

THE DISCOURSE PARTICLES *NU*^(h) AND *NO*^(h) IN COURLAND LIVONIAN

Marili Tomingas

University of Tartu, EE

marili.tomingas@ut.ee

Abstract. This article analyses the use of the Courland Livonian discourse particles *nu* and *no* and their aspirated forms *nu*^h and *no*^h. As these particles have received little attention so far, the study combines a brief overview of dictionary descriptions with an empirical analysis based on 17 recordings of semi-structured interviews from the Archives of Estonian Dialects and Kindred Languages (AEDKL). The analysis focuses on particle frequency, and sentence types and clausal positions the particles occur in. The results show that the non-aspirated forms are considerably more frequent than the aspirated ones. Declarative sentences are the most common context for all four particles. Clause-initial position predominates, followed by clause-internal position, while the particle *no*^h occurs equally often in both. The aspirated forms frequently occur adjacent to pauses, which may explain the development of aspiration in the first place.

Keywords: Finnic languages, Livonian-Latvian language contact, pragmatics, spoken language, syntax

DOI: <https://doi.org/10.12697/jeful.2026.17.1.06>

1. Introduction

Discourse particles in Livonian have generally received little attention so far, largely because of the small speech community (the number of native speakers has diminished dramatically over the 20th and 21st centuries; see Moseley 2010; Druviete & Kļava 2018) and because written linguistic resources have so far been more readily accessible (e.g., text collections and dictionary examples; see Ernštreits et al. 2022). In written sources, however, at least some discourse particles may have been omitted by the editors of the collections to improve the overall fluency and clarity of the texts.

Grünthal (2015) has described the Livonian particles *sā* and *va* and their possible borrowing from Estonian. A study on Livonian polar questions, including the question particles *või* and *agā*, has been conducted by Norvik et al. (2022), in which the discourse particle-like use of *agā* expressing supposition or doubt is also briefly mentioned (Norvik et al. 2022: 140–141). An overview of the most frequently used discourse particles in Livonian recordings, including a brief discussion of the use of *nu* and *no*, has been provided by Tomingas (2022). Specific research focusing on the particles *nu*^(h) and *no*^(h) in Livonian has been lacking so far.

The equivalent particles of the closely related languages Finnish and Estonian have been researched more thoroughly: there is research on Finnish *no* (Sorjonen & Vepsäläinen 2016) and on the Estonian particles *no(o)(h)* (Keevallik 2016). These articles summarize the origin of *no*, dating back to the Baltic-Finnic period about 1000–2500 years ago, while its various functions in different Baltic-Finnic languages could be the result of contact with the Germanic languages; for example, Old High German *nu* could be a source of influence (Keevallik 2016: 214; Sorjonen & Vepsäläinen 2016: 244). Finnish *no* is said to be a ubiquitous particle which is not restricted only to initiating or responsive actions; it can also operate on a more generic and abstract level, with its core function being to mark transition, shift, or departure. It is also noted that when the interlocutor produces *no* together with other talk, *no* is usually the first element of a clause or another kind of syntactic construction (Sorjonen & Vepsäläinen 2016: 275). To summarize its usage profile in relation to turn and clause, Finnish *no* can appear as a stand-alone particle, and in turn-initial as well as turn-internal pre-clausal position (Auer & Maschler 2016: 10). Keevallik has noted about Estonian *no(o)(h)* that it shows a great deal of variability in Estonian, the clearest distinctions being between the medial filler *noh*, the continuer use of stand-alone *noo/noh*, the turn-initial item *no*, and the action-reinforcing turn-final *noh* (Keevallik 2016: 222). The form *noh* is said to lack counterparts in other languages, with filler and reinforcing functions that are idiosyncratic to Estonian (Keevallik 2016: 222). However, due to language contact with Estonian, Courland Livonian *no^h* could be a close counterpart. In addition, the particle *noh* has been noted in the Seto language of South Estonia, where it can be used in initial, medial, and final position and can also occur as a stand-alone particle.

Furthermore, it can be used in second position, which is unique among Finnic languages (see Todesk 2025).

Hennoste (2023: 1098–1099) has described Estonian *noh* as being used clause-initially, as a medial filler where needed, in stand-alone position, and as the only form of the *no*, *noo*, and *noh* series that can also appear clause-finally, making it the most diverse of the three. Based on that observation, it will be examined whether the Livonian forms *nu*^h and *no*^h are also used in medial and/or clause-final positions. Pauses between and after them may have caused the development of phonological aspiration, as medial and clause-final positions could suggest (see Keevallik 2016: 219, 223).

As the form *no* appears very commonly in pre-clausal (clause-initial) position in both Estonian and Finnish, this article will examine whether Livonian *no* behaves in the same way. As there is no evidence of the extensive use of *nu* in Estonian (except as a loanword in the easternmost dialects; see Keevallik 2016: 214) or in Finnish, the particle *nu* in Livonian is likely a borrowing from Latvian, especially given the centuries of very close language contact and living together in the same area. In Latvian, *nu* is very common, functioning both as an adverb meaning ‘now’ and as a discourse particle with meanings and functions similar to those of Estonian *no*, *noo* and *noh* (Ernštreits et al. 2015, Madisson et al. 2015).

The objectives of the current article are, firstly, to describe and summarize the forms and mentions of *nu*^(h) and *no*^(h) in earlier dictionaries. Secondly, the current article aims to describe their use in empirical data from the end of the 20th century and the beginning of the 21st century, focusing on their frequency of use, their positioning within a clause, and the sentence types in which they may appear. As research on the particles *NU* and *NĀ* has grown rapidly in recent years in other European languages as well (see Auer & Maschler 2016), research on Livonian *nu*^(h) and *no*^(h) offers additional comparative material, especially with respect to the contact languages Estonian, South Estonian, and Latvian, for comparing the extent to which the use of these particles within the same Circum-Baltic linguistic area actually coincides or differs.

The main research questions of the article are: (1) How frequently do the particles *nu*^(h) and *no*^(h) occur in the data? (2) Is the aspiration of the forms *nu*^h and *no*^h mostly caused by their more frequent occurrence

alongside pauses? (3) In which sentence types do the particles appear? (Following the classification of sentence types by Aikhenvald 2014.) (4) What is the typical positioning of the particles within a clause? (E.g., clause-initial, clause-internal, clause-final.)

