

## Terminally Rising Pitch Contours of Response Tokens in Estonian

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*The prosody of response tokens has not yet been the focus of many studies. The present paper concentrates on conversational sequences in which the speaker suspends the continuation of an initiated turn or action in order to elicit an acknowledgement. In these sequential positions, the Estonian subjects produce terminally rising response tokens. At the same time, linguists working with laboratory data have generally claimed that there are no rising contours in Estonian. The paper argues that the Estonian terminally rising pitch contours of response tokens are "doing expecting more to come." They seem to display an understanding of and orientation to a larger ongoing action of the kind which the interlocutor is responsible for carrying out. Since questions are done with falling contours in Estonian, the study proposes that go-aheads are not a type of question, as suggested in earlier conversation analytic literature.*

Different kinds of response tokens have attracted considerable attention in conversation analytic studies (e.g. Heritage, 1984; Schegloff, 1982; Sorjonen, 1996, 2001). Although the authors agree that the prosody of these items may be of crucial importance in their functioning, not many studies have focused specifically on this issue (see however, Müller, 1996; Lindström, 1999). At the same time, it has been clear that prosody is relevant for basic interactional structures such as turn-taking and sequencing, and that as a resource for interactants, it is relatively independent from other levels of language (e.g. Auer, 1996; Couper-Kuhlen & Selting, 1996; Ford, Fox, & Thompson, 1996; Ford & Thompson, 1996; Selting, 1996). It is becoming clear that just like other minute details of language use, prosodic cues may contribute to what is meant and understood at every point in conversation and to what gets done in a sequence.

The present paper will examine the use of rising pitch contours in Estonian when used with response tokens. It will be shown how the usage of this prosodic feature implies orientation to a larger ongoing action which the interlocutor is responsible for. The initial short overview of studies on Estonian intonation will be followed by a close analysis of three different action sequences where terminally rising response tokens are used: reason-for-the-call sequences, pre-sequences, and dictation sequences.

### Laboratory studies of Estonian intonation

Whenever linguists have talked about intonation in Estonian, they have assumed that it is terminally falling (Ariste, 1939, 1965; Laugaste, 1974; Mutt, 1978; Pajupuu, 1990, 1999, 2001; Peters, 1926, 1927; Saari, 1976, etc.). Early students

compared Estonian intonation with the much livelier intonation of English and French, and found it monotonous, meaningless, and dull. They stated that intonation never distinguished between different sentence types in Estonian and claimed that statements, questions, exclamations, and orders—everything—was produced with the same sentence melody.

With the development of experimental phonetics, these impressions have found some empirical support. However, laboratory experiments have also proved that the speakers make a distinction between different sentence types on the basis of their prosody. The difference between statements, yes/no-questions, continuing items, and exclamations has been shown to lie mainly in the height and timing of pitch accent (Mihkla, Meister, & Eek, 2000; Vende, 1973, 1982), and the overall height and/or frequency change in the prosodic contour (Lippus, Niit, & Rimmel, 1977; Asu & Nolan, 2001).

A classic example of this kind of research in Estonian phonetics is given in Figure 1. In this perceptual experiment, carried out by Vende (1982), the stimuli were synthesized. Vende took a multifunctional and monosyllabic Estonian word *saab* 'to get, obtain, receive, become, be able, manage, suffice, do: 3SG' and manipulated its pitch height at several points in the vowel (initial, peak, final) as well as the timing of the turning point (which is the highest point of the pitch contour in the graph). He then presented the 228 stimuli to 100 speakers who had to classify each one as a question, a statement, an exclamation, or an incomplete item.

