

Initial Observations on Olaus Sirma's Language Samples

The Saami languages of Sodankylä and Enontekiö at the end of the 17th century

Jaakko Häkkinen, October 3rd, 2026

Contents	Page
Research questions	2
1. Introduction	2
1.1. Kemi Saami among the Saami languages	3
1.2. Olaus Sirma, a Saami from Sodankylä	6
1.3. Interpretation of the sounds in Sodankylä Saami song texts	7
1.4. Were there dialectal differences in Sodankylä Saami?	9
1.5. Enontekiö in the early 18th century	10
1.6. Sirma translated the catechism into the language of the "Lapps of Tornio"	12
1.7. Linguistic diversity in Sirma's catechism	13
1.8. Entries, reconstructions, and material	14
2. Morphological features	18
2.1. Illative ending <i>*-jēn</i>	18
2.2. Third-person plural <i>*-k</i> in present tense	20
2.3. Third person singular <i>*-ā</i> in trisyllabic words in present tense	21
2.4. Connegative <i>*-k</i>	21
2.5. Second imperative	22
2.6. Choosing the verbal abessive	23
2.7. Agreement of the attributive adjective before singular local cases	23
3. Phonological features	25
3.1. Fronting of the first syllable <i>*ā</i> and <i>*uo</i> before a front vowel	25
3.2. Development of Proto-Saami <i>*ē</i>	26
3.3. Long vowels <i>*ā</i> , <i>*ē</i> , <i>*ō</i> in the second syllable	29
3.4. Contracted vowels <i>*ā̃</i> , <i>*ē̃</i> , <i>*ō̃</i> , <i>*ī̃</i> , <i>*ū̃</i> in the second syllable	30
3.5. Preservation of non-short nasal consonants	31
3.6. Proto-Saami <i>*š</i>	32
3.7. Proto-Saami <i>*c</i>	34
3.8. Proto-Saami <i>*č</i>	34
3.9. Proto-Saami <i>*kt</i>	37
4. Tracing the distinctive features of Suonttavaara Saami	38
5. Results of the analysis	42
6. Literature	47
Appendix 1: Presentation of data in SplitsTree6's network graph	49

The study was conducted, and the research article was produced solely using organic intelligence.

Translation from Finnish was initially done by [Fileworld](#) and then corrected and polished by me.

Research questions:

1. In what language did Olaus Sirma write his catechism? If it wasn't his native language, Sodankylä Saami, then what was it?
2. Based on Sirma's catechism, what can be said about the linguistic situation in Enontekiö at the end of the 17th century?

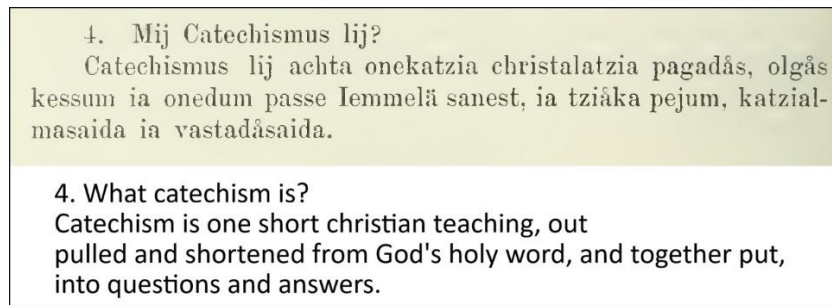


Figure 1: Excerpt from Sirma's catechism (Wiklund 1913). The literal word-to-word translation is mine.

1. Introduction

Olli Matinpoika, a Sodankylä Saami known by his priestly name Olaus Sirma (born in the 1650s in the Lapp village of Sodankylä), is our earliest and most important source on the extinct Saami languages of Finnish Lapland. The Sodankylä Saami songs *Kúlñasats nirâsam* and *Morse faurog*, presented by Sirma, were first published in 1673 in Johannes Schefferus' book *Lapponia*. After graduating from Uppsala University as a priest in a short time, Sirma became the priest of the Enontekiö chapel congregation in 1676, and he served there until his death in 1719. In Enontekiö, he translated the catechism, according to his own words, into the language of the "Lapps of Tornio" (Wiklund 1913: 82), and it is our most important window into the diverse linguistic situation of Enontekiö at that time. The material in the catechism appears to have been compiled from at least three different Saami languages, so thanks to Olaus Sirma, we can get acquainted with as many as four Saami languages. A statue of this little-known [prominent figure](#) can be found in Orajärvi, Sodankylä.

In this article, I present initial historical linguistic observations on the language of Olaus Sirma's catechism and on his native language, the old Sodankylä Saami, which should not be confused with the current Sodankylä Saami. The latter spread to the northern part of Sodankylä at the end of the

19th century with the Saami who had migrated from Enontekiö and Kautokeino, and it belongs to the Western Finnmark dialect group of Northern Saami. It is likely that at that time, there were still people alive who had learned the old Sodankylä Saami in their childhood, even though it had not been used as the community's language for a long time.

The vocabulary of the catechism is much more extensive but linguistically more diverse, whereas the more limited corpus of Sodankylä Saami is linguistically consistent: the two surviving song texts appear to represent one and the same vernacular. Sirma translated the catechism into Saami, using Johannes Gezelius the Elder's Finnish catechism, which is included in the work *Yxi paras lasten tawara* from 1666, as his main source.



Figure 2: The northern part of the Kingdom of Sweden in 1673 according to the map in *Lapponia*. Sondoweira (Suonttavaara) is in the central part of Enontekiö.

1.1. Kemi Saami among the Saami languages

While reading the book *Kemin-Lappi elää!* (Kemi-Lapland Lives!), edited by Eeva-Maria Maijala, (2016), I became aware that we have important language samples from the extinct Saami languages of Finnish Lapland that have never been thoroughly analyzed using the methods of historical linguistics. Since then, I have periodically worked on my analysis of samples of the old Sodankylä Saami, later also including Sirma's catechism in my examination. Since research work is slow and a thorough analysis may never be "definitively complete," I think it best, at this ten-year mark, to publish on my website this initial glimpse of what can be said about the material at this stage.

The living Saami languages represent only a small part of the ancient spectrum of Saami languages: even the Saami-derived place names in various regions of Finland and the Saami loanwords in the dialects of different regions attest to the fact that Saami was formerly spoken in virtually the entire territory of Finland (Aikio 2007; 2009). We do not know much about what the Southern Finland Saami languages were like exactly, but the language samples collected in the historical Kemi Lapland region (from Kuusamo in the south to Inari in the north; from the eastern border to Kittilä) show that each Saami village had developed its own language.

The samples presumed to be from Kemikylä Saami (present-day Savukoski) are not actually from the Finnish side. In *Mehiläinen*, Lönnrot himself states, in connection with the presentation of one of the songs, that it originated from Akkala, i.e., from the Russian side of the border (Lönnrot 1837). As all three songs initially appear to represent the same language, none of them likely represents the Saami spoken on the Finnish side.

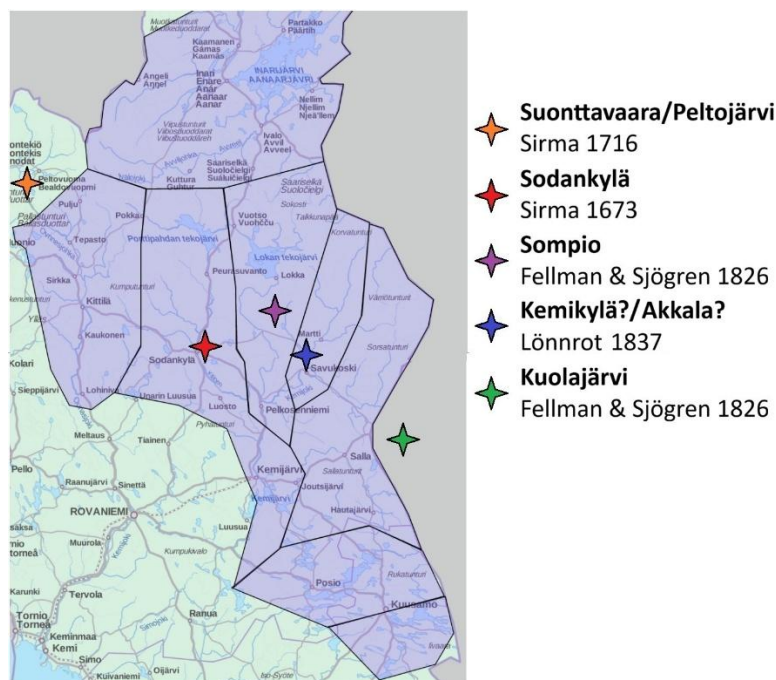


Figure 3: The Lapp villages of Kemi Lapland and Eastern Enontekiö and language samples on a modern map.

Kemi Saami is an umbrella term for all the extinct languages of the Lapp villages in Kemi Lapland, meaning that Inari Saami, which is still alive, is excluded from it as a separate language, even though it was also spoken in Kemi Lapland. The exact relationship of these extinct languages to each other

and to the living Saami languages remains unclear, and it is likely that we will never be able to establish the definitive truth about this matter. The uncertainty is related both to the scarcity of linguistic material and to the limitations of the method: without preserved linguistic material from the Saami proto-dialects, we have no means of reliably distinguishing between (1) features that are inherited to known languages from a common proto-dialect, and (2) features that have spread from one language to another in later times through language contact. Since the phylogenetic tree (family tree) is closely related to the features of the first type, I will not use it in this paper, but instead present other types of diagrams.

To circumvent the problem described, I use the term *evolutional lineage*: an evolutional lineage leading to a still-living or an extinct Saami language known from language samples begins with Late Proto-Saami and consists of all the changes that have occurred, regardless of whether these changes are already inherited from a common proto-dialect that preceded certain Saami languages or whether the changes spread later as a result of regional contacts.

As can be expected, regionally close languages share more changes with each other than with more distant languages, so the evolutional lineage has a regional dimension. Saami languages can thus be grouped into *regional groups* according to how closely related their evolutional lineages are to each other, i.e., how many common changes the languages share. A large number of sound changes in all Saami languages and their dialects are discussed by Sammallahti (1998a); the Southern group is based on studies by Piha & Häkkinen (2020) and Häkkinen & Piha (2023). For living and recently extinct Saami languages, I use the following grouping:

Southern group	Western group	Central group	Eastern group
Southern Saami	Pite Saami	Inari Saami	Kildin Saami
Ume Saami	Lule Saami	Skolt Saami	Ter Saami
†Gävsle Saami	Northern Saami	†Akkala Saami	

Table 1: Known Saami languages grouped according to the similarity of their evolutional lineages.

I would like to emphasize that these regional groups are not necessarily entirely the same as groups of closely related languages (which would be depicted by a family tree), although it would be unlikely that Saami languages descended from the same proto-dialect would not bear a strong resemblance to each other – after all, they are usually also spoken in close proximity to each other. However, the situation is asymmetrical in that, in principle, it is possible that two Saami languages would resemble each other solely because of long-standing contact, without descending from the same proto-dialect.

From a regional perspective, the living Saami languages form an outer ring, mostly extending to the shores of the Atlantic or the Arctic Ocean (with Inari Saami being the only exception), while the extinct languages of Kemi Lapland are part of the inner ring. Of the languages listed under Kemi Saami, Sompio Saami and the presumed Kemikylä Saami appear, preliminarily, to belong to the central group (Häkkinen 2018: [Linguistic traces of the Forest Lapps](#) [in Finnish]). The Kuolajärvi Saami word list is quite diverse, and it was probably collected from speakers of different dialects/languages. By combining information with traces preserved in place names, it is possible to try to trace clues as to what dialects may have been spoken in different parts of the Lapp village of Kuolajärvi (Ryttilähti 2025: [Kemi Saami dialects and their study today, Part 1](#) [in Finnish]).

However, this work is still in its infancy, and in the case of placename elements, their ambiguity causes unavoidable uncertainty. Unlike words in a language, placenames have no other semantic content than the place to which the name refers. If the wrong word has been interpreted as the explanation for a name element, then the conclusions about the features and even the evolution of the language may be incorrect – especially when it comes to vernaculars for which very little vocabulary is known. In the worst case, a possible explanation for the same placename can be found in many different languages: when the meaning does not help to narrow down the options, phonetically suitable words can be found in every language in the world.