The article is structured as follows: In Section 2, *nu*^(h) and *no*^(h) in Livonian are described based on their earlier documented use in Livonian dictionaries (many of which have largely been compiled on the basis of preceding fieldwork conducted by their authors; see Sjögren & Wiedemann 1861, Kettunen 1938, Viitso & Ernštreits 2012) to determine whether and how their use has changed up to the present day. In Section 3, the data and methods of the empirical study are described. In Section 4, the frequency of the particles *nu*^(h) and *no*^(h) in audio recordings is analysed to determine which particles are the most and least common in the data. In addition, a brief overview of the frequency of particles occurring alongside pauses is given to find out whether the aspiration of the forms *nu*^h and *no*^h could be caused by this. In Section 5, the sentence types in which the particles occur are analysed. In Section 6, their position within a clause is analysed to determine whether *nu*^(h) and *no*^(h) tend to appear mostly clause-initially and whether other positions (i.e., clause-internal, clause-final) are possible. After that, a discussion and a summary of the results follow.

2. Livonian *nu*^(h) and *no*^(h) in dictionaries

The earliest dictionary mention of *nu* and *no* in Livonian appears in Sjögren & Wiedemann (1861), which is the first major Livonian dictionary (Ernštreits et al. 2022: 15). There are entries for both *nu* and *no* in the dictionary, but an exclamation mark is added to both, treating them rather as interjections (Sjögren & Wiedemann 1861: 69). The explanations of the entries also support this: *nu* is translated into German as *nun* ‘now!, well!’, and the explanation *drohend* ‘threatening’ is added in brackets, emphasizing the exclamatory context of use. The word *no* is translated into German as *nun!* and *wohlan!* (‘well!’, ‘all right!’), and again the description ‘threatening’ is mentioned in brackets. As there are no example sentences, it is hard to tell whether *nu* and *no* could also convey pragmatic meanings other than the threatening use at the time. Likely, this was the most common use during the 19th century, and more

diverse discourse-particle meanings developed later. A grammaticalization path from interjections to discourse markers has been attested in other languages; see Norrick (2009) and Goutsos (2025).

From the aspirated forms, only the form *noh* (written this way in the dictionary) is found, with the German translations *nun!* and *wohlan!* ‘well!’, but without the note ‘threatening’. As *nuh* is not included in the dictionary, it may be possible that this form had not yet developed at the time or was rarely used. The use of *h* is rather rare in Livonian in general, occurring mostly only in foreign words and loanwords (Norvik & Tuisk 2023: 18), as well as in interjections such as *ahah* ‘aha’, *auh* ‘woof’, and *huh* ‘huh’ (see Viitso & Ernštreits 2012: 22, 36).

In the following Livonian-German dictionary compiled by Lauri Kettunen (1938), based on both his own fieldwork and the preceding dictionary by Sjögren & Wiedemann (1861), the forms *nu*, *no*, *noh*, and also palatalized *ňoh* are mentioned. The words *nu* and *no* appear in the same entry, with the German translations *nun* and *na* ‘well’ and with the word class ‘interjection’ indicated in brackets, but without any example sentences (Kettunen 1938: 250). *No* appears once more in another entry alongside the form *noh* and its palatalized form *ňoh*, being classified as an interjection and translated into German as *nun* ‘well’ and *aber* ‘but’ (Kettunen 1938: 253); the latter translation could also indicate that the form *noh* was used as an adversative conjunction in Courland Livonian (see Hennoste 2000: 1802 for a parallel in Estonian). There are again no example sentences to investigate this further. However, there is a remark in Kettunen’s dictionary that *no*, *noh*, and *ňoh* are also used when getting a horse moving and starting a ride (Kettunen 1938: 250), which is another specific type of interjectional use.

In the third and latest printed Livonian dictionary, the trilingual *Livonian-Estonian-Latvian Dictionary* by Viitso & Ernštreits (2012), based partly on the authors’ fieldwork and partly on earlier dictionaries, only the form *no* appears, with the translations *no* and *noh* in Estonian and *nu* in Latvian. The word has been classified as an adverb, but this choice is likely caused by the fact that there is generally no (discourse) particle word class used for classification in the dictionary. As the empirical data show later in the article (see Chapters 4–6), *nu* and *no*^h have not disappeared from spoken Livonian, and in addition, the earlier not attested form *nu*^h appears in the spoken language. The other forms may have been excluded to maintain a rather authentic and literary

Livonian style¹, or they may simply have been overlooked. There is one example sentence with *no* alongside the entry (1).

- (1) *No, mis sa kītō-d!*
PTCL what 2SG say-2SG
‘NO, what are you saying!’ (Viitso & Ernštreits 2012: 210)

Table 1 summarizes the forms found in the earlier dictionaries. The discourse particle *nu^h*, attested in the empirical data, is the only form missing from the earlier sources:

Table 1. The occurrences of *nu^h* and *no^h* in earlier Courland Livonian dictionaries.

Source	Unaspirated forms	Aspirated forms
Sjögren & Wiedemann 1861	<i>nu!</i> , <i>no!</i>	<i>noh</i>
Kettunen 1938	<i>nu</i> , <i>no</i>	<i>noh</i> , <i>ňoh</i>
Viitso & Ernštreits 2012	<i>no</i>	–

3. Data and methods

Recordings of spoken Livonian have quite a long history: there are, for example, phonograph recordings documenting Livonian folklore made by Oskar Loorits in the 1920s (stored in the Estonian Literary Museum), and recordings by Seppo Suhonen (published as texts in Suhonen 1975). In addition, there are Livonian audio recordings in the University of Tartu Archives of Estonian Dialects and Kindred Languages (AEDKL, see <https://murdearhiiv.ut.ee>) and in the Estonian Language Institute Archives of Estonian Dialects and Kindred Languages (EMSUKA, see <https://emsuka.eki.ee>), but the process of transcribing the recordings in these archives has begun only in recent years. The recordings in the aforementioned archives are mostly in the form of semi-structured audio interviews between a native speaker and a researcher who speaks Livonian as a second language. A semi-structured interview is defined as a verbal interchange in which one participant

¹ For example, Viitso mentions in the foreword that Latvian verb prefixes borrowed into Livonian have been left out from the dictionary (Viitso & Ernštreits 2012: 12).

(the interviewer) attempts to elicit information from the other (in this case, a native speaker), but in addition to prepared questions, the interview can unfold in a conversational manner, giving the participants the chance to pursue topics they feel are important (see Longhurst 2009). The audio data of Livonian available in the archives are rather extensive, including 321 hours of recordings in EMSUKA and 147 hours of recordings in AEDKL (Ernštreits et al. 2022: 17); some recordings in the archives also overlap. However, not all these recordings include spontaneous or semi-structured data; there are also recordings of poems, songs, text readings, phonetic experiments, etc.

