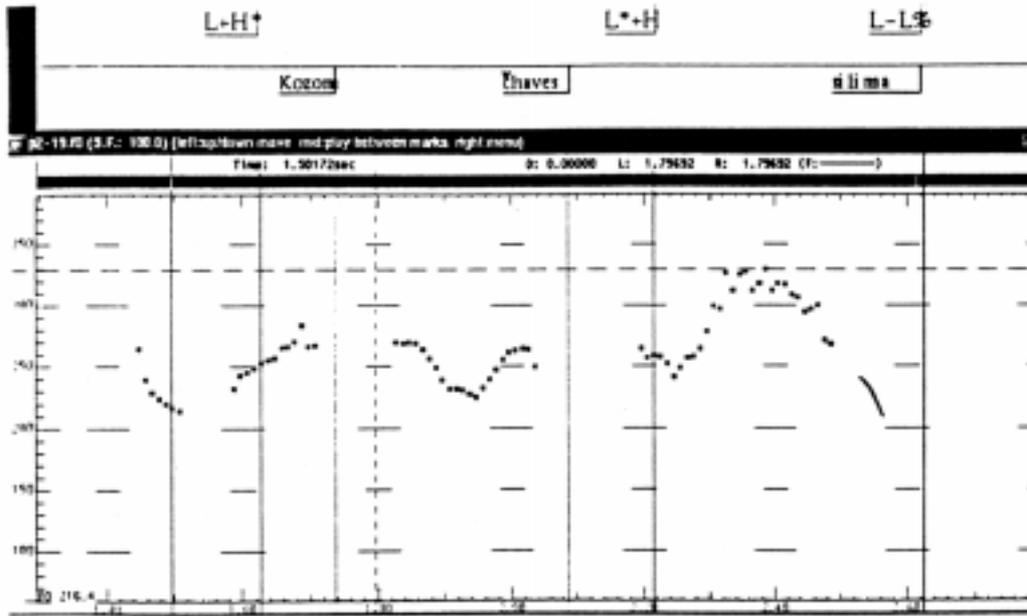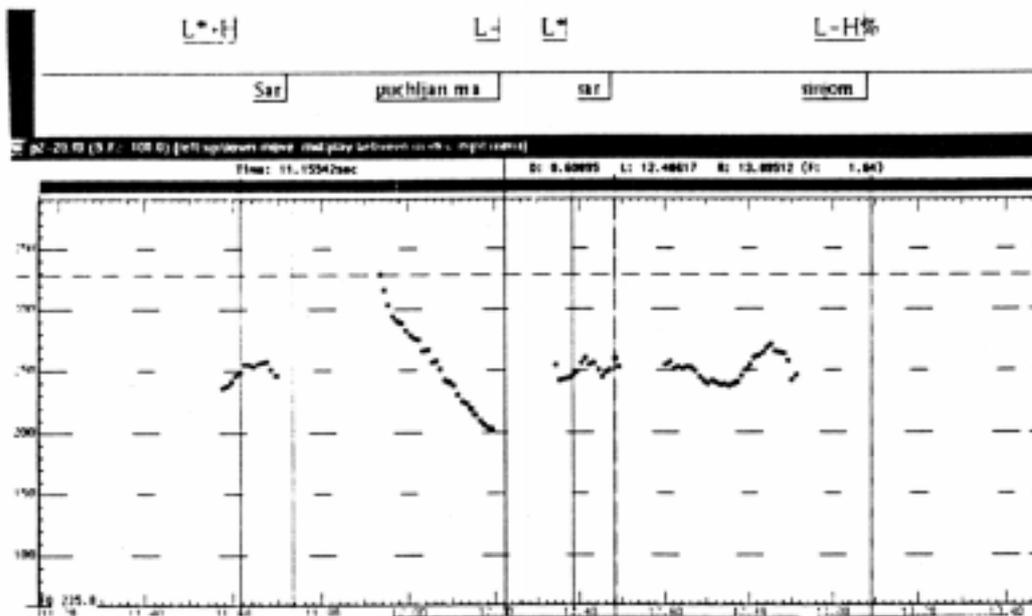
Fig. 13