All the identified contours were falling. Exclamations and questions rose to a higher pitch and had a steeper fall. Furthermore, questions had a slightly later turning point than the other categories, and exclamations had a slightly higher final pitch than questions. There was also a fairly significant difference between 5

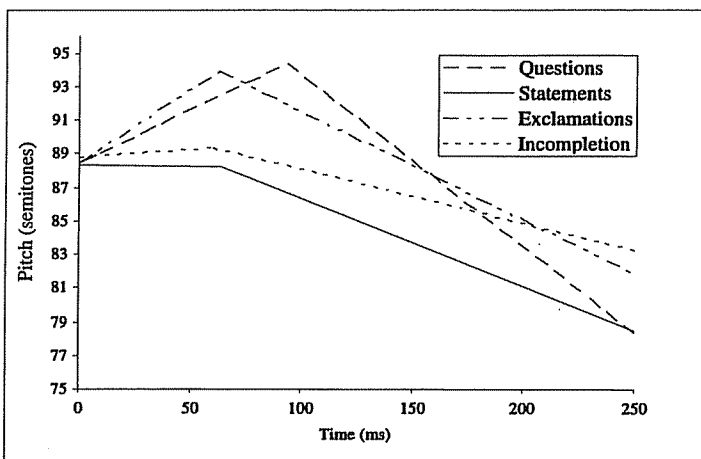


Figure 1: Average contours of synthesized monosyllabic utterances identified as questions, statements, exclamations, or incomplete utterances by 50% or more listeners. Adapted from Vende (1982, p. 97) by Asu (2001).

complete and incomplete utterances: Complete utterances ended at the bottom of the speaker's pitch range whereas incomplete utterances ended about five semitones higher.

In many laboratory studies of both perception and production, it has been shown that the prosodic difference between sentence types in Estonian has to do with the overall pitch height. Above all, questions seem to be generally produced at a higher pitch than answers (Vende, 1973; Wiik, 1991). This is true even for conversational data: Questions, second position repair initiations and even try-marked items are usually done with question intonation in Estonian conversations, in other words, with a relatively steep fall. Only in a recent experiment by Asu (2001) is there evidence of optional rising contours on questions in a read-aloud paragraph. Since none of the earlier reports have mentioned this or have discarded it as foreign, she hypothesizes that terminally rising contours on questions may be a feature currently introduced in the speech of younger speakers (her informants were exclusively female).

Taking this abundant evidence of falling pitch into account, it was very surprising for the author of this paper to find numerous rising pitch contours in conversational data. Most of them occurred in positions and functions that would have been impossible to discover in laboratory studies designed as above, which used only monologues or single words, and four or five preconceived (syntactic/prosodic) categories.

## THE DATA

The corpus used for this study consists of naturally occurring phone conversations of two types: 109 telemarketing calls from one of the biggest daily newspapers in Estonia, and 213 everyday calls between family members, relatives, friends, and colleagues. In all, there are more than 10 hours of conversational language and about 103,000 words in the corpus. The corpus includes speakers of both sexes and all ages but there is somewhat more data from younger females.

In a brief perceptual pilot study of one of the longer informal phone calls, it turned out that more than eight percent of the intonation units (defined after Du Bois, Schuetze-Coburn, Cumming, & Paolino, 1992) involved a terminal rise (33 out of 385). Interestingly, a majority of them (21) occurred on response tokens (e.g., *noo/noh* 'okay/yeah', *jaa/jah* 'yeah', *mhmh* 'uhuh', *ahah*—information receipt token). And altogether 66% of the response tokens had a rising contour. This suggested that there might be a genuine rising pitch contour pattern in Estonian, possibly used for projecting continuation.

### Terminally rising response tokens in reason-for-the-call sequences

The present paper will focus on conversational sequences in which the speaker suspends the continuation of an already initiated turn (which is pragmatically incomplete) or action in order to elicit an acknowledgement. In some of the relevant

cases, the speaker produces what Sacks and Schegloff (1979) call recognitionals — referential forms whose referents are expected to be recognized by the listener. The crucial fact is that after the production of a response token by the interlocutor, the speaker is expected to continue. In these positions, the Estonian subjects regularly produce items with a terminally rising pitch contour, as shown in line 2 in Example 1.<sup>2</sup>

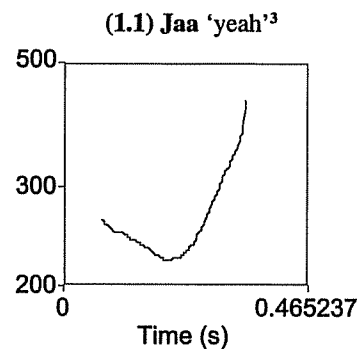
#### Example 1: The Paper (Rising)

The telemarketer and the potential client have exchanged greetings.