Additionally, there are some video recordings in the AEDKL (filmed by Kalevi Wiik) and films containing Livonian language material, but the quality of older video resources is often limited and the Livonian language examples in the films are rather fragmentary; see, e.g., *Liivirannal* ('On the Livonian Coast', 1966) and *Liivlaste lood* ('The Tales of the Livonians', 1991). The texts from the video recordings or conversational fragments from the films have not been transcribed so far. Although the texts of some archival recordings have been transcribed in recent years and can thus be used for research, most of the audio material is yet to be transcribed.

The empirical analysis data of the current research consists of 17 recordings from AEDKL which have been transcribed by the author of the article (see also Tomingas 2023: 28–32). The total length of the recordings is 7 hours, 13 minutes and 4 seconds. The data includes recordings with six different Livonian native speakers who grew up in Livonian households in the Courland Livonian coastal villages, with Livonian being their first language. See Table 2 for more precise background data of the selected speakers:

Table 2. Background data on the selected native speakers.

Sp. nr.	Name	Year of birth	Place of birth	Dialect	Place of recording	Year(s) of recording(s)
1	Alma Blūm	1903	Īra	central	Kūolka (Latvia)	1986
2	Poulīn Kļaviņa	1918	Vaid	eastern	Vaid (Latvia)	1986, 1997, 2000
3	Grizelda Kristiņa	1910	Vaid	eastern	Saulaine (Canada)	2012
4	Pētōr Damberg	1909	Sīkrōg	eastern	Tartu (Estonia)	1986
5	Alfon Berthold	1910	Vaid	eastern	Vaid (Latvia)	1986
6	Viktor Berthold	1921	Vaid	eastern	Kūolka (Latvia)	2000, 2005

There are three female and three male speakers, most of whom speak the Courland Livonian eastern dialect, while one is a speaker of the central dialect, which is sometimes also considered a western dialect including a few eastern dialect features (see Viitso 2008: 232). The differences between the Courland Livonian eastern and western dialects are mostly morphophonological, e.g., Eastern *saimō*, Western *saimi* ‘we got, we received’ (see Viitso 2008: 227; Tomingas 2023: 25), so no major differences in the use of the particles *nu*^(h) and *no*^(h) are expected. The main criterion for choosing the speakers was that they should be native Livonian speakers (rather than L2 speakers). Compared to the other selected speakers, Grizelda Kristiņa had a somewhat different background: although she was born on the Livonian coast, she fled to Sweden and thereafter to Canada due to World War II and was living in the Latvian community village of Saulaine in Canada at the time of recording. Although she had had a longer break from speaking Livonian while living in Canada (her husband was Latvian; however, she occasionally visited her Livonian relatives in Latvia after the fall of the Iron Curtain), she still considered Livonian her mother tongue and was still able to speak it (Tuisk 2010). All the other selected speakers were living in Latvia at the time of recording, but Pētōr Damberg was recorded when visiting Tartu.

Another criterion for choosing the recordings was that the audio quality had to be good enough to allow transcription of most of the recordings’ content (older recordings before 1986 in AEDKL mostly tend to have poor sound quality, making transcription difficult). In addition,

there had to be approximately one hour of transcribed data for each selected speaker to keep the data length for each speaker as balanced as possible. Otherwise, the recordings were selected randomly from the semi-structured interviews in the archive. See Appendix 1 for further details of the recordings used.

A descriptive analysis method is used to analyse the data and draw conclusions about the most frequent tendencies, focusing both on how frequently a given form of a particle occurs in the data and in which sentence types (declarative, imperative, interrogative; see the classification principles in Aikhenvald 2014: 141, 154) and clausal positions (clause-initial, clause-internal, or clause-final) it is used. The results are summarized in Section 8.

4. Frequency of the particles

In total, there were 352 examples of the particles *nu*^(h) and *no*^(h) in the spoken language data from the selected AEDKL recordings. The non-aspirated forms *nu* and *no* were significantly more frequent: *nu* has over 200 occurrences and *no* over 100 occurrences in the data, while the aspirated forms *nu*^h and *no*^h each have fewer than thirty occurrences, making them relatively rare. See Figure 1 for the exact distribution of the particles in the data:

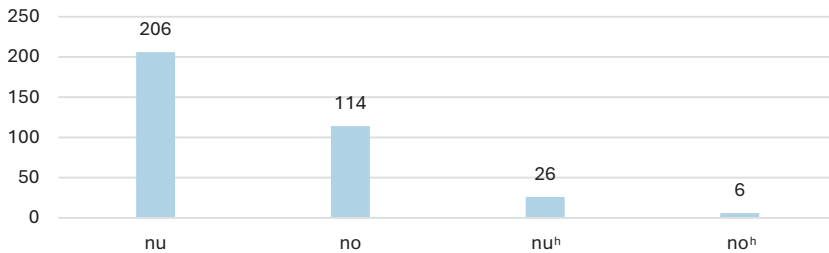


Figure 1. Number of the particles *nu*^(h) and *no*^(h) in the data.

In the examined data, *nu* is the most frequently used particle among the attested forms, with a total of 206 occurrences. It is used by all six native speakers, which shows that it is a universally used form in the language of both male and female speakers in recordings from the end of the 20th century and the beginning of the 21st century. However, the frequency of use of *nu* varies considerably between speakers: the highest number of occurrences is 70 for one speaker (Poulīn Kļaviņa), while the lowest number is 8 (Alfon Berthold); see Figure 2 for more detailed speaker-specific numbers below. It is worth noting that slightly elongated forms of *nu* also occasionally occur, marked as *nu:* (the colon indicates elongation, see the transcription symbols at the end of the article). There are 10 such instances; as there is no previous mention of a separate particle *nū*, these examples are treated as elongations of *nu*.

There are a total of 114 occurrences of *no* in the data, making it the second most frequently used particle among the four forms. Similarly to *nu*, it is used by all six speakers, which shows that both *no* and *nu* can be used by the same speaker, and that exclusive use of either *nu* or *no* is not the case. The largest number of occurrences for a single speaker is 32, and the smallest is 7. There are 17 instances in total where *no* is elongated; it has not been established so far whether this form could constitute a separate form (cf. Estonian *no* and *noo*, which are considered separate particles by Hennoste 2023: 1098), or whether it is simply occasional elongation. As there is no previous mention of a separate particle *nō* in earlier dictionaries either, these are also treated as elongations of *no*.

The aspirated forms *nu^h* and *no^h* were, as mentioned above, rather rare in the data, with *nu^h* having 26 occurrences and *no^h* only 6. Similarly to *nu* and *no*, both also had occasional elongated forms: *nu^h:* once and *no^h:* twice in the data. Due to the small number of these examples, they are also treated as occasional elongations. While *nu^h* occurred in the data of all native speakers, *no^h* was rarer and occurred mainly in the data of male speakers, making *no^h* the only form of the four that was not used by all native speakers. Figure 2 illustrates the frequency of use of each particle by speaker.