In any case, even a preliminary glance at the so-called Kemi Saami materials shows linguists that these are very different languages that, in reality, have not formed one single language. Kemi Saami should therefore be understood solely as a regional umbrella term – it is not a language in the same sense as the living Saami languages.

1.2. Olaus Sirma, a Saami from Sodankylä

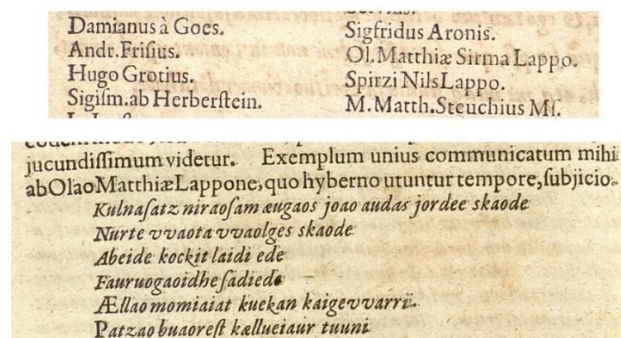


Figure 4: The Lapp Olli Matinpoika Sirma is mentioned in *Lapponia* by Johannes Schefferus in the Latinized form Olaus Matthiæ Sirma Lappo.

Olli Matinpoika Sirma is known as an important source of information for Johannes Schefferus' *Lapponia* (first Latin edition, 1673). In the book, he is said to be from Tornio Lapland, but in his student records, he is said to be from Kemi Lapland. Erkki Itkonen (1940) has identified the place names in the songs that ended up in the book from Sirma as belonging to the Lapp village of Sodankylä: for example, Orajärvi and Kelujärvi are mentioned in the songs in the forms <Orre Jawre> and <Källúeiaúre>. These song texts, published over 350 years ago, thus represent Sirma's native language, the old Sodankylä Saami.

In the song texts of Sodankylä Saami, it is noteworthy that there are very few recent loanwords of Finnish origin, although the samples do contain older Finnic loanwords shared by many Saami languages. After all, Finnic and Saami languages have been spoken in adjacent areas at various times over the last few millennia. At the end of the 17th century, Sodankylä was still an entirely Saami-speaking area.

Coincidentally, in the same year that *Lapponia* was published, i.e., 1673, the King of Sweden granted Finnish settlers a permission to settle in Lapland, in the traditional territories of the Lapp villages. At first, Finns arrived slowly, but over time their numbers grew, and at the same time, through intermingling, the earlier Saami population also became Finnicized in terms of genetics, language, and culture. The languages classified as Kemi Saami ultimately ceased to be passed on to children around the mid-19th century. Therefore, there must have been elderly people still living in the 20th century who had learned the old Saami as children. However, the language of the local communities was already Finnish at that time.

1.3. Interpretation of the sounds in Sodankylä Saami song texts

In this analysis, I do not follow the original orthography of the *Lapponia* book, which contains both typographic errors and misleading typographic choices, but rather the orthography of the original manuscripts, which Kallio, Valtonen, and Jouste (2019; together with Lari Ahokas) have transcribed. The article in question also presents a phonological interpretation of what Sodankylä Saami might actually have sounded like for two lines, but there are many uncertainties in the interpretation of individual letter characters. For example, I do not see it as justified to interpret <β> as an affricate /č/ [tš] or /ć/ [tś], when in the texts, such an affricate is known to be denoted by <tsi> or <tzi>. In addition, only some of the <β> instances had an affricate in Proto-Saami, while the original sibilant (*s or *š) is represented by the following instances:

Sod-B *tangaß* 'heather, ling, twig, sprig' < **deŋes*

Sod-A *ainakåß* 'do you see' < **oajn|āk-kās*

Sod-A *wålgeß skådhe* '[shall we not] begin to go' < **vuolkē-škoaðēk*

Sod-A *joß* 'if' (borrowed from Finnish)

When already in Sirma's main source, Johannes Gezelius the Elder's Finnish catechism (1666) the placement of typographically different *s* letters seems to be completely arbitrary and does not reflect any real phonetic difference in the Finnish language, then, most likely, the variation of different *s* letters has been free in Sirma's manuscript as well.

Sammallahti's (1998b) reconstruction of the Sodankylä Saami A-text is based on the tendency to interpret the most archaic sound possible behind all the letter characters. Take, for example, the spelling <*wålgeß skådhe*> '[shall we not] begin to go' found in the Sodankylä Saami A-text. Sammallahhti reconstructs this as the Kemi Saami form **vuolgežkoadee*, while Kallio, Valtonen, and Jousto (2019) propose /*vuolgečškoade*/ as the phonological interpretation. Both interpretations contain many assumptions, and the interpreters do not justify their choices.

1. The initial <*wå*> may represent the sound sequences /*vuol*/, /*voal*/, /*vool*/, /*vo*/ or /*uo*/.
2. The unstressed syllable <*e*> may represent the sounds /*e*/, /*ee*/, /*ä*/ or /*ää*/.
3. <*ß*> may represent the sounds /*s(s)*/, /*š(š)*/, /*ć(ć)*/, /*č(č)*/, /*ǰ(ǰ)*/ or /*ž(ž)*/.

Both aforementioned interpretations have been influenced by the reconstruction of Proto-Saami: there has been a subconscious desire or a conscious choice to view Sodankylä Saami as phonetically archaic (**vu*; **ee*; **č/*ǰ*), even though it may not have been archaic. Equally, Sodankylä Saami may have been a language that had changed in many ways (**vu* > ***vo*; **ee* > ***e*/***ä*; **ć* > ***s*), and the reflexes of the Proto-Saami sounds may no longer have corresponded in quality and/or duration to the Proto-Saami sounds.

The problem arises from the fact that we cannot have an idea of the actual phonetic value of the sounds until the entire corpus has been thoroughly analyzed using methods of historical phonology, and even then, many things remain uncertain. The phonetic values of the letters in the Sodankylä Saami samples should be assessed solely based on the preserved sources and as parts of the language's own phonological system. The interpretation of the letters must not be forced either in the direction of the living Saami languages or in the direction of the reconstructed Proto-Saami. For this reason, I

am not yet going to reconstruct the phonological system of Sodankylä Saami (e.g., **vo*) at this stage but will stick solely to the original notation (e.g., *⟨wå⟩*).

According to Kallio, Valtonen, and Jouste (2019), two words are marked with the ordinary *⟨u⟩* (Sod-A *oudas* 'further'; Sod-B *punie* '(they) twist'), while *⟨ú⟩* appears in all other cases. Therefore, I also keep these letters separate, although it is most likely that this difference in notation does not reflect any real difference in the language's phonemes. On the other hand, I always replace the *⟨ʒ⟩* in the manuscript with *⟨z⟩*, because only the former appears in the manuscripts and because the latter is technically easier to produce in writing and easier for the reader to understand.

1.4. Were there dialectal differences in Sodankylä Saami?

It is possible that the Sodankylä Saami texts represent slightly different, albeit closely related, dialects. However, consistent differences are only seen in the representation of two Proto-Saami sounds. I will only present examples of these when discussing the sounds in question.

1. Close diphthongs: **uo* > Sod-A *⟨úa⟩* ~ *⟨ú⟩* vs. Sod-B *⟨oa⟩/⟨oo⟩* ~ *⟨o⟩* | **ie* > Sod-A *⟨i⟩* vs. Sod-B *⟨ie⟩* (see 3.1)
2. Affricate **č* within a word: Sod-A *⟨s⟩/⟨ß⟩* vs. Sod-B *⟨dz⟩/⟨dzi⟩* (see 3.8)

However, the dialectal difference remains an uncertain possibility, as there is another possible explanation for the differences between the songs: different scribes. It is possible that Text A was written down by Olaus Sirma himself, while Text B appears to be the work of another scribe (pseudonym A.C.; Kallio, Valtonen, and Jouste 2019: 130). If the other scribe's native language was Swedish (which was highly likely at Uppsala University), the differences in the notation of sounds may reflect the different written traditions of the languages. For example, even in Swedish-language literature of that time, the [u] sound was written as *⟨o⟩* (Teleman 2019: 42), whereas in Finnish-language literature, it was written as *⟨u⟩*. Therefore, it is possible that the *⟨ú⟩* in Text A and the *⟨o⟩* in Text B actually represent the same vowel in Sodankylä Saami.

There are few examples in Text A of the representation of Proto-Saami **č* in inflectional elements. Thus, when, even in the case of the word-initial **č*, two different representations appear in the longer Text B and only one representation in the shorter Text A, then, in this case too, the partially different representation may simply be due to the scarcity of examples in Text A.

1.5. Enontekiö at the end of the 17th century

At the end of the 17th century, Enontekiö consisted of three Lapp villages: Rounala in the West, Suonttavaara in the center, and Peltöjärvi in the East (the last one does not appear on the map in Figure 5). The first two Lapp villages mentioned extended much further South than where the current Southern border of Enontekiö, i.e., the national border between Finland and Sweden, runs. The church and the rectory were conveniently located in the center of the area in Markkina, where the Lätäseno and Könkämäeno rivers converge to form the Muoniojoki River. Since this area belonged to the Suonttavaara Lapland village, it can be assumed that Suonttavaara Saami was the main language of Sirma's catechism, although, of course, residents of other Lapp villages also attended the same church. On the other hand, Sirma also took part in the trips of the people of Rounala to the Arctic Ocean (Valtonen & Kallio 2024: 182), so the western language was certainly familiar to him as well. It can be assumed that the language of Peltöjärvi, the easternmost Lapland village, was the most unfamiliar to him and appears least frequently in the catechism.

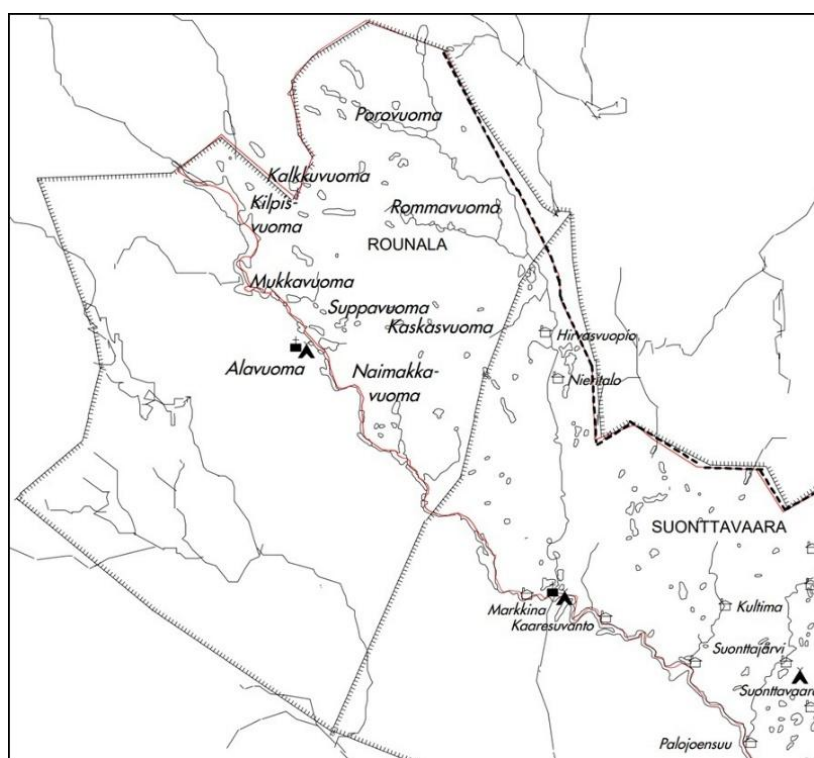


Figure 5: Map of the Lapp villages in the western and central parts of Enontekiö according to Heikkilä (2001). Olaus Sirma's church and rectory were located in Markkina.