Kozome brešengeri sinjan?
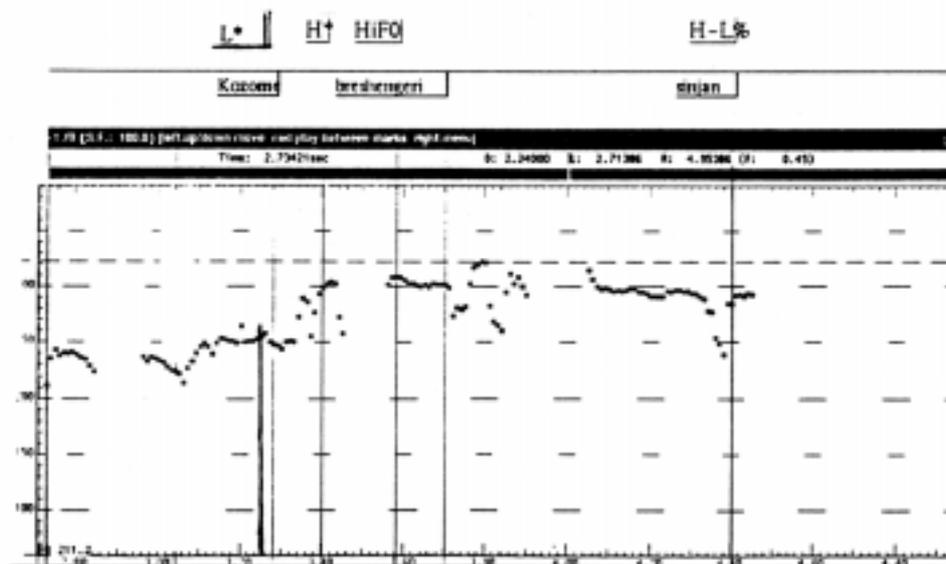
Fig. 14

Kozome brešengeri sinjan?

Fig. 15

Kozom čhaves si li ma?