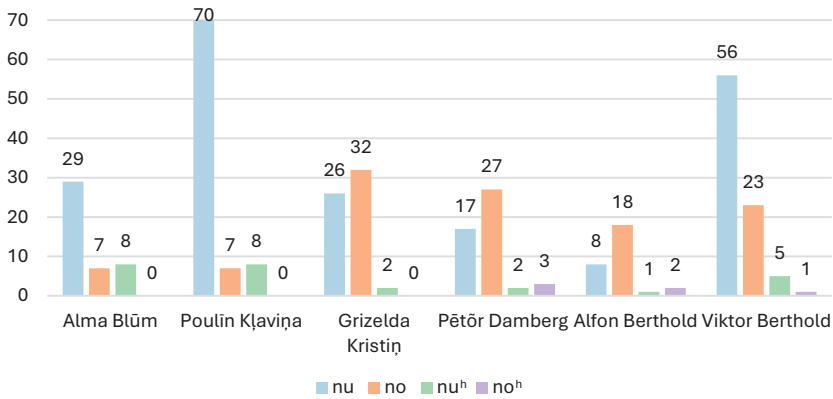


Figure 2. Number of particles used by each speaker.

As can be seen from Figure 2, *nu* is significantly more frequent for three speakers (Alma Blūm, Poulīn Kļaviņa, Viktor Berthold), whereas for the remaining three (Grizelda Kristiņ, Pētōr Damberg, Alfon Berthold) the use of *nu* and *no* is more balanced, with *no* being slightly more preferred. Poulīn Kļaviņa and Viktor Berthold are two of the youngest speakers, who periodically lived in larger Latvian towns and may thus have had more Latvian influence in their language. Alma Blūm is the oldest speaker; at the time of recording, she lived in the large village of Kūolka with more Latvian contacts, so a stronger Latvian influence is also possible.

To examine whether the aspiration of the forms *nu*^h and *no*^h may have been caused by their more frequent occurrence alongside pauses, I briefly summarize the number of pauses (at least 0.2 seconds) occurring after each particle. See Table 3 for a summary of the results below:

Table 3. Pauses occurring after a particle.

Particle	Number of examples with a pause after	Total number of examples	Percentage
<i>nu</i>	14	206	6.79 %
<i>no</i>	10	114	8.77 %
<i>nu</i> ^h	17	26	65.38 %
<i>no</i> ^h	5	6	83.33 %

As can be seen from Table 3, the particle *nu* has 14 examples out of 206 followed by a pause, and the particle *no* has 10 examples out of 114 with a pause following. Thus, the non-aspirated forms show a rather small proportion of occurrences with a following pause relative to their total number of examples. The particle *nu^h* has most of its occurrences (17 out of 26) followed by a pause, and the particle *no^h* has 5 out of 6 occurrences with a following pause; thus, the aspirated forms indeed tend to appear mostly alongside a pause. Longer pauses or breaks (for example, due to remembering or hesitating) may therefore have been the reason for the development of aspirated forms, while non-aspirated *nu* and *no* occur less frequently alongside a pause.

5. Sentence types

To examine whether the particles tend to appear more in a particular sentence type, the clauses in which the particles occurred were analysed. In this study, I follow the classification of sentence types proposed by Aikhenvald (2014), in which three basic sentence types – declarative, imperative, and interrogative – are distinguished (Aikhenvald 2014: 141). Occasional stand-alone uses, where a particle appears alone within a single speaking turn, are excluded from the sentence-type analysis, as they cannot be straightforwardly assigned to any sentence type, as are cases in which a speaking turn consists only of particles and does not form a full sentence. Thus, the total number of examples in this section is smaller than in the previous section. These exceptional cases are discussed at the end of the section.

The occurrences of all four particles across different sentence types are summarized in Table 4 for comparison:

Table 4. The occurrences of the particles by sentence type.

Particle	Declarative	Interrogative	Imperative
<i>nu</i>	195	6	2
<i>no</i>	100	5	3
<i>nu^h</i>	26	–	–
<i>no^h</i>	6	–	–

The occurrence of *nu* across different sentence types, together with the percentage it constitutes of all examples, is presented in Table 5.

Table 5. Occurrences of *nu* across different sentence types.

Type	Number of examples	Percentage
Declarative	195	96.05 %
Interrogative	6	2.95 %
Imperative	2	0.98 %
Total examples:	203	100%

The most common sentence type with the particle *nu* is clearly its use in declarative sentences (195 examples), that is, in neutral statements (Aikhenvald 2014: 141). There are also 11 examples in the data of declaratives in which a copula or verb is omitted via ellipsis. See example (2) for a regular declarative and example (3) for a declarative in which a verb is omitted (but can be inferred from the previous speaking turn):

- (2) Intv: *mis se `u`m kui `katũks `tĩlkõb.*
 ‘What is it [called] when there is dripping from a roof?’
 (0.5)
 PK: ***nu*** *si`z*      *u`m* *`vĩ`mõ* *saddõ-n.*
 PTCL then be.3SG rain.PART fall-APP
 ‘NU then it has been raining.’ (AEDKL: F0997-03)
- (3) Intv: *si`z `siedā ka ē nutĩz `su`dmaļõks*
 ‘So it [coffee grinder] was also, um, called ‘a mill’?’
 (.)
 PK: *.hh* *mm* ***nu*** *`kaffē:*      *su`dmaļõ-d.*
 HESIT PTCL coffee.GEN mill-PL
 ‘Um, NU [they were called] coffee mills.’ (AEDKL: F1037-01)

Examples of other types, namely interrogative and imperative uses, are rather marginal and occur fewer than 10 times in the data; however, this shows that occurrence in different kinds of sentence types is possible. Interrogative examples of *nu* are mostly wh-questions, but there is also one example of a polar question in the data, where the question is marked with rising intonation. Two examples out of six are rhetorical

questions. There are only two examples of imperative use, both occurring alongside second-person singular imperative verb forms, one of them being an actual imperative to ask someone to do something (*nu lī* ‘NU go!’), while the other one could be also classified as a pragmatized discourse marker (*nu pamōttōl* ‘NU think about it’) as the action is actually not fully required (compare to English discourse marker *you see*). See example (4) for *nu* in a wh-question and example (5) for *nu* in imperative sentence with a pragmatized discourse marker function.

- (4) Intv: *lopāndōks sōṇō `lu'ggō.*

‘[Could you] read until the end?’

(0.5)

PK: *`nā. (.) nu mis= sã'l si'z ve'l `u'm.*

yes PTCL what there PTCL more be.3SG

‘Yes. NU what else is there then [to read]?’ (AEDKL: F1035-03)

- (5) Intv: *sã'l=sã'l `Amērikas.*

‘[It happened] there, there in America?’