The picture can be clarified by the fact that Northern Saami people are known to have lived in the westernmost Lapp village, Rounala, as early as the 17th century. Sirma's catechism contains some clearly Northern Saami linguistic forms, and for some of the features under consideration, they constitute the majority or even the only representation. Similarly, the few word forms that resemble Inari Saami can be linked to the Peltojärvi language – especially since these features often do not resemble Inari Saami completely, but rather, small differences are often found.

In principle, it would also be possible that a similar language was spoken in the Lapp village of Peltojärvi as in the Lapp village of Suonttavaara. In this case, the few Inari Saami elements in the catechism would stem from travelers or migrants who came from Inari. However, I consider this unlikely, because the "third language" of the catechism does not fully correspond to modern Inari Saami but is, in many respects, more archaic or otherwise slightly different. Therefore, I consider it most likely that Peltojärvi Saami was a language closely related to Inari Saami. On the other hand, for the Peltojärvi Saami language to have represented the actual Inari Saami language would require that many of the changes that led to the current Inari Saami language occurred only after the early 18th century. This also does not seem very likely.

Of course, the picture is not so clear that there are three different representations for every feature; often, there are only two, and sometimes only one (especially if there are few examples). There is nothing surprising or suspicious about this: there are also plenty of features in which, for example, Northern Saami and Inari Saami resemble each other, even though, at the same time, there are also plenty of features that distinguish these languages. Undoubtedly, the same phenomenon also applied to the languages of Enontekiö during the period I examined.

In Chapters 2 and 3, I trace the language of Enontekiö's central Lapp village, Suonttavaara Saami, based on the premises that best explain the data, according to which (1) Rounala Saami belonged to the Northern Saami group and (2) Peltojärvi Saami was related to Inari Saami. Since out of the variation in Sirma's catechism representations resembling Northern Saami and Inari Saami can be observed, I believe that the assumed linguistic-geographical framework here is more credible than any other option. Since the variants resembling Northern Saami and Inari Saami have thus been associated with the languages of the Rounala and Peltojärvi Lapp villages, respectively, the remaining representation can be interpreted as Suonttavaara Saami. In many respects, it resembles Sodankylä Saami, but there are also distinguishing features.

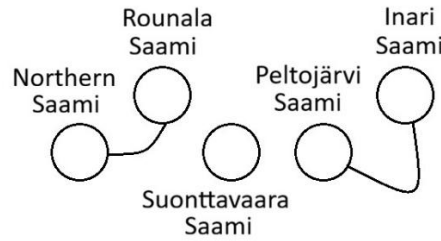


Figure 6: Linguistic-geographical outline of late 17th-century Enontekiö and its surrounding areas. Gentle curve = closer relationship; sharp curve = more distant relationship.

1.6. Sirma translated the catechism into the language of the "Lapps of Tornio"

Olli Matinpoika, a Sodankylä Saami known in Latin as Olaus Sirma, received his theological education at Uppsala University and, as early as 1676, became the chaplain of Enontekiö, serving as the priest of the chapel parish under the vicar of Jukkasjärvi. He lived there for the rest of his life, until 1719 (Valtonen & Kallio 2024). In his letter, he himself stated that he had translated the catechism into the language of Tornio Lapps. The final version of the manuscript dates from 1716 and was not published until 1913 by K. B. Wiklund.

kes i manuskript, öfversatt af den kände komministern i Enontekis OLAUS SIRMA och daterad år 1716. I en följdskrifvelse, ställd till mag. GEORG WALLIN (d. y.) i Härnösand och daterad den 2 okt. 1717, refererar han till dennes kända intresse för lapparnas upplysning och till det prof på RANGU öfversättning af nya testamentet, som WALLIN år 1715 utsändt till lappmarksprästerne i och för granskning,¹ och säger vidare: "nu denna min lilla Verck D. I. Gezelii Spörmåhl på lapperska språket iag Eders Ährevyrdigheet ödmjukeligen framteer, vijsandes egenteligen der uti Torneå lapperska tungomåhl, hvileket iag allareda den tiden iag först hijt til Enotekis at vara siälesörjare förordnat blef [1675], verterade, och sedermera A:o 1688 tå iag til Stock-

Figure 7: In his letter from 1715, Olaus Sirma stated that he had translated the catechism into the language of the Tornio Lapps (Wiklund 1913: 82).

Although Enontekiö already belonged entirely to Tornio Lapland at that time (Peltojärvi was transferred from Kemi Lapland to Tornio Lapland by 1640), the description of the language of the catechism remains unfortunately imprecise, as the linguistic situation in Enontekiö is known to have been diverse at that time. In the Western part of Enontekiö, in Rounala, Northern Saami was already spoken

in the 17th century (the dialect is organically related to the dialects on the Swedish side; Sammallahti 1998a: 19), while Northern Saami did not spread to the eastern part until the 19th century (the Western Finnmark dialect group from the Kautokeino region in Norway; Sammallahti 1998a: 12). Before that, earlier Saami languages were spoken in the Central and Eastern parts of Enontekiö, which I refer to here as *Suonttavaara Saami* and *Peltojärvi Saami*, named after the Lapp villages.

In his recently published master's thesis, Santeri Jounila (2026) has examined the noun inflection in Sirma's catechism. In his analysis of the language of the catechism, he uses his own reconstruction, which should be treated with caution for the same reasons I explained in Subsection 1.3. Moreover, since the catechism contains word forms from many different Saami languages, as I will show in this analysis, it is impossible to reconstruct a single language in the background of the entire catechism. Unfortunately, the current state of research does not yet allow for the reconstruction of the phonological systems, let alone the grammars, of Olaus Sirma's main languages (Sodankylä Saami, Rounala Saami, Suonttavaara Saami and Peltojärvi Saami) with any degree of certainty, so we just have to be patient and advance the study of these languages bit by bit.

1.7. Linguistic diversity in Sirma's catechism

Sirma himself seems to have been well aware that his parishioners spoke different languages. This is evident in the fairly frequent repetition of synonyms:

SC *noko Turas iela Tiermes* I:4 'like Thunder, i.e., Tiermes'

SC *lie Laga ullim ia jela tievasn takam* I:12 'has fulfilled, i.e., made complete the law'

SC *Iackem jela oskå kappalagast* II:4 'from the article of believing, i.e., of faith'

SC *pagadâuâiek iaket Iemmelä ala jela pajel* II:10 '[they] teach to believe in, i.e., in God'

SC *Iemmelä kieres iela rakes votin* III:9 'to God's love, i.e., love'

SC *puokain paikin alda jela lacka* III:9 'in all places present, i.e., near'

SC *famå jela väka* V:6 'power, i.e., strength'

SC *kijtti ia tåjei iela juågi* VI:3 'gave thanks and broke, i.e., distributed'

SC *våtziåtum jela kålgatum* VI:8 'shed, i.e., poured out'

The catechism also contains variants of the same words that refer to different Saami languages. For example, the word 'spirit, life' most often appears in its Eastern form (SC *iegga* II:8 III:9 IV:8 V:8;

iegge II:9 | In *jieggâ* | Sk *jiðgg*), but once also in its Western form (SC *hägga* II:9 | No *heagga* | Lu *hægga*). This word was borrowed from Finnish and/or Karelian separately into the Western and Eastern languages, because these words cannot be traced back to the same Proto-Saami word. The Eastern languages refer to the original form **jienke* and the Western languages to the original form **heanke*.

The examples in Chapters 2 and 3 illustrate the linguistic diversity of the catechism. I deliberately keep the number of examples low so as not to compromise readability. The intention is merely to illustrate the development of words and inflectional forms in different Saami languages. The languages used for comparison are the geographically closest living Saami languages, Northern Saami and Inari Saami, as well as, in addition to these, Skolt Saami, with regard to those features where one of the Enontekiö languages shows a similar development to it. I compare exactly the same inflectional forms from different languages using the inflectional paradigms in *Giellatekno*'s online dictionaries.

1.8. Entries, reconstructions, and material

In = Inari Saami

Lu = Lule Saami

No = Northern Saami

So = Southern Saami

Sk = Skolt Saami

SC = Sirma's Catechism from 1716

Sod-A = Sodankylä Saami *Kúlñasats niråsam* text from 1673

Sod-B = Sodankylä Saami *Morse faurog* text from 1673

á = in the easternmost dialects of Northern Saami, it sounds like *ä*, and further West, it sounds like *a*. In Inari Saami, *ä*-like.

à = semi-long *a* (shorter than *aa*)

â = open (in final syllables also close-mid) unrounded back vowel in Inari and Skolt Saami (pronounced with the lips wider than in *a* but with the tongue in the same back position)

**ā* = long *aa* in Proto-Saami.

**â* = Proto-Saami contracted vowel (here like *a*), which arose when a consonant at the syllable boundary and the vowel of the following syllable were lost or merged with the preceding vowel (< **ājV*)

V = any vowel

⟨dzi⟩, ⟨tzi⟩ = the original written form of the language sample; a grapheme, i.e., a letter or combination of letters that corresponds to one phoneme of the language

[tsj] = phonetic sound value (here made more accessible to the general public)

/č/ = phoneme, i.e., a unit of the sound system

*č = reconstructed Proto-Saami sound (phoneme) or word

**word = speculative reconstruction if the word does not actually originate from Proto-Saami (loanwords are usually adapted to the patterns of the language's old words)

word|a = the vowel of the last syllable of the word stem has changed to another in this inflectional form

'word' = the meaning of the word is given in single quotation marks

$a \leftarrow b$ = a is derived from b , or a is an inflectional form of b

audâgas_votan = the long horizontal line in the lower end of the text line connects the words written separately by Sirma, which actually represent the stem and the derivative or inflectional ending

I have personally made a literal translation of Sirma's catechism (according to Wiklund, 1913), word for word, using its main source, Gezelius's (1666) Finnish catechism, as well as dictionaries of various Saami languages and the Saami etymological database *Álgu*. To enable the analysis of word forms, the raw translation reproduces the Saami-language structure of each word form as faithfully as possible, even if a sentence consisting of such word forms violates Finnish grammar. Sections of the text are indicated by chapters and verses (e.g., I:1 or 0:3).

The Sodankylä Saami song texts and their Finnish translations are in the form presented by Kallio, Valtonen & Jouste (2019). However, I have replaced ⟨ʒ⟩ with ⟨z⟩, because only the former appears in the original manuscripts, and there is therefore no risk of confusion. On the other hand, I have kept ⟨β⟩ as it is, because the ordinary ⟨s⟩ also appears alongside it, and because the phonetic value of ⟨β⟩ is not known (see Subsection 1.3).

Sirma's catechism, with its rough Finnish translation, still needs a little work, but I intend to publish all the language samples I used as material for this study on my website as soon as possible. However, I will provide direct links here to the aforementioned articles, where Sirma's Saami-language texts can be found: [Sodankylä Saami](#) (with a Finnish translation) and [the catechism](#) (without a translation).

In the historical linguistic scrutiny in Chapters 2 and 3, I also present example words from Northern Saami, Inari Saami, and, where necessary, Skolt Saami that correspond to the word forms in Sirma's language samples. I have searched for these inflectional forms in the inflectional paradigms

of *Giellatekno*'s dictionaries. The reconstructions of Proto-Saami are based on the research tradition established by Mikko Korhonen (*Johdatus lapin kielen historiaan* [Introduction to the History of the Lappish Language], 1981) and Pekka Sammallahti (*The Sámi Languages*, 1998a). In the 21st century, however, our understanding of the relative chronology of sound changes in the Saami branch of the Uralic language family has become more precise, particularly with the help of Germanic loanwords (e.g., Koivulehto 2002; Aikio 2006), which I, of course, take into account. Recent studies on the early differentiation of the southernmost Saami languages have also refined the ages of sound changes and their relationship to the breakup of Late Proto-Saami (Piha & Häkkinen 2020; Häkkinen & Piha 2023).

The reconstruction stage I use represents the current understanding of Late Proto-Saami, i.e., the great Saami vowel shift has already taken place, but gradation and contracted vowels have not yet appeared in the language. For the sake of clarity, some features also include a more recent reconstruction level to clarify the development leading to modern languages. Reconstructions are marked with an * at the beginning.