- 1 T: Elistame teile Liivi Linnalehest Tallinnast.  
*We are calling you from Liivi Linnaleht in Tallinn*
- 2 C: **Jaa ?**  
*Yeah*
- 3 T: Kas teie loete ka aeg-ajalt Liivi Linnalehte.  
*Do you sometimes read Liivi Linnaleht*

In the above example, the telemarketer T lowers his pitch at the end of line 1 and suspends his turn to elicit some kind of acknowledgement after he has produced the name of the newspaper and the town he is calling from—both of which should be recognizable for the potential client. After the acknowledgement by the client, he continues by initiating what appears to be a pre-sequence of a subscription offer. The *jaa* in line 2 thus seems to function as a kind of “go-ahead.”

The logarithmic contour of the response token is given in (1.1). It is characteristic of the contours in this sequential position that there may be a fall in the beginning but that it is relatively short. The greater part of the contour is rising and the rise is relatively big, usually arriving at a considerably higher level than the starting point.



Example 2 shows a more extensive use of the terminally rising contour. This is the beginning of a call in which the caller T wants his friend A to do a job for somebody. All the way from after the greeting by the caller until the reason for the call has finally been presented as a whole (in line 16), the answerer only produces response tokens with rising contours, functioning as go-aheads.

#### Example 2: The Project (Flat/Constant)

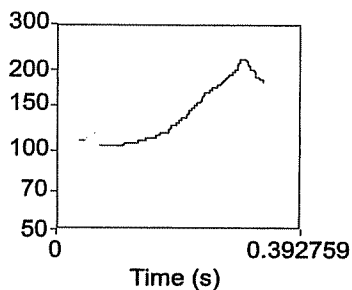
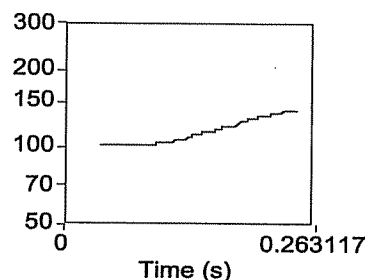
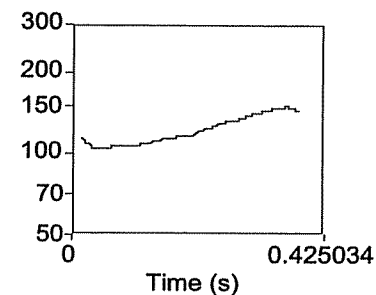
- 1 A: Tervist, Alo Kelder [ku]juleb.=  
*Hi, Alo Kelder listening*
- 2 T: [A]
- 3 T: =Tere õhtust e. (.) [ma ] olen Aus Tambet.  
*Good evening, this is Aus Tambet*
- 4 A: [Noo ?]  
*Yeah*
- 5 A: **Jaa ?**  
*Yes*
- 6 T: Kuule Alo. .hh a=  
*Listen, Alo*
- 7 A: =Noo= -  
*Yeah*
- 8 T: =Tead üks mees, ma käisin täna taga sõidus e, teeb ühte  
*You know, a guy – I drove him around today – he's doing*
- 9 Mingit Ameeriklastele mingit projekti. .hhh  
*some kind of a project for the Americans*
- 10 A: **Noo= ?**  
*Yeah/Okay*
- 11 T: =Ja tahaks mingit väikest elektri: eelarvet.  
*And he would need a small electricity budget*
- 12 A: **Noo ?**  
*Yeah/Okay*
- 13 T: .hh No seal on e, .h mingid toit- e kaabliredelid ja: ja ja  
*Well, there are some cable holders and*
- 14 kaablid ja, h (.) üks ki- suur kilp ja valgustid on.  
*cables and a big fuse box and lamps*