VB: *nā. (.) `Amērik-s. .hh nu pa-mōttōl õ, .hh*

yes America-INE PTCL PFX-think.IMP.2SG HESIT

ē tā'mm-ōn ju: `līvõ kēl.

HESIT 3SG-DAT PTCL Livonian.GEN language

‘Yes, in America. NU think about it, um, she had Livonian [as her first language in America].’ (AEDKL: F1035-01)

In addition to the aforementioned sentence types, I briefly describe cases in which the sentence type could not be classified: there was one example of a speaking turn consisting of *nu* accompanied by a physical activity (see example (6)), and two examples of speaking turns that consisted only of a sequence of particles and did not form a full sentence (see example (7)). Example (6) is a rare instance of the particle *nu* paired with physical action instead of speech, which is rather rare also for NU research in general. Example (7) shows a particle chain consisting of *nā* ‘yes’, *nu*, and *kah* ‘too’ within one speaking turn.

- (6) Intv: *`mingi u'm `špits `pā*

‘What is a pointed head like?’

(.)

PD: *nu* ((drawing sounds on paper))

PTCL

‘*NU*’

(4.0)

Intv: *seļli pitklimi?*

‘This kind of oblong?’

PD: *pitklimiz* *pā-kōks*

oblong.GEN head-INSTR

‘With an oblong head.’ (AEDKL: SUHK0431-01)

(7) Intv: *kui nānt barōnōdōks u’m* (1.0) *ku*

‘How is it with those barons, when...’

PK: *nā* *nu* *kah*

PTCL PTCL PTCL

‘Yes, *NU* [that] too.’ (AEDKL: F0997-03)

The declarative, interrogative, and imperative sentence types also appeared in the data for *no*. In addition, there were again three stand-alone examples and three examples of use in particle chains, which could not be classified into sentence types and were thus excluded from the analysis. The occurrence of *no* across sentence types, together with the percentage of total examples, is summarised in Table 6:

Table 6. The occurrence of *no* across different sentence types.

Type	Number of examples	Percentage
Declarative	100	92.59 %
Interrogative	5	4.62 %
Imperative	3	2.7 %
Total examples:	108	100 %

Again, most of the examples appeared in declarative sentences (100 examples). The numbers of interrogative and imperative examples were low (fewer than 10 examples each) and broadly similar to those in the data for *nu*. There were slightly more interrogative examples than imperative ones. All interrogative examples were wh-questions, and most of them (four) were rhetorical questions, likely due to the genre of semi-structured interviews, in which native speakers are usually the narrators for most of the time and ask informational questions less often.

- ABe: *hehehe* \$ *jah* .hh hh \$ (1.0) {-} (5.0) *mm* **no**...^h *ē*...
hehehe yes HESIT PTCL HESIT
mm *ē*:: *heh* (.) *agā* *se* {*vot*} *se* `*tuoi* *u'm*
HESIT HESIT *heh* but DEM PTCL DEM other be.3SG
‘Hehehe yes. Mm **NO**^h um mm um *heh* but this, this is a different
[thing].’ (AEDKL: SUHK0520-02)

To sum up, the declarative type was clearly the most frequent across all four forms, especially for the aspirated ones, for which no other sentence types occurred in the data. Interrogative and imperative uses also occurred with the non-aspirated forms.

6. Positioning in a clause

The clausal positions of the particles were analysed to determine the most common position of *nu*^(h) and *no*^(h) in Courland Livonian and whether multiple positions are possible for each. Occasional stand-alone uses, where a particle appears alone within a speaking turn, are again excluded from this classification, as are utterances consisting only of particles. A summary of the four particles by clausal position is shown in Table 7 for comparison:

Table 7. The occurrences of the particles by clausal position.

Particle	Clause-initial use	Clause-internal use	Pseudo-final or clause-final use
<i>nu</i>	181	21	1
<i>no</i>	102	5	1
<i>nu</i> ^h	13	10	1
<i>no</i> ^h	2	2	1

The different syntactic positions in which *nu* occurred are listed in Table 8, along with their percentages.

Table 8. The occurrence of *nu* across different clausal positions.

Clausal position	Number of examples	Percentage
Clause-initial	181	89.16 %
Clause-internal	21	10.34 %
Pseudo-final	1	0.49 %
Total examples:	203	100 %

In the case of *nu*, a large majority – 181 out of 203 occurrences – are used clause-initially. Thus, based on the data, *nu* most commonly appears at the beginning of a clause in Livonian; see example (2) above.

Clause-internal use is in second place (21 occurrences). In these cases, *nu* appears in the middle of a clause and is often associated with hesitative contexts, functioning as a filler after hesitative *ē*, for example before the speaker is able to find or remember the correct word (see the description of fillers in Pakendorf & Rose 2025: 2), as in examples (12) and (13):

- (12) VB: *un ē `Bārta? .hh iz `op-iz ē (.)*
 and HESIT Bārta PFX-study-PST.3SG HESIT
`rujākuodā-s ē (0.5) nu `sōzār.
 hospital-INE HESIT PTCL nurse
 ‘And, um, Bārta has studied, um, in a hospital, um **NU**, [to become a] nurse.’ (AEDKL: F1089-05)

- (13) VB: *`pūoga, (0.5) ē nu upānd-iz `jarā.*
 son HESIT PTCL drown-PST.3SG PTCL
 ‘[My] son (0.5), um **NU**, drowned.’ (AEDKL: F1035-01)

Clause-final use could be classified as pseudo-final in the case of *nu*, as the following speaking turn appears to come in before the speaker would have finished the clause, and is thus likely unintentionally left in final position; see example (14):

- (14) ABl: *ta ju `lā'-b se||iz ē (1.5) nu:?*
 3SG PTCL go-3SG such.GEN HESIT PTCL
 ‘It [the river] turns into such um **NU**’
 Intv: *`kōlāks.*
 ‘A bend.’
 ABl: *kō- `kōlā-ks nā.*
 kō- bend-TRANSL yes
 ‘A bend, yes.’ (AEDKL: SUHK0506-01)

The clausal positions attested in the data for *no* were clause-initial, clause-internal, and clause-final. The clause-final use again turned out to be pseudo-final due to interrupted speaking turn. The different syntactic positions in which *no* occurred are listed in Table 9, together with their percentages of all occurrences:

Table 9. The occurrence of *no* across different clausal positions.