For this initial overview, I have selected features that have a sufficient number of occurrences and that show variation between the different source languages of Sirma's catechism. My analysis does not include features for which the Saami languages of Finnish Lapland do not differ from each other. Examples of these are gradation and the denasalization of consonant clusters, which are seen in Northern Saami, Inari Saami, and Skolt Saami, as well as in the extinct Kemi Saami languages.

Gradation has previously often been considered a Proto-Saami phenomenon, but now it seems that it never even developed in the southern languages (Häkkinen & Piha 2023: 18–19). It is, therefore, a change that occurred after the uniform Late Proto-Saami, but probably still very early, because in all the languages in which gradation occurs, its core is similar (Korhonen 1981: 135). In Saami gradation, the single consonant or geminate at the beginning of an open second syllable (ends in a vowel) has been lengthened, while the consonant at the beginning of a closed second syllable (ends in a consonant) has remained.

Qualitative (with stops) and quantitative gradation are also seen in Sirma's catechism and So-dankylä Saami. In the reconstructed initial form, the short horizontal line in the middle of the line (hyphen) does not indicate a syllable boundary but the boundary between the stem and the inflectional elements.

SC *laka* I:1,5,13 II:1 'law' | No *láhka* | In *laahâ* < **lāķē*

SC *laga* I:2,3,4,7,12 'law's' | No *lága* | In *laavâ* < **lāķē-n* / **lāķē-m*

SC *annet* I:11 'regard as' | No *atnit* 'to use' | In *anneed̥* < **ɛ̃nē-tēk*

SC *anä* VI:11 'regard!' | No *ane* 'use' | In *ane* < **ɛ̃nē-k*

Sod-B *patäridzick* 'you would run away' | No *báhtarivččēt* | In *patâriččih* < **pātēṛē-kéḱēk*

Sod-B *tiedam* 'I know' | No *diedán* | In *tiädám* < **tiet|ā-m*

Sod-A *kirrakeid* 'to treetops' | No *gierragiidda* | In *kierruid* < **kierēḱēk-ējdēk*

Sod-B *mooraid* 'trees' (object) | No *muoraid* | In *muorâid* < **muoreṛ-jdē*

Another phenomenon common to all the languages under consideration is the denasalization of consonant clusters: e.g., **mp*, **nt*, **ɲk*, **nc*, **ńć* > **bb*, **dd*, **gg*, **ʒʒ* [*ddz*], **ʒʒ* [*ddž*]. This change apparently took place in the Western languages earlier, but it did not spread to the Eastern neighbors of Northern Saami until after the adoption of Christian vocabulary, around the 16th century (Sammallahti 1998a: 194). In any case, during Olaus Sirma's lifetime, denasalization had already been fully implemented in both the Enontekiö languages and Sodankylä Saami.

SC *nobbe* I:10; *nobbä* II:5 'other' | No *nubbi* | In *nubbe* < **numpē*

SC *sijaddä* VI:10 'they grow' | No *šaddet* | In *šaddeh* < **šēntē-jēk*

SC *ieggä* II:8 III:9 IV:8 V:8 'spirit, life' | No *heagga* | In *jieggâ* < **jienḱē*/**heanḱē*

SC *átzie* VI:4 'flesh, body' | No *oažži* | In *uážži* < **oańćē*

Sod-B *qwodde* 'they carry' | No *guddet* | In *kyeddih* < **kuontē-jēk*

Sod-B *piägga* 'wind' | No *biekka* | In *piegâ* < **pieṛḱē-n*

Sod-A *átzân* 'we2 reach / arrive at' | No *ožžo* | In *uážžoon* < **oańćō-jēn*

The emergence of contracted vowels is also a phenomenon that occurred later than Proto-Saami, and it must also have occurred later than gradation (Korhonen 1981: 114, 217). Uncontracted forms are most common in the southernmost Saami languages. However, since the shared contracted vowels have subsequently developed differently in the various languages under consideration, they are included in the analysis.

INITIAL OBSERVATIONS ON OLAUS SIRMA'S LANGUAGE SAMPLES

Feature	Proto-Saami	Northern Saami	Inari Saami	Skolt Saami	Suonttavaara Sa	Sodankylä Sa
Illative ending:	*-jɛn	-i	-n	—	—	—
Pres. pl.3:	*-jɛk	-k ~ -t	-h	—	—	—
Pres. sg.3: ¹	*-ā	-a	—	—	—	??
Connegative:	*-k	—	—	—	—	—
2nd imperative:	—	—	—	—	—	- ̥k
Verb abessive:	*-keannā	-geahtá	-hánnáá	-kâni	⟨-känna⟩	??
Attrib. agreeem:	ESS + LOC	GEN + LOC	GEN + LOC	GEN + LOC	LOC + LOC	LOC + LOC
1st syllable:	*ā(-ē)	á	ä	ä	⟨a⟩	⟨a⟩
1st syllable:	*uo(-ē)	uo	ye	ue	⟨uo⟩	⟨uo⟩
1st syllable:	*e	a	a ~ o	â ~ õ	⟨a⟩	⟨a⟩
2nd syllable:	*e	a	â	â	⟨a⟩ (⟨e⟩/⟨o⟩)	⟨a⟩/⟨ä⟩/⟨e⟩/⟨o⟩
2nd syllable long vowels:	*ā, *ē, *ō	á, i, u	á, e/i, o/u	a, e, a	⟨a⟩, ⟨e⟩/⟨ä⟩, ⟨o⟩/⟨â⟩	⟨a⟩, ⟨e⟩/⟨ä⟩, ⟨o⟩/⟨â⟩
Contracted vowels:	*â, *ê, *ô	á, e, o	á, e/i, o/u	a, e, a	⟨a⟩, ⟨e⟩/⟨ä⟩, ⟨o⟩/⟨â⟩	⟨a⟩, ⟨e⟩, ⟨â⟩
Contr. vowels:	*î, *û	e, o	e/i, o/u	e, u	⟨i⟩?, ⟨â⟩	⟨i⟩, ??
Long nasals: ²	*mm, *nn, *ŋŋ	pm, tn, kŋ	mm, nn, ŋŋ	mm, nn, ŋŋ	⟨mm⟩, ⟨nn⟩, —	⟨mm⟩, ⟨nn⟩, —
Before a cons.:	*š	jh	š	š	??	⟨s⟩
Betw. vowels:	*š	š	j (weak)	š	⟨ssi(j)⟩	⟨s⟩
Elsewhere:	*š	š	š	š	⟨sij⟩	⟨s⟩
Before a cons.:	*c	s	s	c	??	??
Betw. vowels:	*c	c	s (weak)	c	⟨tz⟩	⟨tz⟩
Elsewhere:	*c	c	c	c	⟨tz⟩	??
Word-initially:	*č	č	č	č	⟨tzi⟩	⟨s⟩ (⟨dzi⟩)
Before a cons.:	*č	š	š	č	??	??
Betw. vowels:	*č	č	j (weak)	č	⟨tzi⟩	⟨tz⟩

¹ = Trisyllabic forms.

² = Also applies to semi-long nasal consonants *m̃, *ñ, *ŋ̃ formed in the strong grade.

Table 2: Morphological and phonological features discussed in the study.

2. Morphological features

2.1. Illative ending *-jɛn

In Saami languages, the illative answers the questions "*where (on/in)to*," "*to whom*." I will start with this category because Sirma's catechism contains so many different types of illative endings: A) regular vowel + *-i* (as in Northern Saami); B) regular vowel + *-n*; C) regular vowel + no ending (as in Skolt Saami); D) *î > ⟨a⟩ + no ending. The same words may have different illative endings in different

parts of the text. The illative of possessive inflection is different (Korhonen 1981: 218), and I will not address it here at all due to the scarcity of examples. Sodankylä Saami represents type C.

A) SC *suddâi* III:1 'to sin' | No *suddui* | In *suudon* < ***suntûn* < ***suntõ-jen*

SC *nami* IV:7 "to name" ('in the name') | No *nammi* | In *noomân* < **nemîn* < **neme-jen*

B) SC *âudin* V:7 'to front of' | No *ovdii*, *ovdan* | In *oovdân* < **ovtîn* < **ovte-jen*

SC *nammin* 0:1; III:5; IV:3 "to name" ('in the name') | No *nammi* | In *noomân*

< **nemîn* < **neme-jen*

C) SC *saija* I:7,9 'to place/point' | No *sadjái* | In *sajan* | Sk *sâjja* < **sejân* < **sej|ã-jen*

SC *tziâka* 0:4; III:7 'together' | No *čoahkkái* | In *čuákân* | Sk – < **čoakân* < **čoak|ã-jen*

SC *kuâulâ* V:2 'in direction' | No *guvlui* 'to area' | In *kuávlun* | Sk – < **kuovlûn* < **kuovlõ-jen*

Sod-B *wära* 'to wrong' | No *vearrái* | In *viärân* < **vearân* < **vear|ã-jen*

Sod-B *radda* 'to road' | No *rattái* | In *radân* < *ređân* < **ređ|ã-jen*

D) SC *miella* VI:5 'to mind' | No *millii* | In *mielân* | Sk *mið'lle* < **mielîn* < **mielē-jen*

SC *Helvita* V:5 'to Hell' | No *Helvehii* | In *Helvitân* < ***Helvitîn* < ***Helvite-jen*

The Northern Saami Type A representation can be associated to the language of the Western part of Enontekiö, i.e., Rounala, which belonged to Northern Saami. Based on regional proximity, it seems plausible that speakers of a language closely related to Inari Saami would have lived in the Eastern part of Enontekiö, i.e., in the Lapp village of Peltojärvi, and Type D could be associated with such a language: in it, the vowel is the same as in Inari Saami, but the **n* following it has disappeared. Therefore, Type B and/or C can be associated with the central language of Enontekiö, i.e., the Suonttavaara language. Since based on other instances, the loss of final consonants can often be associated with Suonttavaara Saami, I interpret Type C in particular as representing Suonttavaara Saami.

Occasional examples of other types of illatives are seen mainly in the young Christian vocabulary. Type E resembles the illative of Lule Saami, while Type F precisely represents the illative of Inari Saami (Korhonen 1981: 217). It is possible that Sirma borrowed such forms from Christian texts translated into various Saami languages, but it is not possible to delve into this matter further in this context. Possible sources might have been, for example, the priests' own sermon manuscripts.

E) SC *kastaggai* IV:6 'to baptism' < ***kāstēk-ej* < ***kāstēk-ejēn* (No *gástii* | In *kaastân*)
 SC *mallasai* VI:7 'to meal' < **mālās-ej* < **mālās-ejēn* (No *mállásii* | In *málásân*)

F) SC *audågas_votan* II:3 'to bliss' | No *-vuhtii* | In *-vuotân* < **-vuotîn* < **-vuotē-jēn*

2.2. Third-person plural **-k* in present tense

In this category, two types of reflexes are found: the preserved <-k> resembles the reflex in Northern Saami (> *-k* ~ *-t*) and Inari Saami (> *-h*), while the form without an ending resembles the reflex in Skolt Saami. In Sodankylä Saami, too, the third-person plural present tense form lacks ending, so it is probably this type that represents Suonttavaara Saami. Therefore, the Peltojärvi Saami, presumed to be closely related to Inari Saami, would not have its own type with regard to this feature: in it, **-k* would probably still have been preserved (as in the dialects of Northern Saami), even though in Inari Saami proper it had already developed into *-h*. Or it may be the case that in Inari Saami, the change **-k* > *-h* would have occurred only after the time of the catechism.

A) SC *annok* I:9 'they ask' | No *átnot* | In *áánuh* < **ānō-jēk*
 SC *kieldek* VI:9 'they deny' | No *gildet* | In *kieldih* < **kieltē-jēk*
 SC *tzelkek* VI:9 'they utter' | No *celket* | In *celkkih* < **cealkē-jēk*

B) SC *jukä* VI:10 'they drink' | No *juhket* | In *juheh* | Sk *jo'kķe* < **juke-jēk*
 SC *pårrä* VI:10 'they eat' | No *borret* | In *poreh* | Sk *på'rre* < **pore-jēk*
 SC *tietä* VI:10 'they know' | No *dihtet* | In *tietih* | Sk *teä'tte* < **tietē-jēk*

Sod-A *pāti* 'they come' | No *bohtet* | In *puátih* | Sk *puä'tte* < **poatē-jēk*
 Sod-B *qwodde* 'they carry' | No *guddet* | In *kyeddih* | Sk *kue'dde* < **kuontē-jēk*
 Sod-B *käsä* 'they wrap' | No *gisset* | In *kiesih* | Sk *ķä'sse* < **kiese-jēk*

2.3. Third person singular *-ā in trisyllabic words in present tense

In this category, there are two types of reflexes in forms that were originally trisyllabic: in some forms, the final vowel has been preserved, like in Northern Saami, while in others, it has been lost, like in Inari Saami. Based on the previous subchapters, it is possible to generalize a tendency for word forms to erode in Suonttavaara Saami, so loss of the vowel is likely to be associated with this language. No examples belonging to this group can be found in the Sodankylä Saami corpus.