- 15 A: Mhmh ?  
Uhuh
- 16 T: Muud ei ole.  
Nothing else

After introducing himself and hearing the greeting in line 3, the speaker A produces the first go-ahead item *noo?*, which may indicate that he has recognized the caller even before he says his name. In overlap, however, the caller introduces himself, which is again received with a go-ahead item *jaa?*. The caller then initiates the sequence of giving his reason for the call. Lines 6–9 can be seen as a preface to the implicit job offer in line 11, and they are treated as such. In line 6, *kuule Alo* 'listen, Alo' projects a continuation both in terms of the upcoming action and possibly even prosodically, since the pitch does not fall as low as it could. After that the answerer A produces another response token that is cut off by T, who goes on to provide background information about the person offering the job (lines 8–9). This multi-unit turn is finalized with a steep fall in pitch, again followed by a go-ahead item (*noo?*). In all the above positions, it is quite clear that there is more to come from T, which is acknowledged among other things by A's go-ahead responses. Even the statement that the person wants an electricity budget (in line 11), is received with a go-ahead (*noo?*) by A, which may result in the continuation by T with more details about the job in lines 13–14. By using a go-ahead item in this position, A treats even the statement about the budget as a preface to the possibly more explicit job offer to him.

The *noo* in line 4 is overlapped and the *mhmh* in line 15 is too weak to yield a pitch trace, so these three are marked as terminally rising on purely perceptual grounds. The rest of the contours are given below (all the contours are given on a logarithmic scale).

There are three features of these examples to be noticed here. First, terminal rises are produced with different response tokens. It seems to be the sequential position and the ongoing activity that trigger the intonation and not the specific

(2.1) *Jaa* 'yeah' (line 5)(2.2) *Noo* 'okay/yeah' (line 10)(2.3) *Noo* 'okay/yeah' (line 12)

item with which it is produced. *Jaa/jah* 'yeah', *noo/noh* 'yeah/okay', *nii* 'so', and occasionally even *ma kuulan* 'I'm listening' are interchangeable in some of these positions with just minor connotation differences (e.g. *jaa/jah* may be preferred in positions after yes/no-questions). Thus, it seems that the rising pitch contour is at least to some extent independent of the lexical items with which it is produced.

Second, the response tokens that are not produced after recognitionals may have somewhat different acoustic characteristics than the ones used after recognitionals. The contour seems to be flatter (compare contours 2.2 and 2.3 to 1.1 and 2.1), and the initial fall may be steeper (see contours below 5.4–5.6). However, whether these are really recurrent differences remains to be demonstrated.

Third, I would like to point out that continuers like *mhmh* and *ähäh*, both 'uhuh', are very often produced with rising pitch. The change in pitch, however, tends to be noticeably smaller than on the more "pushy" response items *jaa/jah*, *noo/noh*, and *nii*. Sometimes they urge the speaker to continue and sometimes they do not, possibly depending on the height of the rise and where the item is produced in the pitch range of the speaker. (The *mhmh* in line 15 above can be heard as not urging the interlocutor to continue because of its relatively small rise and because of the exact melody of the token. Nevertheless, perhaps because of the minimality of *mhmh*, the interlocutor continues his offer by claiming that there is not much involved in this job.) I would like to leave *mhmh*s and *ähäh*s aside for the time being, even if they may sometimes function in the same way as the other response tokens with rising contours.

One of the obvious questions about the above examples would be—what if it does not matter what you do in these positions after a suspended turn/action—as long as you do not disalign explicitly, the speaker will continue. Thus, to return to Example 1, the answerer could be silent in line 2 and the telemarketer would still give his reason for the call. After all, telemarketers continue whatever you do. The present corpus includes cases where there is a pause instead of *jaa* in a sequence that is otherwise exactly the same as in Example 1. If the answerer of the phone call does not initiate a topic in this position after caller presentation, the caller herself has to initiate the first topic. Most frequently, the callers give the reason for the call. Therefore, it is very hard to prove that the prosody is sequentially relevant

in other words, that it has any impact on the way the sequence evolves after it.