Clausal position	Number of examples	Percentage
Clause-initial	102	94.4 %
Clause-internal	5	4.62 %
Pseudo-final	1	0.92 %
Total examples:	108	100 %

In the case of *no*, clause-initial position is even more prevalent than for *nu*, as most of the examples (102 out of 108) occur clause-initially, while the other types each have fewer than 10 occurrences. It is likely that the positioning of *nu* is somewhat more flexible compared to *no*, as there are only occasional clause-internal examples of *no*. See example (15) for the most frequent clause-initial use and example (16) for the occasional clause-internal use, which, similarly to *nu*, often occurs after hesitatives, such as *mm* and *ē*:

- (15) Intv: *`kui se bankrot `sugīz si 'z.*
 ‘How did bankruptcy come about then?’
 (0.5)
 PD: *no bankrot su- `sug-īz ku* (0.8)
 PTCL bankruptcy su- happen-PST.3SG when
tikkiž `rō' ja `vīla (.) lek-š `ka 'ddō-m.
 all money and asset go-PST.3SG disappear-SUP.ILL
 ‘**NO** bankruptcy happened when all the money and assets went missing.’ (AEDKL: SUHK0431-01)
- (16) VB: *`nā ā si 'z meg `jel-īz-mō ve 'l ē (.)*
 yes HESIT then 1PL live-PST-1PL still HESIT
ē no `Zūonkō= `kōrand-s
 HESIT PTCL Zūonkō.GEN farmstead-INE
 ‘Yes, um, then we still lived um **NO** in Zūonkō’s farmstead.’
 (AEDKL: F1089-05)

The clausal positions of the aspirated forms were rather diverse compared to their small number of occurrences: *nu*^h showed 13 clause-initial occurrences, 10 clause-internal occurrences, and 1 clause-final occurrence, while *no*^h appeared twice clause-initially, twice clause-internally, and once clause-finally. In this case, the clause-final uses

were not interrupted pseudo-final ones but could instead be compared to the clause-final reinforcing function described by Keevallik (2016: 223). See example (10) above for clause-initial *nu^h*, example (17) below for clause-internal *nu^h*, example (18) for clause-final *nu^h*, and example (19) for clause-final *no^h*:

- (17) ABl: *`ta* *kīt-iz,* *mi'nn-ōn* ***nu^h?** (.) ** *kuolm*
 3SG say-PST.3SG 1SG-DAT PTCL three
*`oksō* *ve'l* *`ātō. **
 branch.PART still be.3PL
 'She said: I **NU^h** still have three branches [children].'
 (AEDKL: SUHK0506-01)

- (18) ABe: *tāsā* (1.0) *amā* *amā* *pi'ddōz* (1.5) *ne'i* *attō* ***nu^h***
 here all all along so be.3PL PTCL
 '[All these farms here, these were all built during the Latvian Republic time,] here all of them, all the way [they] are like this **NU^h**.' (AEDKL: SUHK0520-01)

- (19) PD: *tūorōz* *`rōk* *tā'mm-ōn* *u'm* *seļļi* (4.0) *tūorōz* *`rištīng.*
 raw speech 3SG-DAT be.3SG such raw person
 (0.8) ***no:^h***.
 PTCL
 '(S)he has such raw speech, [(s)he's] a raw person **NO^h**.' (AEDKL: SUHK0442-03)

To summarize, the most common clausal position for most of the forms was clause-initial. The clause-internal position followed, although it was significantly less frequent. The only exception was the particle *no^h*, as its clause-internal use was equal to its clause-initial use. The clause-final position was marginal for the non-aspirated forms *nu* and *no* and could be classified as pseudo-final due to speaking turns being interrupted by another interlocutor. The aspirated forms showed genuine, non-interrupted clause-final use (cf. the clause-final reinforcement function described by Keevallik 2016: 223), although such examples were rare in the data.

7. Discussion

The data showed a higher number of non-aspirated particles (*nu*, *no*) compared to the aspirated ones (*nu*^h, *no*^h). As the aspirated form *nu*^h did not appear in any of the previous Livonian dictionaries but only in the analysed recordings, it is possible that it is a recent innovation from the past few decades. There are several possible explanations for its development: it could be a development of the particle *nu* in hesitant contexts, where pauses or inbreaths naturally add phonetic aspiration, which may have become more salient over time and be reanalysed as ^h. Another possibility is analogy with the particle *no*^h, but since *nu* is the most frequent of the non-aspirated forms, its higher frequency compared to *no* may also have contributed to this development.

The prevalence of Livonian *nu* among the four forms in the data suggests that the influence of Latvian *nu* may be quite strong, as the closely related languages Estonian and Finnish do not have *nu* as a regularly used discourse particle. Estonian *no* and *noh* may have helped preserve Livonian *no* and *no*^h through language contact, as Estonian *no*(*h*) and Livonian *no*^(h) seem to have similar positions and functions (cf. Hennoste 2023: 1100–1101; Keevallik 2016: 218–224).

8. Summary

In total, there were 206 examples of *nu*, 114 examples of *no*, 26 examples of *nu*^h, and 6 examples of *no*^h in the data, making *nu* the most frequent particle of the four forms. The aspirated forms *nu*^h and *no*^h occurred in most cases alongside pauses and/or hesitations (such as *ē*, *mm*, etc.).

For all four particles, use in declarative sentences was the most prevalent, although interrogative and imperative examples also occurred with *nu* and *no*. In some cases, the sentence type could not be classified, for example, in case of particle chains and rare stand-alone examples. The particle *nu* appeared once also in a rather rare context where it was paired with physical activity instead of speech (drawing on a paper instead of verbal description). Clause-initial positioning was the most common for most of the particles, with clause-internal positioning following but being significantly less frequent, except for *no*^h, where clause-internal and clause-initial use were equal. Clause-final

positioning was largely pseudo-final for the non-aspirated forms, while the aspirated particles *nu^h* and *no^h* showed genuine clause-final use, similar to the reinforcement function described by Keevallik (2016: 223). The aspirated forms tended to occur alongside pauses, which may also be the likely cause for the development of aspiration.

The different pragmatic functions of *nu^h* and *no^h* should be studied further based on more examples. Forms with elongation, for example *no:*, should also be investigated using an expanded corpus to determine whether they represent accidental elongations (e.g., in cases of hesitation) or whether they may also occur as separate particle forms.

Transcription symbols and abbreviations

Intv – interviewer, XX – initial letters of a native speaker’s name, ’ – Livonian broken tone, . – final falling intonation, , – slight falling intonation, ? – rising intonation, (.) – micropause (0.2 seconds or shorter), (0.5) – pause length in seconds, ` – stressed word, [] – simultaneous speaking, = – two separate units pronounced together, e: – elongated sound, \$ \$ – laughing voice, * * – more quiet part, hehe – laughter with open mouth, pa- – unfinished word, .hh – inhaling, hh – exhaling, {se} – poorly audible text part, {-} – unclear word, (()) – transcriber’s comment.