- A) SC *jordatzia* V:7 'he/she thinks' | No *jurddaša* | In *juurdâš* < **jurteč*|ā
 SC *pajedda* II:8 'he/she lifts, raises' | No *bajida* | In *paajeed* < **pejēt*|ā
 SC *tubdasta* II:9 'he/she confesses' | No *dovddasta* | In *tuubdâst* < **tomtešt*|ā
- B) SC *punial* V:5 'he/she turns, twists' | No *botnjala* | In *puunjâl* < **poñel*|ā
 SC *puthest* IV:8 'he/she cleans' | No *buhtista* | In *putteest* < **puttēst*|ā
 SC *lâppedd* V:5 'he/she promises' | No *lohpidâ* | In *loppeed* < **lopēd*|ā

An interesting word is SC *tubdasta*, which phonetically resembles the Inari Saami form and cannot be Northern Saami, even though it still retains the final vowel. This can be explained by assuming that the final vowel of this category would have been preserved in both Northern Saami (including Rounala Saami) and Peltojärvi Saami and would have disappeared only in Suonttavaara Saami. It is also possible that, at the time of the catechism, the final vowel was still preserved in Inari Saami as well.

2.4. Connegative *-k

The connegative is a form of the main verb that follows 'not' or 'do not' (in all persons), and in the Saami languages, just as in Finnish, it looks like the imperative, i.e., the command form (*-k > Finnish final gemination, i.e., boundary gemination: *syö*^x, *en syö*^x). Its final *-k has generally disappeared in the catechism, as it has also in closely related living Saami languages, but one instance of its preservation can be found. The final consonant was also absent in Sodankylä Saami.

- A) SC *ääp rukadalak* III:4 'we do not pray' | No *rohkadala* | In *ruhâdâl* < ***roke-tel-ek*

B) SC *ij ahtage mattä* I:12 'no-one can/is able to' | No *máhte* | In *määti* < **mättē-k*
 SC *ääp mathe* V:1 'we cannot/do not know how' | No *máhte* | In *määti* < **mättē-k*
 SC *äök lää* II:9 'they are not' | No *eat leat* | In *iä lah* < **ea-k lea-k*

Sod-A *ällä aiat* 'do not delay' | No *ájit* | In *ääjit* | Ko *ää'jet* < KSa **ājē-ttē-k*

Sod-B *ä múste lä* 'I do not have' ('not in-me are') | No *leat* | In *lah* < **lea-k*

In Northern and Inari Saami, the final consonant has been preserved only in the monosyllabic verb 'to be', whereas in Sirma's catechism, there is also here the loss of *-*k*. In the last example of Type B, in the catechism, the final -*k* has been preserved in the third person ending of the negative verb but has disappeared from the verb's negative form, whereas in Inari Saami, the preservation and disappearance of the final consonant have occurred precisely the opposite way.

In Type A, the Inari Saami word-final -*h* and the Northern Saami -*t* correspond to <-*k*>, and since the same sound correspondences are also seen in the third person plural ending in present tense (see 2.2), then Type A could be related to Peltojärvi Saami or Rounala Saami. The more common loss of the consonant is thus likely to be related at least to Suontavaara Saami.

2.5. Second imperative

In Proto-Saami, the optative **ǝ*-vocalic element was used only in the first and third persons, but later in Lule and Pite Saami, it began to be used in the second person as well, giving rise to the second imperative (Korhonen 1981: 263). In Sodankylä Saami, there are two examples of a rounded vowel in the second person: one in the command form, and the other in the negative command form.

Sod-A *patzå* 'stay!' < **pāc|ǝ-k* ← **pācē-* || No *båze* | In *pääsi* < **pācē-k*

Sod-A *ällä* 'do not!' < **eal|ǝ-k* ← **ealē-* || No *ale* | In *ele* < **ealē-k*

vs.

Sod-A *kåtza* 'look!' | Po *geahča* | In *keejå* < **keacće-k*

The last example of the second person singular represents the ordinary, i.e., the first imperative. In those languages where two distinct imperatives have developed, the second one (**ǝ*-type) has a less commanding tone. A similar difference in tone between these forms probably existed in Sodankylä

Saami as well. This second imperative has not developed in Northern, Inari, and Skolt Saami. Even in Sirma's catechism, there are no signs of the second imperative with a rounded vowel, but only of the first imperative:

SC *tåla* VI:11 'hold!' | No *doala* | In *tollii* < **toalē-k*

SC *jukat* VI:7 'drink!' (plural) | No *juhk(k)et* | In *juuhâđ* < **jukē-tē*

SC *takat* VI:7 'do!' (plural) | No *dahk(k)et* | In *toohâđ* < **tēkē-tē*

2.6. Choosing the verbal abessive

Of the verbal abessives, **-keattā* is Northern Saami (Korhonen 1981: 295), while **-keannā* is known from Inari Saami to the most easterly languages, although previously it was known in this function even in the more southerly Scandinavian Saami languages and can therefore be traced back to Proto-Saami (Korhonen 1981: 296). Thus, the first type can be associated with the Rounala language and the second type with the Suontavaara and Peltojärvi languages.

A) SC *nugaketta* I:5 'endless'; II:8 'of endless'

SC *nugaketa* V:4 'of endless'

SC *taga_ketta* I:13 'without doing' | No *dagakeahttä* < **tēkē-keattā*

SC *aruedeketta ia tâbdaketta tabel* VI:6 'in an unpredictable and unknown way'

B) SC *nugäkänna* V:5 'without ending' | In *nuvâhännáá* < **nokē-keannā*

SC *puräkänna* VI:8 'without eating' | In *purâhännáá* < **porē-keannā*

SC *sallogen* V:5 'mercilessly' (borrowed from Russian)

No examples of this feature can be found in Sodankylä Saami.

2.7. Agreement of the attributive adjective before singular local cases

The catechism shows as many as three different types of agreement of singular local cases: (A) in the first, the adjectival attribute preceding the locative form is in the genitive from the perspective of the

modern language, as it is also in Northern Saami and Inari Saami; (B) in the second, it is inflected in the same case as the headword (just like in Finnish); (C) in the third, it is inflected in the corresponding old locative case, i.e., in the essive before the locative. Type C is old-fashioned and, among modern languages, occurs only in the more Southern Saami languages of Scandinavia (Korhonen 1981: 344–345), whereas no living Saami language has full agreement of type B, similar to Finnish. Therefore, neither of the latter types can be associated with Northern Saami or Inari Saami.

A) SC *sij lăä âdziâm âse Iesusa Christusa **tijurasa** âdziest ia varast* VI:10 < **tivr̥es-ən* 'precious'
 'they have received a share of the **precious** flesh and blood of Jesus Christ'
 SC *onedum **passe** Iemmelä sanest* 0:4 'abridged **from the holy** word of God' < **p̥esē-n* 'of holy'
 [No ***Bassi** Heakkas* 'from the **Holy** Spirit' < **p̥esē-n* 'of holy'
 In ***Pase** Jiegâst* 'from the **Holy** Spirit' < **p̥esē-n* 'of holy']

B) SC *riehtasist punialemest* V:2 'in true conversion' < **riekt|ās-ē-snē* 'in true'
 SC ***pasest** jeggast* II:6 'from the **Holy** Spirit' < **p̥esē-stē* 'from holy'
 SC ***kålmadast** osku cappalagast* II:10 < **koalmānte-snē* 'in third'
 'in the **third** article of faith'

C) SC ***Passen** leggast* II:5,7 'from the **Holy** Spirit' < **p̥esē-nē* 'as holy'
 SC ***passen** tuoiest* IV:8 'in the **holy** work' < **p̥esē-nē* 'as holy'
 SC ***kålmaden** Iakemä kappalagast* V:8 < **koalmānte-nē* 'as third'
 'in the **third** article of faith'

In the separative sense (example C1), one would expect the old separative (partitive) instead of the essive as the case of the attribute, but perhaps in this evolutionary lineage, the essive form was generalized to precede all locatives at the stage when the ablative and the locative cases merged after Late Proto-Saami (*-*stē* and *-*snē* > *-*stē*). The partitive also does not generally appear in Saami languages as its own case, although its elements have been preserved in the ending of the plural accusative. Type A probably represents Rounala's Northern Saami.

In the Sodankylä Saami corpus, there is only one example of singular local cases, but it seems to point to full agreement (Type B):

Sod-B *⟨wūra radda⟩* 'onto the wrong path'

< **vear*ân < **vear*|ā-jen ← **vear*ē

+ **re*ðân < **re*ð|ā-jen ← **re*ðē

If the attributive adjective were in the genitive, Proto-Saami **vear*ē-*n* 'of wrong' would be represented in Sodankylä Saami as **⟨*wäre*⟩; cf. **jāvr*ē-*m* 'lake' (object) > ⟨*jaúfre*⟩, ⟨*jaúfrä*⟩ but **jāvr*ân '(in)to the lake' > ⟨*jaúra*⟩, ⟨*jawra*⟩. Since Suonttavaara Saami otherwise most closely resembles Sodankylä Saami, on this basis, Type B full congruence can be associated with this language.

In this case, the old-fashioned partial agreement of type C would probably represent Peltöjärvi Saami, which would thus differ in this respect from Inari Saami, which it otherwise resembles. However, even in Inari Saami, there is a fossilized expression in which such partial agreement occurs (Müller 2017: 59), which is consistent with the assumption that this type would be associated with Peltöjärvi Saami:

In *pyerrin mielâst* 'in a good mood' < **puor*ē-*nē* *miele*-*snē*

3. Phonological features

It should be noted that both Sirma's catechism and the Sodankylä Saami corpus show a very varied reflexes of Proto-Saami **o* and **u* in the first syllable. For the time being, it is not possible to reliably reconstruct the conditions for these vowel changes and, therefore, to assess regular representation either, so I will disregard them in this analysis.

3.1. Fronting of the first syllable **ā* and **uo* before a front vowel

Inari Saami and Skolt Saami share common fronting changes such as **ā*-*ē* > **ä*-*ē* and **uo*-*ē* > **ue*-*ē*. Sirma's catechism contains only a few forms that refer to these changes, and they can therefore be linked to the Peltöjärvi variety of Saami, which resembles Inari Saami and based on other passages, generally appears to be the least represented of the Enontekiö source languages in the catechism. The by far more common representation, i.e., the marking of the diphthong **uo* with ⟨*uo*⟩ and the marking of the long **ā* with ⟨*a*⟩ even before front vowels, is associated with Northern Saami (and thus also

with Rounala Saami) and presumably also with Suonttavaara Saami. These vowels have also remained unchanged in Sodankylä Saami.