Fig. 16

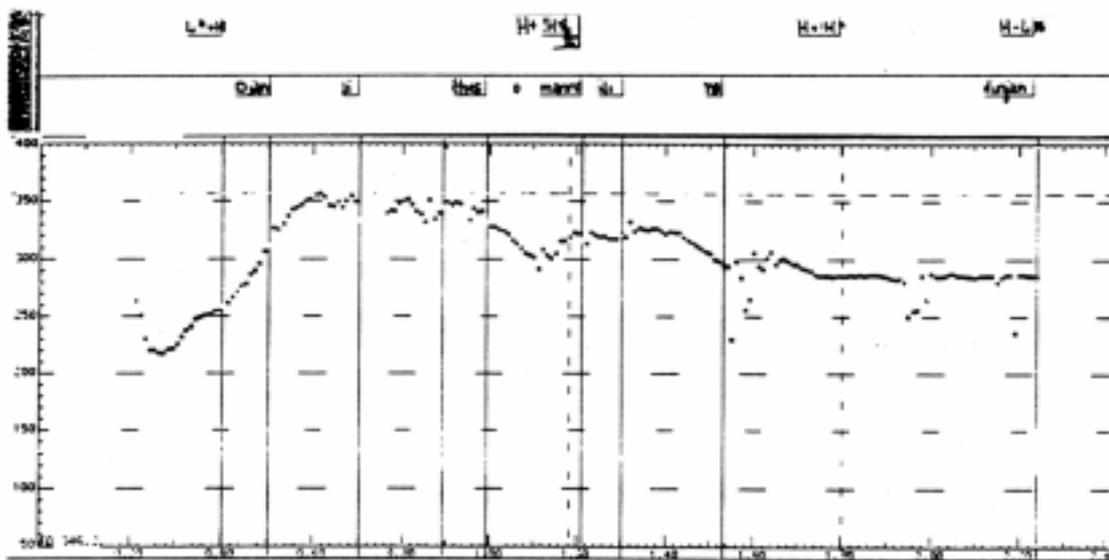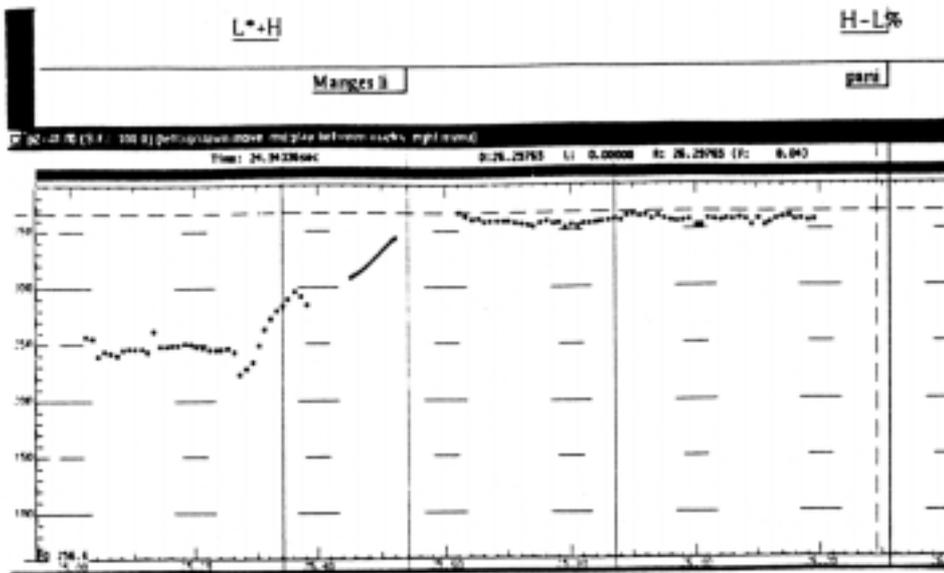**Sar pučljan ma sar sinjom?**
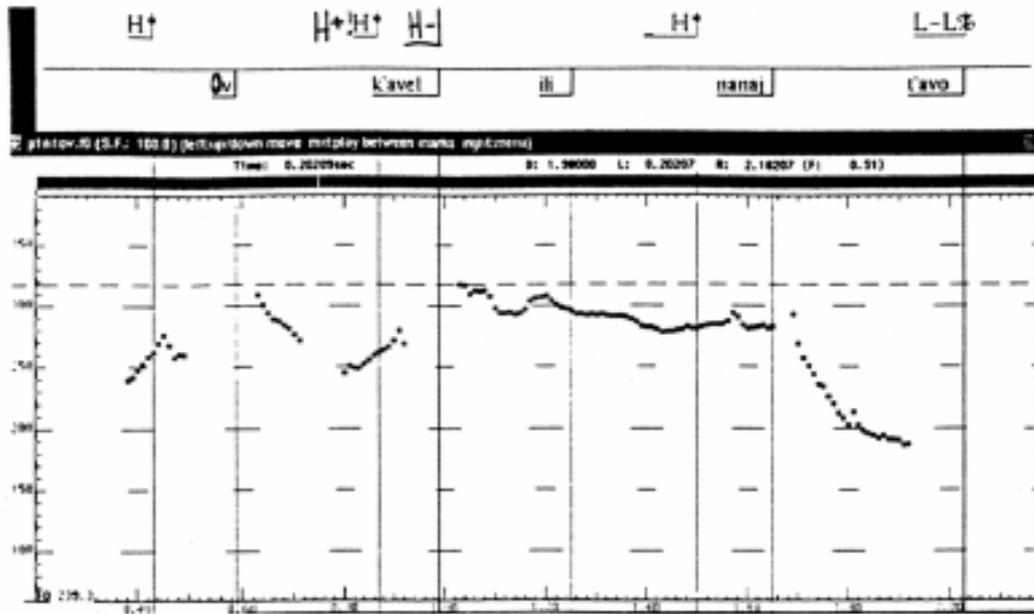
Fig. 17

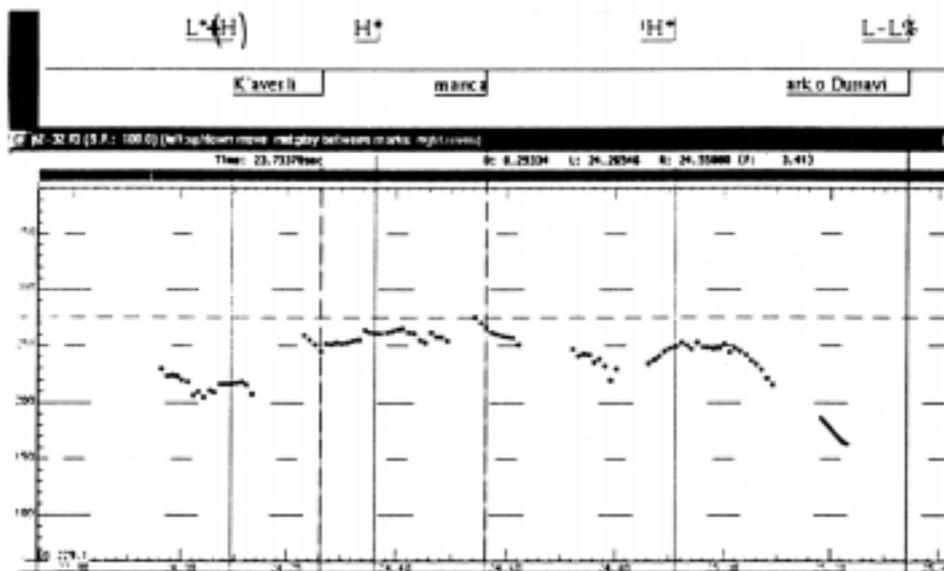Ov k'avel ili nanaj t'avo?