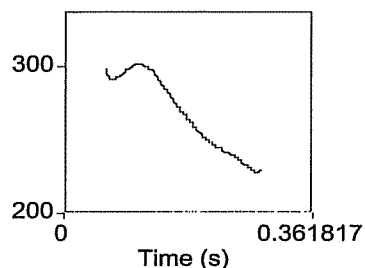
It is, for example, hard to find deviant cases, especially in the recognition sequences at the beginning of phone calls where the rising pitch contours on the response tokens by the answerers are prevalent. Furthermore, the use of a falling or a level contour does not seem to change the way the sequence is continued. Example 3 is very similar to Example 1. This is the beginning of a telemarketing call, and the potential client uses the response token *noo*. As was mentioned above, *jaa* and *noo* are interchangeable in many contexts, *noo* being possibly somewhat more “pushy.”

### Example 3: The Paper (Falling)

The client and the telemarketer have exchanged greetings.

- 1 T: Elistame teile Liivi Linnalehest Tallinnast.  
*We are calling you from Liivi Linnaleht in Tallinn*
- 2 C: Noo.  
*Yeah/Oh*
- 3 T: Kas teie loete ka aeg-ajalt Liivi Linnalehte.  
*Do you read Liivi Linnaleht sometimes*

(3.1) Noo ‘yeah/oh’



The direction of terminal pitch movement does thus not seem to have a direct impact on the subsequent evolution of these kind of sequences. Possibly, the falling contour has more of a flavor of surprise for speakers of Estonian and thus the *noo* in line 2 above would not be heard unequivocally as a go-ahead. Therefore, it seems that the only thing we can say about the terminally rising pitch contours of response tokens is that this prosodic pattern is frequently used in this sequential position for displaying recognition and/or giving a go-ahead for the caller to give the reason for the call.

In contrast, however, we can see how the go-ahead in line 12 in Example 2 above most probably contributed to the fact that the caller continued with additional

information about the job. Both the lexical item *noo* and the terminally rising pitch contour seemed to play a part in it. Considering this excerpt, it is hard to see why the terminally rising contours would be restricted only to the reason-for-the-call sequences at the beginning of phone calls. Even if the rise is very frequent there, it actually seems to have a more general application.

### Terminally rising response tokens in pre-sequences

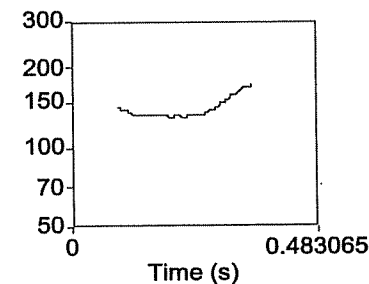
As we could see in Example 2, the terminally rising contour was used after what was characterized as a preface to the job offer. On the basis of this excerpt, it is not hard to realize that go-aheads also occur later in conversations, and specifically in pre-sequences. For example, a simple answer to a question may be produced as a go-ahead item, presumably displaying understanding of a continuation being underway. Example 4 is a case in point.

The caller K has been asking about the new table that V is supposed to be putting together. V has said earlier that so far he has only been studying the instructions. In line 1, K asks whether V’s father is also scrutinizing the instructions.

### Example 4: The ride

- 1 K: Koos jsaga uurid ve.  
*Are you studying (it) together with your father*
- 2 V: Jaa= ?  
*Yes/So what*
- 3 K: =Vä:ga hea .hh kule ega sul bensijini tülearu ei ole.  
*Very good, listen, do you (happen to) have extra gas*
- 4 V: ee Mai tea nüüd- @@ .h mis: eee plaanid on.  
*I don't know, what are the plans*
- 5 K: Noo, ee, oleks sõitnud Sakku.  
*Well, (I) would have liked (you) to drive (me) to Saku*

(4.1) Jaa ‘yes/so what’



Even if the question in line 1 explicitly asks whether the father is also studying the instruction, it is designed to make sure that the father is at home and thus his car as well. This analysis is confirmed by K's next turn in line 3, in which he acknowledges V's affirmative answer with *väga hea* 'very good' and continues with an explicit request for a ride. The sequence in lines 1–2 is actually a pre-sequence for the request to come, and V demonstrates his understanding of this ongoing activity by producing a go-ahead item instead of merely answering *jaa* 'yes,' which in Estonian would have typically been done with falling intonation.