A) SC *sannä* II:2, III:9; *sanne* III:9 'word' | No *sátni* | In *sääni* | Sk *sää'nn* < **sānē*

SC *mathep* III:1 'we can, we know how' | No *máhttet* | In *mättip* | Sk *mä'ttep* < **mättē-pē*

SC *kuokt* IV:2; *kuåckt* V:3 '2' | No *guokte* | In *kyehti* | Sk *kue'htt* < **kuoktē*

SC *quāsse* VI:8 'guest' | No *guossi* | In *kyessi* | Sk *kue'ss* < **kuossē*

Sod-B *jaúfre, jaúfrä* 'lake' (object) | No *jávrrri, jávrre* | In *jäävri* | Sk *jääu'r* < **jāvrē-m*

Sod-B (*soona*)*paddä* '(vein)strand' | No *páddi* | In *päddi* | Sk *pä'dd* < **pāntē*

Sod-B *qwodde* 'they carry' | No *guddet* | In *kyeddih* | Sk *kue'dde* < **kuontē-jēk*

Sod-B *rouite* 'iron' | No *ruovdi* | In *ryevdi* | Sk *ru'vdd* < **ruovtē*

B) [No examples of the change **ā* > **ä*]

SK *kuekt* I:9 '2' | No *guokte* | In *kyehti* | Sk *kue'htt* < **kuoktē*

SK *kuedet* I:13 'to leave' | No *guodđit* | In *kyedđid* | Sk *kue'dđed* < **kuodē-tēk*

SK *puerre* I:13, *puerrä* VI:8 'good' | No *buorre* | In *pyeri* | Sk *pue'rr* < **puorē*

In Northern Saami, a different development has taken place: the **uo* of the first syllable has monophthongized to *u* before the **i* and **u* of the second syllable, and, correspondingly, **ie* has monophthongized to *i* under the same conditions (Sammallahti 1998a: 187). In Sodankylä Saami, too, **uo* often seems to have become monophthongized, but the conditions differ from those in Northern Saami – thus this is a completely different development. In general, the monophthongization of narrow diphthongs occurs in Sodankylä Saami before a non-short medial consonant (a half-long or long consonant or a consonant cluster), whereas the diphthong is more likely to be preserved before a short medial consonant, but there are exceptions (such as *qwodde* ≈ **kuodde*, which has preserved the diphthong). The examples below only illustrate that the representations in Northern Saami and Sodankylä Saami are different. In the last two examples, the original short medial consonant has lengthened in the strong grade, and it is therefore denoted in Sodankylä Saami as a geminate: <ll>, <rr>.

Sod-B *qwodde* 'they carry' | No *guddet* | In *kyeddih* < **kuontēk* < **kuontē-jēk*

Sod-B *poorid* 'good' (plural object) | No *burid* | In *puorijd* < **puorijdē* < **puorē-jdē*

vs.

Sod-A *núrta* 'to the east' | No *nuorta*, *nuorti* | In *nuortân* < **nuorttân* < **nuortt|ā-jen*

Sod-B *júlgä* 'foot' | No *juolgi* | In *jyelgi* < **juolkē*

Sod-A *kirrakeid* 'to treetops' | No *gierragiidda* | In *kierruid* < **kierək-ejdēk*

Sod-A *millasam* 'to my mind' | No *miellasan* | In *mielāsân* < **mielē-seme*

3.2. Development of Proto-Saami **ɛ*

Proto-Saami **ɛ*, or the "back e" (lips as in *e*, but the tongue further back: a similar tongue shift as from *ö* to *o*), appears in Sirma's catechism to be represented in the initial syllable invariably as ⟨*a*⟩, which corresponds to the regular reflex in Northern Saami. Therefore, none of the catechism's many possible source languages show signs of any other reflex, so I will not list example words for the initial syllable **ɛ* separately here. In Sodankylä Saami, too, the ⟨*a*⟩ reflex is seen in the initial syllable.

However, it is known that **ɛ* has (always or conditionally) changed to *a* independently also in the outermost Saami languages, Ter Saami and Southern Saami. Therefore, since such a change has occurred independently in different Saami languages at least three times, it cannot be considered reliable evidence of the close relationship between the languages. It is quite possible that in the extinct languages of Finnish Lapland, too, this change would be an independent development and would not be related to the change in Northern Saami.

In Inari and Skolt Saami, the development of the initial syllable **ɛ* is different from elsewhere: in Skolt Saami, the sound is represented by the secondary vowel *â* or *õ*, and in Inari Saami by the primary vowel *a* or *o*. The conditions for vowel height variation are so similar in these languages that it must be assumed that in Inari Saami, the back "inner vowels" (secondary cardinal vowels) became primary, i.e., merged with the back "outer vowels" (primary cardinal vowels) of corresponding height, only after **ɛ* had first split into two.

1. **ɛ* > **q* : **ɛ* (→ Skolt Saami *â* : *õ*)
2. **q* > **a* | **ɛ* > **o* (→ Inari Saami *a* : *o*)

Furthermore, it should be noted that this primarization appears to have occurred relatively late in Inari Saami, as the resulting new **o* (*o*₂) did not participate in the changes experienced by the old **o* (*o*₁). Thus, first, in Inari Saami, there has been the change **o-ɛ* > **u-ɛ*, and only after that could primarization **ɛ-* > **o-* have occurred, as can be seen from the examples below:

LPSa **colke-m* 'I spit' : **colk|ā* 'he/she spits'

> **coolkem*: **čalk|ā*

>> In *čuulgâm* : *čolgá*

>> Sk *čoolgam* : *čālgg*

LPSa **mene-m* 'I go' : **mēn|ā* 'he/she goes'

> **mēnem*: **mānā*

>> In *moonâm* : *maña*

>> Sk *mõõnam* : *mâânn*

In the proto-form(s) of Inari and Skolt Saami, therefore, the conditional height variation of the short close-mid vowels of the first syllable (**o* > **o* : **ā* | **e* > **e* : **q*) and the conditional lengthening (**o* > **oo* | **e* > **ee*) occurred first. Then, in the evolutionary lineage leading to Inari Saami, there was first a chain raising in the height grade of the primary vowels (1. **o*₁ > **u* | 2. **ā* > **o*₂) and then the primarization of the secondary vowels that retained their height grade, i.e., their merging with primary vowels of corresponding height (**e* > **o*₂ | **q* > **a*). In the evolutionary lineage leading to Skolt Saami, the vowels of the first syllable have been preserved as they were, but the vowel of the second syllable has conditionally disappeared.

In the second syllable, **e* is most often represented in Sirma's catechism as ⟨*a*⟩, but occasionally ⟨*e*⟩ or ⟨*o*⟩ reflexes are also seen. However, the proportion of deviating occurrences is so small that they can be linked to Peltöjärvi Saami, which resembles Inari Saami. In Sodankylä Saami, this vowel is reflected in the second syllable in various ways: ⟨*a*⟩ ~ ⟨*o*⟩ ~ ⟨*ä*⟩ ~ ⟨*e*⟩. While the Sodankylä Saami samples generally represent a uniform language, such a numerically fairly even random dispersion (without any explanatory factor found in the phonetic environment) must refer to the fact that the quality of the reflex of Proto-Saami **e* in the second syllable of this language was foreign to the Swedish and Finnish writing traditions, i.e., it was still an unrounded (illabial) back vowel – neither of the majority languages has such vowels.

Although, from the point of view of pronunciation, vowel space is three-dimensional (open–close, front–back, rounded–unrounded), from the point of view of hearing, vowel space has two main dimensions: the first formant determines the openness of the vowel, and the second formant determines the backness of the vowel (rounded vowels are slightly more back than the corresponding unrounded vowels). Unrounded back vowels are positioned in the inner parts of the two-dimensional auditory space (for Estonian vowels, see Meister & Meister 2019), just like mid-front (central) vowels (e.g.,

Swedish *u* is mid-front [u], meaning it is pronounced between Finnish *u* and *y* and is positioned in the mid-space relative to second formant F2; Persson 2024), which likely explains the even fluctuation of **e* reflexes between back and front vowel realizations. Therefore, the reflex of Sodankylä Saami in the second syllable was most likely preserved as it was originally, i.e., the quality of the vowel was still an unrounded back vowel (**e* ~ **a*).

A) SC *asati* VI:4 'he/she placed' | No *ásahii* 'arranged' | In *asâttij* < **āsēttē-j*

SC *ännamäst* III:9 'on the ground, in land' | No *eatnamis* | In *enâmist* < **eanēm-e-snē*

SC *kalgak* I:11, III:3 'you must' | No *galggat* | In *koolgah* < **kēlkē-k*

Sod-B *karrassabbo* 'harder' | No *garrasabbo* | In *korrasub* | Sk *kōrrsab* < **kēreš-e-mpō*

Sod-B *iúsadzim* 'I would reach/achieve' | No *juvssašin* | In *juvsâččim* < **jokse-kčēm*

B) SC *achten* II:9 'as one' | No *oktan* | In *ohtân* | Sk *ōhttân* < **ekte-nē* (**okte-nē*)

SC *iegge* II:9 'spirit, life' | No *heagga* | In *jieggâ* | Sk *jiōgg* < east: **ijenke*, west: **heanke*

SC *tubdop* 0:2 '(we) know' | No *dovdat* | In *tubdâp* | Sk *tobddâp* < **tomte-pē*

Sod-A *katzesim* 'I would run' | No *gáhčāšin* | In *kačâččim* | Sk – < **kāćē-kčēm*

Sod-B *kuldälâm* 'I listen' | No *guldalan* | In *kuldâlâm* | Sk *kulddlam* < **kulteļe-m*

Sod-B *worodze* 'crow's' | No *vuoražasa* | In *vuorâččâs* | Sk *vuōrâč* < **vuorećće-n*

3.3. Long vowels **ā*, **ē*, **ō* in the second syllable

The long vowels of the second syllable have retained their quality well in both the languages of Sirma's catechism and in Sodankylä Saami: **ā* is represented by ⟨*a*⟩, **ē* is represented by ⟨*e*⟩ or ⟨*ä*⟩ and **ō* is represented by ⟨*o*⟩ or ⟨*å*⟩. In Northern Saami, the regular reflexes of these are /*á*/, /*i*/ and /*u*/, respectively. In Inari Saami, correspondingly /*á*/; after a short vowel in the first syllable /*e*/ and after a long vowel /*i*/; after a short vowel in the first syllable /*o*/ and after a long vowel /*u*/. When the vowel has been preserved in Skolt Saami, it has also otherwise retained its quality, except that **ō* has merged with **ā*: the representation is thus /*a*/, /*e*/, /*a*/.

SC *lăcka* V:7 'he/she reads' | No *lohká* | In *lohá* < **lok|ā*

SC *käsa* II:8 'he/she pulls' | No *keassá* | In *kiäsá* < **keas|ā*

Sod-B *kirdadzim* 'I would fly' | No *girddášin* | In *kirdáččim* < **kirt|ā-kčēm*

SC *almest* III:9 'in heaven' | No *almmis* | In *almeest* < **elmē-snē*

SC *ännest* I:16 'from mother' | No *eatnis* | In *eenist* < **eannē-stē*

Sod-B (*soona*)*paddä* '(vein)strand' | No *páddi* | In *päddi* < **pāntē*

SC *kutziä* II:8 'he/she calls?/orders?'; *kâtziä* II:8, IV:3 '(he/she) orders' | No *gohčču* | In *koččo* < **koččō*

SC *avo* II:3,10; *auä* II:10 'joy, delight' | No *ávvu* | In *áavu* < **āvō*

Sod-A *ägä* 'run!' | No *oago* | In *uávu* < **oakō-k*

Sod-B *pastos* 'let it shine' | No *báitos* | In *pááštus* < **pāšt|ōs*

3.4. Contracted vowels **â*, **ê*, **ǝ*, **î*, **û* in the second syllable

The contracted vowels **â*, **ê*, **ǝ*, which arose after the loss of the consonant between the second and third syllables, are represented in Sirma's catechism and in Sodankylä Saami in exactly the same way as the corresponding long vowels. On the other hand, in the Northern Saami reflexes /*á*/, /*e*/, /*o*/, the last two differ from the reflexes of the corresponding long vowels. In Inari Saami, the representation is the same as for long vowels: /*á*/, /*e*/ ~ /*i*/, /*o*/ ~ /*u*/ . In Skolt Saami, too, the representation is the same as for long vowels: /*a*/, /*e*/, /*o*/.