Glossing abbreviations

1PL – first person plural, 1SG – first person singular, 2SG – second person singular, 3SG – third person singular, APP – active past participle, DAT – dative, DEM – demonstrative, ESS – essive, GEN – genitive, HESIT – hesitation marker, ILL – illative, IMP – imperative, INE – inessive, INF – infinitive, INSTR – instrumental, PART – partitive, PFX – prefix, PL – plural, PST – past, PTCL – particle, SUP – supine, TRANSL – translativ.

Acknowledgements

This work was supported by Estonian Research Council grant (PRG1290).

References

- AEDKL = *The Archive of Estonian Dialects and Kindred Languages*. [Tartu Ülikooli eesti murrete ja sugulaskeelte arhiiv]. Available at <https://murdearhiiv.ut.ee/et/>. (11.02.2026)
- Aikhenvald, Alexandra Y. 2014. Sentence types. In Jan Nuyts & Johan van der Auwera (eds.), *The Oxford Handbook of Modality and Mood*, 141–165. Oxford: Oxford University Press. <https://doi.org/10.1093/oxfordhb/9780199591435.013.8>.
- Auer, Peter & Yael Maschler. 2016. The family of NU and NĀ across the languages of Europe and beyond: Structure, function, and history. In Peter Auer & Yael Maschler (eds.), *NU/NĀ: A Family of Discourse Markers Across the Languages of Europe and Beyond* (*Linguae & Letterae* 58), 1–47. Berlin & Boston: Walter de Gruyter. <https://doi.org/10.1515/9783110348989>.
- Druviete, Ina & Gunta Kļava. 2018. The role of Livonian in Latvia from a sociolinguistic perspective. *Eesti ja soome-ugri keeleteaduse ajakiri. Journal of Estonian and Finno-Ugric Linguistics* 9(2). 129–146. <https://doi.org/10.12697/jeful.2018.9.2.06>.
- EMSUKA = *The Institute of Estonian Language Archive of Estonian Dialects and Finno-Ugric Languages*. [Eesti Keele Instituudi eesti murrete ja soome-ugri keelte arhiiv]. Available at <https://emsuka.eki.ee/>. (04.03.2026)
- Ernštreits, Valts, Marika Muzikante & Maima Grīnberga. 2015. *Igauņu-latviešu vārdnīca = Eesti-lāti sõnaraamat*. Rīga: Latviešu valodas aģentūra. Tallinn: Eesti Keele Sihtasutus. <https://arhiiv.eki.ee/dict/et-lv/>.
- Ernštreits, Valts, Mark Fišel, Matīss Rikters, Marili Tomingas & Tuuli Tuisk. 2022. Language resources and tools for Livonian. *Eesti ja soome-ugri keeleteaduse ajakiri. Journal of Estonian and Finno-Ugric Linguistics* 13(1), 13–36. <https://doi.org/10.12697/jeful.2022.13.1.01>.
- Goutsos, Dionysis. 2025. Interjections as pragmatic particles in Modern Greek: Using diverse corpora in identifying pragmatic functions. *Russian Journal of Linguistics*, (29) No. 4, 837–861. <https://doi.org/10.22363/2687-0088-45795>.
- Grünthal, Riho. 2015. Livonian at the crossroads of language contacts. In Santeri Junttila (ed.), *Contacts between the Baltic and Finnic languages* (*Uralica Helsingiensia* 7), 97–150. Helsinki: University of Helsinki.
- Hennoste, Tiit. 2000. Sissejuhatus suulisesse eesti keelde IV. Suulise kõne erisõnavara III. Artiklid. *Akadeemia* 8, 1773–1806.
- Hennoste, Tiit. 2023. *Noh, no ja noo*. In Helle Metslang, Mati Ereht, Külli Habicht, Tiit Hennoste, Reet Kasik, Pire Teras, Annika Viht, Eva Liina Asu, Liina Lindström, Pärtel Lippus, Renate Pajusalu, Helen Plado, Andriela Rääbis & Ann Veismann (eds.), *Eesti grammatika*, 1098–1101. Tartu: Tartu Ülikooli Kirjastus.
- Keevallik, Leelo. 2016. Estonian *no(o)(h)* in turns and sequences: Families of function. In Peter Auer & Yael Maschler (eds.), *NU/NĀ: A family of discourse markers across the languages of Europe and beyond* (*Linguae & Letterae* 58), 213–243. Berlin & Boston: Walter de Gruyter. <https://doi.org/10.1515/9783110348989-001>.

- Kettunen, Lauri. 1938. *Livisches Wörterbuch mit grammatischer Einleitung* (Lexica Societatis Fenno-Ugricae, V). Helsinki: Suomalais-Ugrilainen Seura.
- Longhurst, Robyn. 2009. Interviews: In-depth, semi-structured. In Rob Kitchin & Nigel Thrift (eds.), *International Encyclopedia of Human Geography*, 580–584. Edinburgh: Elsevier Science. <https://doi.org/10.1016/B978-008044910-4.00458-2>.
- Madisson, Merle, Aive Mandel, Tauno Nõulik & Anita Tannenbergl. 2015. *Latviešu-igauņu vārdnīca. Lāti-eesti sõnaraamat*. Tallinn: Eesti Keele Sihtasutus. <https://arhiiv.eki.ee/dict/lv-et/>.
- Moseley, Christopher (ed.). 2010. *Atlas of the World's Languages in Danger*. 3rd edition. Paris: UNESCO Publishing. <https://unesdoc.unesco.org/ark:/48223/pf0000187026>.
- Norrick, Neal R. 2009. Interjections as pragmatic markers. *Journal of Pragmatics* Vol 41(5), 866–891. <https://doi.org/10.1016/j.pragma.2008.08.005>.
- Norvik, Miina, Helle Metslang, Karl Pajusalu & Eva Saar. 2022. Livonian polar questions in their areal context. *Eesti ja soome-ugri keeleteaduse ajakiri. Journal of Estonian and Finno-Ugric Linguistics* 13(1), 121–155. <https://doi.org/10.12697/jeful.2022.13.1.05>.
- Norvik, Miina & Tuuli Tuisk. 2023. *Līvõ kīel optõbrõntõz. Liivi keele õpik*. Tartu: Tartu Ülikooli Kirjastus.
- Pakendorf, Brigitte & Françoise Rose. 2025. Fillers in the world's languages: a refined typology. In: Brigitte Pakendorf & Françoise Rose (eds.), *Fillers: Hesitatives and Placeholders* (Research on Comparative Grammar 5), 1–41. Berlin: Language Science Press.
- Sjögren, Andreas J. & Ferdinand J. Wiedemann. 1861. *Joh. Andreas Sjögren's livisch-deutsches und deutsch-livisches Wörterbuch*. Joh. Andreas Sjögren's Gesammelte Schriften. Band II. Theil II. St. Petersburg: Commissionäre der Kaiserlichen Akademie der Wissenschaften.
- Sorjonen, Marja-Leena & Heidi Vepsäläinen. 2016. The Finnish particle *no*. In Peter Auer & Yael Maschler (eds.), *NU/NÄ: A Family of Discourse Markers Across the Languages of Europe and Beyond* (Linguae & Letterae 58), 243–280. Berlin & Boston: Walter de Gruyter. <https://doi.org/10.1515/9783110348989-001>.
- Suhonen, Seppo. 1975. *Liivin kielen näytteitä*. (Castrenianumin toimitteita 5). Helsinki: Vammalan Kirjapaino Oy Offset.
- Todesk, Triin. 2025. The syntactic positions and form variation of *no/noh* in Seto. *Suomalais-Ugrilaisen Seuran Aikakauskirja* 101, 241–280. <https://doi.org/10.33340/susa.152167>.
- Tomingas, Marili. 2022. Sagedasemad diskursusepartiklid suulise liivi keele salvestistes. *Keel ja Kirjandus* 65(1–2), 95–109. <https://doi.org/10.54013/kk770a6>.
- Tomingas, Marili. 2023. *Pro-forms in spoken Livonian* (Dissertationes philologiae uralicae Universitatis Tartuensis 23). Tartu: Tartu Ülikooli Kirjastus.
- Tuisk, Tuuli. 2010. Liivi keel on Lätis põliskeel, mitte võõrkeel! *Sirp* 24.09.2010.