Relatively independently from the affirmative answer *jaa* 'yes', the prosody indicates that something is expected to follow, an account of why K had inquired about the father. This is a typical pre-sequence and the expected continuation is quite likely to be a request or an offer. By using the prosodic pattern of terminal rise, the interlocutor shows his orientation to and understanding of this larger ongoing activity.

### Terminally rising response tokens in dictation

Finally, we will look at an activity that very often involves short responses by the interlocutor: namely, dictation. It is not rare in phone calls that a phone number or an address is dictated. In every language community, there seems to be a conventional way of doing it, (e.g., grouping the numbers in pairs or in triplets, telling the name of the street or the number of the building first, etc.). It also involves conventional prosodic patterns (Keevallik, 2002). Among other things, some kind of reaction on behalf of the interlocutor may be in place or even explicitly elicited, partly because the dictation activity usually implies that the recipient is writing the information down. Often the speakers establish a rhythmic pattern between themselves, with dictation stretches and responses interchanging at equal intervals.

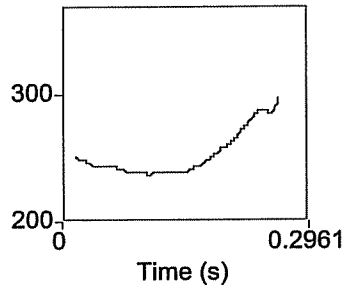
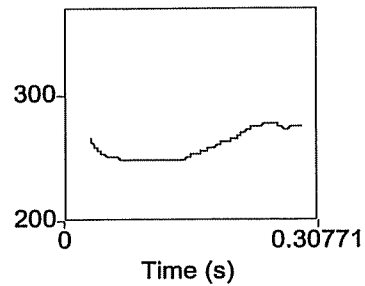
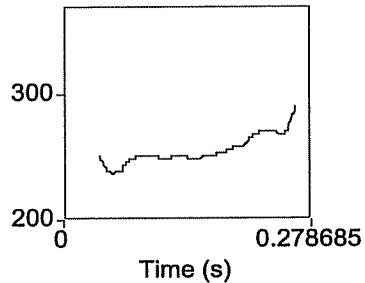
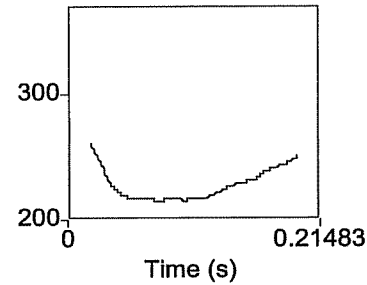
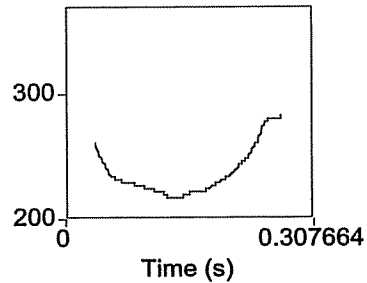
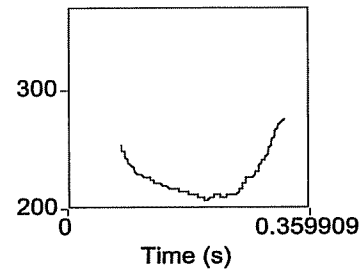
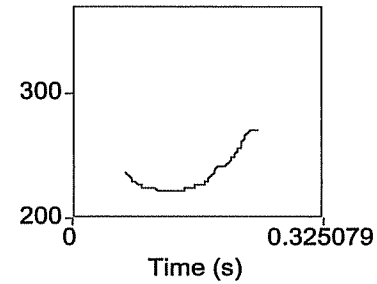
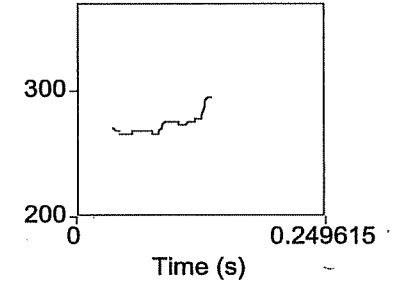
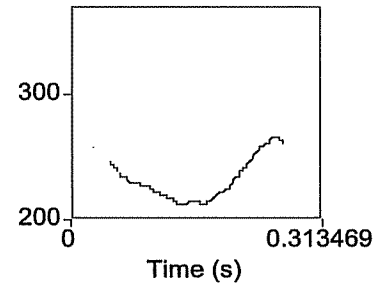
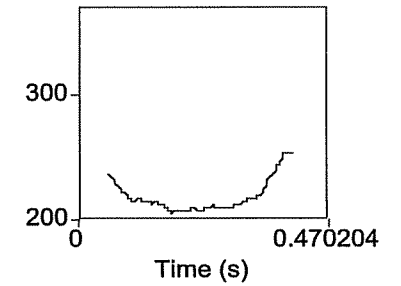
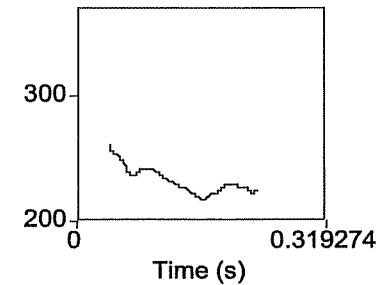
A case of dictation is presented in Example 5, in which the speaker K is receiving instructions from V about where to pay the sales tax for the table she has just received. In this sequence, V first gives the name of the company who is to receive the sales tax (*Eesti post*), then the name of the bank (*Ühispank*) and then the account number. K is expected to be writing it down.