SC *tziäka* 0:4, III:7; *tziäkä* II:8 'together, into pile' | No *čeahkkái* | In *čuákán* < **čoakân* < **čoak|ā-jen*

Sod-B *jawra, jaúra* '(in)to lake' | No *jávrái* | In *jáávrán* < **jāvrân* < **jāvr|ā-jen*

Sod-B *radda* 'to road' | No *rattái* | In *rađan* < **rēđân* < **rēđ|ā-jen*

SC *kalgä* VI:10 'they must' | No *galget* | In *kalgeh* < **kēlkēk* < **kēlke-jēk*

SC *kieldek* VI:9 'they forbid' | No *gildet* | In *kieldih* < **kieltēk* < **kieltē-jēk*

Sod-B *punie* 'they twist' | No *botnjet* | In *ponjeh* < **poñēk* < **poñē-jēk*

Sod-B *qwodde* 'they carry/bear' | No *guddet* | In *kyeddih* < **kuontēk* < **kuontē-jēk*

SC *annok* I:9 'they ask' | No *átnot* | In *áánuh* < **āñōk* < **āñō-jēk*

Sod-A *átzān* 'we2 reach/achieve' | No *ožžo* | In *uázžoon* < **oañćōn* < **oañćō-jēn*

The contracted vowels **î* (< **ējē*) and **û* (< **ōjō*) are less common, so there are few examples. Therefore, I will not include these sounds in the final analysis.

Sod-B *kulcki* '(they) flowed' | No *golge* | In *kulgii* < **kolkîn* < **kolke-jēn*

SC *rakes_votin* III:9 '(in)to love' | No *ráhkisvuhtii* | In *rähisvuotân* < **rākēs-vuotîn* < **-vuotē-jēn*

In Sodankylä Saami and in some Enontekiö language (see 2.1) the representation of **î* seems to have possibly been preserved as <*i*>, although nothing definite can be said on the basis of a single example. In Northern Saami, the regular representation is /*e*/, except for /*i*/ before the illative **i*; in Inari Saami again under the familiar conditions /*e*/ ~ /*i*/; and in Skolt Saami /*e*/. The example word '(in)to love' shows the development of the fourth syllable, which is usually the same as in the second syllable.

In the catechism, based on two words, the reflex of **û* is <*â*> (even though the illative endings in the examples point to different languages), but no examples of this vowel can be found in Sodankylä Saami. In Northern Saami, the representation of **û* is /*o*/ except before the illative **i*, where it is /*u*/; in Inari Saami, it is /*o*/ ~ /*u*/ under the usual conditions, and in Skolt Saami, it is /*u*/.

SC *kuåulå* V:2 'towards' | No *guvlui* 'to the region' | In *kuávlun* < **kuovlûn* < **kuovlō-jēn*

SC *suddâi* III:1 '(in)to sin' | No *suddui* | In *suudon* < ***suntûn* < ***suntō-jēn*

[No *átno* | In *annuu* < **āñûn* < **āñō-j-ēn* 'they asked']

3.5. Preservation of non-short nasal consonants

In Western Saami languages, such as Northern Saami, both the long nasal consonants **mm*, **nn*, **ŋŋ* and the half-long nasal consonants **m̃*, **ñ*, **ŋ̃*, which originated from short consonants in the strong grade, have acquired a plosive beginning pronounced in the same position, resulting in *bm/pm*, *dn/tn*, *gŋ/kŋ*. In Inari Saami and the Saami languages to its East, this change has not taken place. Both Sirma's catechism and the Sodankylä Saami samples have always retained non-short nasal consonants unchanged.

SC *ännamäst* III:9 'in land, on earth' | No *eatnamis* | In *enâmist* < **eanem-ē-snē*

SC *ännest* I:16 'from mother' | No *eatnis* | In *eenist* < **eannē-stē*

SC *Iemmel, Iemmelä* 'God' | No *Ipmil* | In *Immeel*

SC *kulma* I:10, II:5,9, III:8,9; *kolma* II:9, VI:5 '3' | No *golbma* | In *kulmā* < **kolme*

Sod-B *kaúneman* '[I know] I will find' | No *gávdnamin* | In *kavnâmin* < **kāvnē-mē-nē*

Sod-B *korngadzim* 'I would climb' | No *gorkŋošin* | In *kuárŋuččim* < **koarŋō-kčēm*

Sod-B *linnasabboid* 'softer' (plural object) | No *litnásabbuid* | In *linásuboid* < **lin|ās-ē-mpō-jtē*

One might wonder why not a single word form consistent with Northern Saami has ended up in the entire catechism? Has Sirma systematically removed this phenomenon, which he perhaps considered a "sniffing pronunciation error," from the final text? Or could it be that the phenomenon had not yet become established throughout the entire Northern Saami-speaking area 300 years ago? Initially, a vocal fold closure, i.e., a glottal stop, developed before the nasal consonant, which then strengthened into a stop corresponding to the point of articulation of each nasal (*p, t, k*; Sammallahti 1998a: 194). Furthermore, the development may have occurred earlier in long nasals than in half-long nasals. If, during Sirma's time, the Northern Saami Tornio dialect group (which includes Rounala Saami) still had a glottal stop in this position, it would probably have been left out completely without a corresponding letter. This could explain why not a single nasal consonant beginning with a plosive is found in the entire long catechism.

3.6. Proto-Saami *š

Based on the song texts of the printed *Lapponia*, it has previously been assumed that the typographically different letter *s*, ⟨*ſ*⟩ could be interpreted as *š (Itkonen 1940: 345). However, an examination of the original manuscripts (Kallio, Valtonen & Jouste 2019) showed that there was no such distinction in them, but rather that the printer's choice of the letter *s* seems to have been random. Therefore, in Sodankylä Saami, the representatives of Proto-Saami **s* and *š have not been distinguished, but they have been denoted in the manuscripts exactly the same way: sometimes with ⟨*s*⟩, sometimes with ⟨*ſ*⟩ (see Subsection 1.3).

This is one of the phonological features that seem to distinguish the supposed Suonttavaara Saami and Sodankylä Saami from each other. In Sodankylä Saami, *š always seems to have merged with

*s, whereas in the words of Sirma's catechism, *š is always preserved (and thus no difference is observed between the Enontekiö languages). The only apparent exception is:

SK *sallogen* V:5 'mercilessly' | No *šállo-* 'pity'

However, this word does not come from Proto-Saami but is a Russian loanword. Therefore, the difference in the initial consonant of the word is probably due to the fact that the word was borrowed separately into different Saami languages, whereby the Russian *ž* was replaced by *š* in one language and by *s* in the other. There is no word inherited from Proto-Saami in which the catechism would have the ordinary ⟨s⟩ as the reflex of *š, but in the catechism, the reflex of *š is denoted by ⟨sij⟩, ⟨ssi⟩.

SC *sijaddä* VI:10 'they grow, happen' | No *šaddet* | In *šaddeh* < *šente-jēk

SC *tussie* IV:4 'only, merely' | No *dušše* | In *tuše* < *tuššē

SC *vassije* V:7; *vassie* IV:5 'of hate' | No *vaši* | In *vaje* < *vešē-n

vs.

Sod-B *sadde* 'they grow' | No *šaddet* | In *šaddeh* | Sk *šá'dde* < *šente-jēk

Sod-B *pastos* 'let it shine' | No *báitos* | In *pááštus* | Sk *pääštas* < *pāšt|ōs

In Inari Saami, the single *š between vowels has changed to *j in the weak grade. In Northern Saami, as in the other Saami languages of the Western group, *š has changed to *jh at the boundary between the first and second syllables before a consonant, whereas in the Eastern Saami languages, *š has been retained also there. In Sirma's catechism, only the first type is represented:

SC *luđita* II:8 'he/she lets go' | No *luoitá* | In *luđstá* < *luošt|ā

SC *luđitamen* VI:8 'in order to let go' | No *luoitimen* | In *lyeštimin* < *luoštē-mēnē

SC *muitta* VI:5 '(in)to memory' | No *muittui* | In *muuštōn* < *muštūn < *muštō-jen

SC *muittān* VI:4 'as/for a memory' | No *muittun* | In *muštōn* < *muštō-nē

SC *muittāl vasān* VI:7 'to the memory'? (interpretation of the expression is uncertain)

The combination in which the illative without an ending ('(in)to memory' as in Skolt and Sodankylä Saami) and the change *šC > *jhC (as in Northern Saami) are seen in the same word is very unusual. A more extensive investigation of such "mixed-dialect" words in the future could be necessary, but,

of course, this will only become possible once we first gain a clearer understanding of what languages were spoken in Enontekiö at the end of the 17th century.

It is, in principle, possible that some language spoken in Enontekiö combined features of Eastern and Western languages, but it is also possible that these example words were all from Rounala's Northern Saami. Two words are far too small a sample to assess the likelihood of these options. On the other hand, these could also be words borrowed from some Western Saami language (hence Western *<it>*), which have been adapted to the inflectional system of the local language (such as the endingless illative).

3.7. Proto-Saami *c

In the catechism, the unpalatalized *c [ts] seems to have retained its quality, as it does in the only example in Sodankylä Saami. In Inari Saami, the single *c between vowels has changed to s in the weak grade.

SC *tzelka* VI:4 'he/she says' | No *cealká* | In *ciälkká* < *cealk|ā

SC *vatze* VI:9 'they walk' | No *vázzet* | In *väzzih* < *vāncēk < *vāncē-jēk

Sod-A *patzå* 'stop!' | No *båze* | In *pääsi* | Sk *pää'33* < *pāc|5-k/ *pācē-k

In Northern and Inari Saami, *c has changed to *s before a consonant, but since no such example words can be found in Sirma's catechism or in the Sodankylä Saami corpus, this feature is not included in the analysis.

[Po *boaski* | In *puási* | Ko *puä'cķķ* < *poackē 'shank']

3.8. Proto-Saami *ć

In Sirma's catechism, the reflex of Proto-Saami palatalized *ć [tʃ] is consistently denoted by <tz> and the reflex of *c by <tz>, so no differences are observed between the Enontekiö languages in the

development of these sounds. In Sodankylä Saami, on the other hand, the word-initial *ć is most often represented at the beginning of the word as <š>, but twice also as <dzi>.

SC *tzierrå* V:6 'they cry' | No *čirrot* | In *čiäruh* | Sk -- < *ćierš-jēk

SC *tziali* I:7,9 'he/she wrote' | No *čálii* | In *čaalij* | Sk *čaa'li* '(he/she) cut' < *čāl|ij

SC *tzialmem* 0:2 'of our eyes' | No *čalbmámet* | In *čalmaän* | Sk *čā'lmnen* < *čēlmē-n-mēk

Sod-B *dziodgä* 'of goldeneye (*Bucephala*)' | No *čoadggi* | In *čuādgi* | Sk *čue'dj* < *čoadkē-n

Sod-B *dziabräi* 'they squeeze' | No *čärvejit* | In *čärveje* | Sk *čärvva* < *čāprē-jēk

vs.

Sod-A *salm* 'eye' (object) | No *čalmmi* | In *čalme* | Sk *čââ'lm* < *čēlmē-m

Sod-B *salmidadd* 'your eyes' (object) | No *čalmmiidat* | In *čolmijdâd* | Sk *čōō'lmääd*

< *čēlm|ij-t|ā-ntē

Sod-B *siebzä* 'hock (joint), heel' | No *čeavži* | In *čevži* | Sk *čeu'žž* < *čeavčē

Sod-B *soopadzim* 'I would cut' | No *čuohpašin* | In *čuopâččim* | Sk *čuōppčem* < *čuoppe-kčē-m

Sod-B *songiagä* 'of goose' | No *čuotnjága* | In *čuánnjáá* | Sk *čuânnjag* < *čuonāk-ēn

In other positions, even in Sodankylä Saami, *ć has generally been preserved as an affricate. This shows that the above cannot be a matter of Sirma not knowing how to denote an affricate – it is simply not usually pronounced at the beginning of a word. As an internal consonant in the word stem, *ć seems to have lost its palatalization in Sodankylä Saami: <tz>, <dz>, <z>. Instead, in the catechism the palatalization has been preserved: <tzi>.

SC *katziat* III:1 'to fall, drop' | No *gahččat* | In *koččâd* | Sk *kōččâd* < *kēćčē-tēk

SC *âtzie* VI:4 'flesh, body' | No *oažži* | In *uážži* | Sk *vue'žž* < *oańčē

vs.