Viitso, Tiit-Rein. 2008. *Liivi keel ja läänemeresoome keelemaastikud*. Tartu & Tallinn: Eesti Keele Sihtasutus.

Viitso, Tiit-Rein & Valts Ernštreits. 2012. *Līvõkīel-ēstikīel-leļkīel sõnarõntõz. Liivi-eesti-läti sõnaraamat. Lībiešu-igauņu-latviešu vārdnīca*. Tartu & Rīga: Tartu Ülikool, Latviešu valodas aģentūra. <https://keeleeveeb.ee/dict/translate/lietlv/>.

Kokkuvõte. Marili Tomingas: Diskursusepartiklid *nu*^(h) ja *no*^(h) Kuramaa liivi keeles. Käesolev artikkel keskendub Kuramaa liivi diskursusepartiklite *nu* ja *no* analüüsile, mida kasutatakse sarnastes kontekstides. Lisaks esinevad ka aspiratsiooniga vormid *nu*^h ja *no*^h. Artiklis antakse esmalt ülevaade nende varasematest kirjeldustest sõnaraamatutes ja seejärel analüüsitakse nende kasutust suulise liivi keele andmestiku põhjal. Empiirilises analüüsis vaadeldakse nende üldist esinemissagedust, seotust pausidega, paiknemist lausungites ning lausetüüpe, milles need esinevad. Empiiriline uurimismaterjal põhineb kuue Kuramaa liivi emakeelse kõneleja salvestistel, mis pärinevad Tartu Ülikooli eesti murrete ja sugulaskeelte arhiivist. Kokku kasutati analüüsis 17 salvestist kogupikkusega ligikaudu 7 tundi ja 13 minutit. Materjali analüüsimiseks on kasutatud deskriptiivset meetodit, et esinemissageduste ja näidete abil kirjeldada partiklite kasutuse peamiseid tendentse. Tulemused näitavad, et aspiratsioonita vorme kasutatakse sagedamini kui aspiratsiooniga vorme. Kõigi nelja partikli puhul on kõige tavalisem kasutuskontekst väitlaused. Enamiku partiklite puhul on kõige sagedasem paiknemine lausungi alguses, millele järgneb paiknemine lausungi keskel. Erandiks on partikkel *no*^h, mille puhul oli andmestikus võrdselt nii lausungi alguses kui ka keskel paiknemist. Aspiratsiooniga vormid esinesid sagedamini koos pausidega, mis on tõenäoliselt olnud ka aspiratsiooni tekkimise algpõhjuseks.

Märksõnad: diskursusepartiklid, läänemeresoome keeled, liivi-läti keelekontaktid, pragmaatika, suuline keel, süntaks

Appendix 1. Background information on the used recordings.

Archive number	Duration	Sp. nr.	Interviewer(s)	Place of recording	Time of recording
SUHK0506-01	00:31:06	1	Tiit-Rein Viitso	Kūolka (Latvia)	22.08.1986
SUHK0506-02	00:30:51	1	Tiit-Rein Viitso	Kūolka (Latvia)	22.08.1986
SUHK0523-02	00:22:47	2	Tiit-Rein Viitso, Tiina Halling	Vaid (Latvia)	27.08.1986
F0997-02	00:01:00	2	Tiit-Rein Viitso, Valts Ernštreits	Vaid (Latvia)	24.07.1997
F0997-03	00:12:18	2	Tiit-Rein Viitso, Tiina Halling	Vaid (Latvia)	24.07.1997
F1035-03	00:20:17	2	Tiit-Rein Viitso	Vaid (Latvia)	04.08.2000
F1035-05	00:06:03	2	Tiit-Rein Viitso	Vaid (Latvia)	04.08.2000
F1037-01	00:08:55	2	Tiit-Rein Viitso, Tiina Halling	Vaid (Latvia)	06.08.2000
DS0127-03	00:03:07	3	Valts Ernštreits	Saulaine (Canada)	13.04.2012
DS0127-05	00:25:30	3	Valts Ernštreits	Saulaine (Canada)	13.04.2012
DS0128-01	00:31:29	3	Valts Ernštreits	Saulaine (Canada)	14.04.2012
SUHK0431-01	00:44:09	4	Tiit-Rein Viitso	Tartu (Estonia)	20.01.1986
SUHK0442-03	00:23:03	4	Tiit-Rein Viitso	Tartu (Estonia)	08.1986 (date unknown)
SUHK0520-01	00:40:18	5	Tiit-Rein Viitso	Vaid (Latvia)	27.08.1986
SUHK0520-02	00:19:39	5	Tiit-Rein Viitso	Vaid (Latvia)	27.08.1986
F1035-01	00:35:45	6	Tiit-Rein Viitso	Kūolka (Latvia)	04.08.2000
F1089-05	00:32:58	6	Tiit-Rein Viitso	Kūolka (Latvia)	03.08.2005
Total length:	07:13:04				