#### Example 5: The bank account

- 1 V: .hh Makske Eesti Postile. tähendab ma ütlen et Eesti Post ?  
*Pay to Eesti Post, I mean, I'll tell (you) — Eesti Post*
- 2 K: **Jaa ?**  
*Yeah*
- 3 V: Nii. pank on samamoodi Ühispank ?  
*The bank is the same, Ühispank*
- 4 K: **Jah ?**  
*Yeah*

- V: .h eee, Ja siis seda kontonumbri ütlen nüüd.  
*And now I'll tell you the account number*
- 6 K: **Jah ?**  
*Yeah*
- 7 V: Kümme ?  
*Ten*
- 8 K: **Jah ?**  
*Yeah*
- 9 V: Null null kak- null null ?  
*Zero zero tw- zero zero*
- 10 K: **Jah ?**  
*Yeah*
- 11 V: Kakskümmend ?  
*Twenty*
- 12 K: **Jaa ?**  
*Yeah*
- 13 V: Kaksteist ?  
*Twelve*
- 14 K: **Jaa ?**  
*Yeah*
- 15 V: Null neli ?  
*Zero four*
- 16 K: **<0 Jah 0> ?**  
*Yeah*
- 17 V: Kaheksakümmend ?  
*Eighty*
- 18 K: **Jaa ?**  
*Yeah*
- 19 V: Null kuus.  
*Zero six*
- 20 K: **Jaa ?**  
*Yeah*

- 21 V: Kordan üle siis veel, kümme ? (.) kaks nulli ? (.) [kaks]kümmend  
I'll repeat once more ten, two zeroes, twenty,
- 22 K: [J- ]
- 23 (.) kaksteist ? null neli ? kaheksakümmend ? null kuus.  
twelve, zero four, eighty, zero six
- 24 K: **Jah.**  
Yeah