Fig. 18

Dnjan li čhes o manro ili na dinjan?

Fig. 19

Manges li pani?

Fig. 20

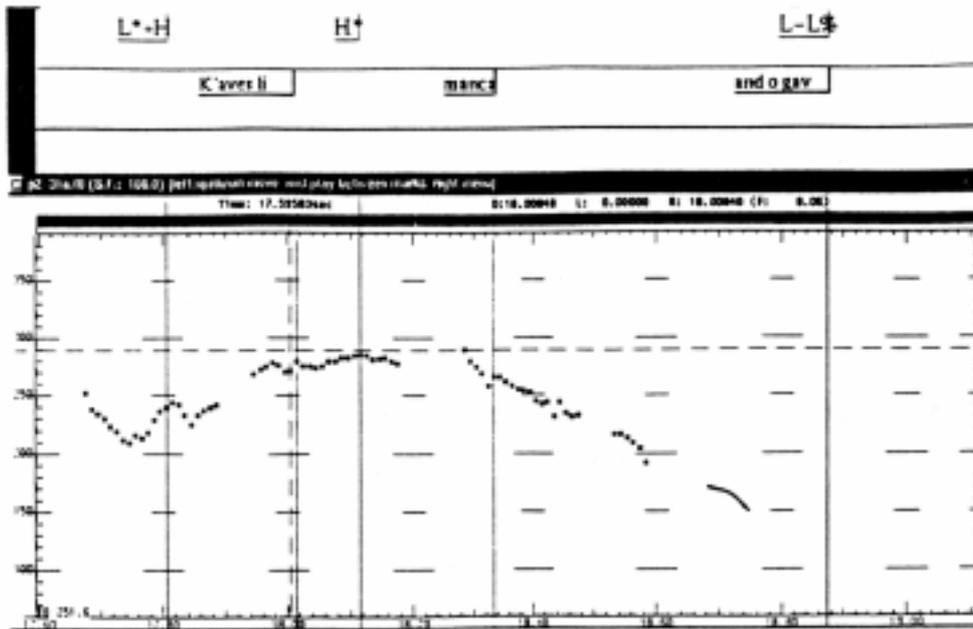**K'aves li manca ako Dunavi?**

Fig. 21

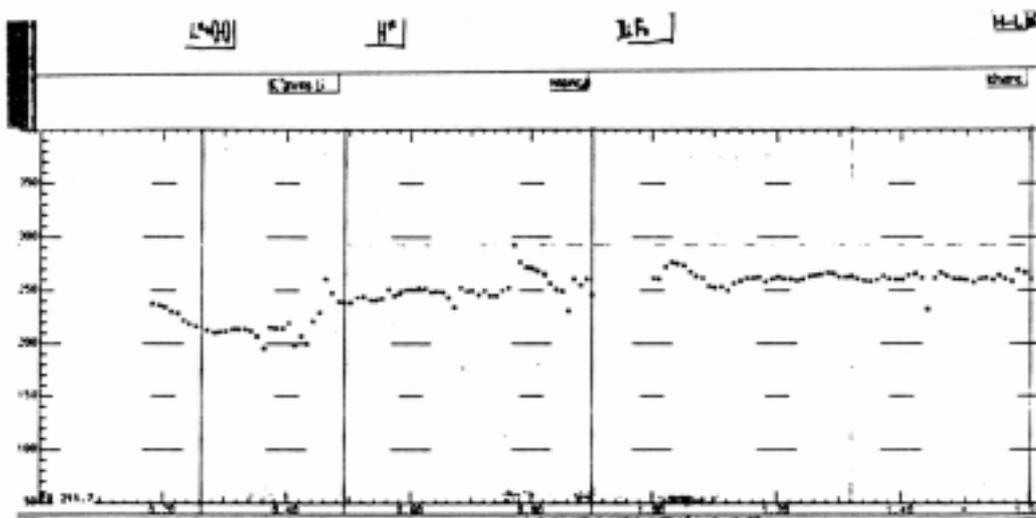**K'aves li manca ando gav?**

Fig. 22

K'aves li manca khere?

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