(5.1) *Jaa* 'yeah' (line 2)(5.2) *Jah* 'yeah' (line 4)(5.3) *Jah* 'yeah' (line 6)(5.4) *Jah* 'yeah' (line 8)(5.5) *Jah* 'yeah' (line 10)(5.6) *Jaa* 'yeah' (line 12)(5.7) *Jaa* 'yeah' (line 14)(5.8) *Jah* 'yeah' (line 16)(5.9) *Jaa* 'yeah' (line 18)(5.10) *Jaa* 'yeah' (line 20)(5.11) *Jah* 'yeah' (line 24)

- 23 (.) kaksteist ? null neli ? kaheksakümmend ? null kuus.  
twelve, zero four, eighty, zero six

- 24 K: **Jah.**  
Yeah

Of all the response tokens in this example, only the very last one in line 24 had a terminally falling contour (5.11), which nicely supports the arguments that speakers are orienting to a larger ongoing activity by producing them with rising

pitch contours. Only after the dictation is definitively finalized does the recipient produce a terminally falling contour.

The *jaa* in line 20 is especially interesting in these terms, since it occurs at a juncture where the dictation could have possibly been finalized. After the last pair of numbers produced with a falling intonation (*null kuus*. 'zero six', in line 19), speaker K could have also displayed her understanding of the activity coming to an end by producing a non-rising token. However, by using a rising contour she might be orienting towards the fact that after longer stretches of numbers are dictated on the phone, a repetition is customarily expected. Or, she might be displaying uncertainty about whether there is anything else coming after the bank account number, for the dictation thus far has involved other items besides the number. The dictating speaker V, however, seems to treat this rising contour as a display of the activity not being over, and continues with a repetition of the whole bank account number. Again, we see how the terminally rising pitch contours demonstrate orientation to a larger ongoing action, in this case, dictating.

### CONCLUSIONS

It is necessary to look at interactional sequences if we want to account for all the prosodic phenomena in a language. We can only see rising contours in Estonian if we study interaction. This is an important point for linguists and especially phoneticians to notice. Also, interaction specialists have to be very aware of sequential usages of prosody since it may change our analysis of what the speakers are doing and orienting to (as in example 4 above).

At the same time, the case of Estonian has questioned the statement that go-aheads are a type of questions; in Estonian they do not have the same terminal pitch movement. Schegloff (1968: 1090) has claimed that the summoner is obliged to talk again after items like *yes?* and *yeah?* because of their sheer status as questions, apparently because of their prosodic features. The above study suggests, however, that cross-linguistically go-aheads and questions may turn out to be essentially different practices.

The Estonian terminally rising pitch contours are recurrent in different actions, and the above was by no means meant to be an exclusive list of all of them. Terminally rising contours achieve their meaning in the situated use of language when accomplishing a specific interactional goal. They seem to be firmly embedded in action sequences and only somewhat connected to the syntax and the lexicon of the language.

Terminally rising response tokens function as go-aheads in Estonian, "doing expecting some more to come." (This is not to say that terminal rises would be the only prosodic feature of interactional relevance here.) They seem to display an understanding of and orientation to a larger ongoing action of the kind where the interlocutor is responsible for carrying it out.

### APPENDIX 1. TRANSCRIPTION CONVENTIONS

<u>          </u>	stress or emphasis
-	truncation
[ ]	overlaps
=	latching or continuation of the same speaker across intervening lines
(.)	micropause
@	laughter syllable
:	lengthening of a sound
<0 inbreath 0>	words pronounced with ingressive airflow
.hh	breathing in
hh	breathing out
?	terminally rising pitch contour
.	terminally falling pitch contour
,	non-terminally falling pitch contour
-(turn-finally)	cut-off pitch contour
(parenthesis)	the item was not there in the Estonian original
/	alternative translations

### NOTES

<sup>1</sup> The author is grateful to Sandra Thompson for her encouragement and insightful comments on the first version of the paper.

<sup>2</sup> Transcription conventions are given in Appendix 1.

<sup>3</sup> The vertical axis always shows the frequency in Hertz.

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