Sod-A *kâtza* 'look!' | No *geahča* | In *keejâ* | Sk *kiōčč* < *keáččē-k

Sod-A *katzesim* 'I would run' | No *gáhčšašin* | In *kačâččim* | Sk -- < *kāćčē-kčē-m

Sod-B *siebzä* 'hock (joint), heel' | No *čeavži* | In *čevži* | Sk *čeu'žž* < *čeavčē

Sod-B *worodze* 'of crow' | No *vuoražasa* | In *vuorâččâs* | Sk *vuōrâč* < *vuorećčē-n

In Inari Saami, the inter-vocalic *č has changed to *j in the weak grade. In Northern and Inari Saami, *č has changed to *š before a consonant, but no examples of this change can be found in the catechism or in Sodankylä Saami, so this feature is not included in the analysis.

[No *ruškat* | In *ruškâd* | Sk *ručkkâd* < **ručke-tē* 'brown']

In case endings and other inflectional elements, regular reflex is difficult to assess, as most of the examples in Sodankylä Saami are conditional forms. When the vowel of the third syllable in these is ⟨i⟩, the palatalization preceding it is not distinct: ⟨*dzi*⟩ may represent either the palatalized *či or the non-palatalized *ci.

Sod-B *kirdadzim* 'I would fly' | No *girddášin* | In *kirdáččim* | Sk *ķeerdčem* < **kirt|ā-kčē-m*
 Sod-B *patäridzick* 'you would flee/escape' | No *báhtarivččet* | In *patäriččih* | Sk *puättre'čik*
 < **pāterē-kčē-k*

Further than the second syllable, *č has been preserved in the catechism between vowels, whereas in Northern, Inari, and Skolt Saami, it has changed to *š after becoming a word-final sound.

SK *olmâtzia* I:18, V:7, V:8; *olmutzia* I:12, VI:7 'human' | No *olmmoš* | In *olmooš* < **olmānčē*
 SK *christalatzia* 0:2, VI:7 'Christian, Christianity' | No *(k)risttalaš* | In *ristâlâš* < **-lānčē*

In the representation of the palatalized affricate, differences can be seen in the inflectional elements between the Sodankylä Saami A and B texts, as mentioned in Subsection 1.4. Firstly, in the conditional forms, both examples in Text A show ⟨s⟩, whereas all eight examples in Text B show ⟨dz⟩.

Sod-A *katzesim* 'I would run' | No *gáhčāšin* | In *kačáččim* < **kāččē-kčēm*
 Sod-A *āinasim* 'I would see' | No *oainnášin* | In *uáináččim* < **oajn|ā-kčēm*
 vs.

Sod-B *iúsadzim* 'I would reach/achieve' | No *juvssašin* | In *juvsáččim* < **jokse-kčēm*
 Sod-B *karsadzin* 'I would prune' | No *gárssašin* | In *karsáččim* < **kārsē-kčēm*
 Sod-B *kirdadzim* 'I would fly' | No *girddášin* | In *kirdáččim* < **kirt|ā-kčēm*
 Sod-B *korngadzim* 'I would climb' | No *gorkŋošin* | In *kuárŋuččim* < **koarŋ|u-kčēm*
 Sod-B *norbadzim* 'I would scramble/crawl' | No *nuorbbašin* | In *nuorbáččim* < **nuorpe-kčēm*

Sod-B *patäridzick* 'you would flee/escape' | No *báhtarivččēt* | In *patâriččih* < **pāterē-kčēk*

Sod-B *soopadzim* 'I would cut' | No *čuohpašin* | In *čuopâččim* < **čuoppe-kčēm*

Sod-B *tiedadzim* 'I would know' | No *diedášin* | In *tiädáččim* < **tiet|ā-kčēm*

Secondly, in the long form of the past participle, the affricate is marked differently in Texts A and B, although there are few examples of this form. The long form of the perfect participle is known from verbs other than 'to be' only from Inari Saami to the east (Korhonen 1981: 300).

Sod-A *lij úālgatamaß* 'he/she has sent' < **vuolk|ē-ttē-māñčē*

Sod-A *lij aigāmaß* 'he/she has intended' < **ājkō-māñčē*

vs.

Sod-B *läck wordamadzie* 'you have waited' < **vuortē-māñčē*

Although the two different form groups thus seem to consistently attest to the fact that in Text A, the affricate would have been pronounced weaklier (perhaps as [s], [ss]?) than in Text B, the possible influence of the scribe must again be borne in mind. Text B was not recorded in Uppsala by Sirma himself, but by someone else who may have had knowledge of Southern Saami, for example, and who, therefore, may have "corrected" the affricates to their assumed positions, even if they had been pronounced weaklier. It would seem far-fetched that Olaus Sirma, who performed both songs aloud, would have preserved a possible slight dialectal difference between the songs in his own pronunciation.

Due to the unclear representation of Sodankylä Saami, the representation of **č* in the elements of the conditional and the past participle is not included in the analysis.

3.9. Proto-Saami **kt*

In Sirma's catechism, Proto-Saami **kt* seems to be generally marked with <*cht*>, which resembles the representation in Inari Saami, but examples of this cluster are generally scarce. Given that, based on other material, Peltöjärvi Saami, which resembles Inari Saami, would be only the third most common of the catechism's source languages, it is hard to believe that most of the examples of this particular consonant cluster would come from it. It is more likely that a change **kt* > **χt* (> **ht*) had also occurred in Suonttavaara Saami, just like in Inari Saami, Skolt Saami, and even Kildin Saami. In

Sodankylä Saami, on the other hand, **kt* seems to have been preserved, although there is only one example for this.

SC *achta* 0:4, II:9: *acht* II:9; *ochta* '1' | No *akta*, *okta* | In *ohtâ* | Sk *õhtt* < **ekte*/**okte*

SC *puchta* I:4 'he/she brings' | No *boktá* | In *pohtá* | Sk *pohtt* < **pokt|ā*

SC *nacht* III:6 'thus, this way' | No – | In *návt* | Sk *nääi't* < **nākt*

vs.

Sod-B *oúcta* '1' < **okte*

Some words have two types of forms. The forms representing the original **kt* reflex probably originate from the Northern Saami of Rounala. The first example might even contain a variant from all three main source languages of Enontekiö:

SC *kocht* ~ *kuchte* ~ *kockt* 'how'

SC *pacht* ~ *packt* 'through, via'

SC *riechta* ~ *riekta* 'right, correctly'

4. Tracing the distinctive features of Suonttavaara Saami

In this chapter, I will illustrate how difficult it is to reconstruct a language when multiple languages occur randomly in the same text sample. The examples concern various possible vowel alternations in the first and second syllables. When looking at words that show several inflectional forms, Sirma's catechism seems to exhibit vowel alternations in the rounded vowels of the first syllable, which resemble the alternations in Inari and Skolt Saami:

SK *lâcka* V:7 'he/she reads' | No *lohká* | In *lohá* | Sk *lâåkk* < **lok|ā*

SK *ij luga* VI:9 'he/she does not read' | No *loga* | In *luuvâ* | Sk *loogg* < **loke-k*

On the other hand, there also seems to be variation in the same vowels under different conditions for which no equivalents are known in other Saami languages:

SC *ij molso* VI:5 'it does not change' | No *molssso* | In *molso* < **mols̥-k*
 SC *mulsulii* VI:6 'it would change' | No *molssolii*, *molsssošii* | (In *molsoččij*)
 < **molsulij* < **mols̥-l̥-j*

However, the problem is that it is not possible to know whether the different forms of the same word even come from the same language. If a word containing a different vowel represented a different language, many such cases of variation would be merely illusory. Unfortunately, the wide range of source languages, combined with the scarcity of example words, makes it impossible to clarify phenomena of this kind with any degree of certainty. Essentially, only statistical tendencies can be observed if there are enough examples of the phenomenon.

For example, one such possibility is a tendency concerning the rounded vowels of the second syllable, which appears to be so common that it can be associated with Suonttavaara Saami: the alternation of the nominative final vowel ⟨*ɑ̃*⟩ or ⟨*o*⟩ with the genitive/accusative final vowel ⟨*u*⟩. There are four words for which both cases are found, although the vowel representation is not consistent in all of them:

SC *vaim̃ɑ̃* V:3,7 'heart' | No *váibmu* | In *váimu*
 SC *vaimu* V:8 'heart' (object) | No *váimmu* | In *vááimu*

SC *osko* 0:5 'faith' | No *osku* | In *osko*
 SC *osku* II:10; *osk̃ɑ̃* II:4 'faith' (object) | No *oskku* | In *osko*

SC *sudd̃ɑ̃* I:16,17 III:4 'sin' | No *suddu* | In *suddo*
 SC *suddu* I:15; *sudd̃ɑ̃* I:18 'sin' (object) | No *suttu* | In *sudo*

SC *fam̃ɑ̃* V:6; *fammu* I:4 'power' | No *fápmu* | In *fáámu*
 SC *famu* II:3 'power' (object) | No *fámu* | In *fáámu* ~ *fámo*

In the case of the last word, it can be assumed that the two nominatives represent different languages, because the central consonant is also different in them: short in the one ending in ⟨*ɑ̃*⟩ (or half-long, as in Inari Saami) and long in the one ending in ⟨*u*⟩ (as in Northern Saami). The latter form could be linked to Rounala's Northern Saami if it were assumed that, at the time of Sirma, only a glottal stop occurred before a non-short nasal and it would not have been denoted in writing in any way (see

Subsection 3.5). In that case, Suonttavaara Saami could be represented by words containing a non-long nasal consonant sg.nom ⟨*famå*⟩ : sg.gen-acc ⟨*famu*⟩.

However, in one pair of words, there is no trace of the supposed conditional vowel alternation:

SC *tako* I:15,17 'deed' | No *dahku* | In *taho* < **tek̄*

SC *tago* III:5; *tagå* V:7 'of deed' | No *dagu* | In *tavo* < **tek̄-n*

This could not represent Rounala's Northern Saami now, because both forms lack the vowel *u*. In principle, it could represent Peltöjärvi Saami, but invoking that would make it too easy to explain away all the evidence against the vowel alternation.

In addition, there are words for which only the nominative or only the genitive-accusative can be found, but these do not help to resolve the matter. In these, (A) nominatives end in ⟨*o*⟩ or ⟨*å*⟩, while (B) genitive-accusatives end in ⟨*o*⟩, ⟨*å*⟩ or ⟨*u*⟩.

A) SC *avo* II:3,10; *auå* II:10 'joy, delight' | No *ávvu* | In *ávvu* < **āv̄*

SC *iako* 0:2 'faith' | No *jáhkku* | In -- < **jāk̄*

SC *tiettä* 0:2 'knowledge' | No *diehtu* | In *tiätu* < **tiet̄*

SC *dåbdå* 0:2 'feeling' | No *dovdu* 'feeling' | In *tobdo* < **tomt̄*

B) SC *armå* V:7 'of mercy' | No *árpmu* | In *ármu*

SC *heptå* III:3 'of obstacle' | No -- | In -- | So *heaptoen* < **heapt̄-n*

SC *olmo* II:8; *olmu* I:4, V:2 'of human' | No *olbmo* | In *ulmuu*

An interesting statistical observation is that the vowel of the nominative is still always consistently ⟨*å*⟩ or ⟨*o*⟩, which are to be interpreted as close-mid, whereas only in the genitive-accusative does the close ⟨*u*⟩ appear alongside these. The only exception would be the nominative ⟨*fammu*⟩, which, however, can be linked to Rounala's Northern Saami, as I reasoned above. It would seem very unlikely that, in the case of the first four word pairs presented, the nominatives would always be from one language and the genitive-accusatives from another language. Therefore, considering the evidence, there remains a plausible possibility that in one of the two dominant source languages of the catechism, the presumed Suonttavaara Saami, the nominative case indeed featured a different rounded final vowel than the genitive-accusative case:

Suo ***vaimo* 'heart' < sg.nom **vājm̄*

Suo ***vaimu* 'of heart, heart (object)' < sg.gen **vājm̄-n*, sg.acc **vājm̄-m*

This conditional vowel change would not have to date back to a time so early that the consonants of the genitive and accusative endings would still have been preserved (although they have been preserved until recent times in the Scandinavian Saami languages, and in Southern Saami to the present day). The vowels could just as well have developed differently later, due to the need to distinguish between the two grammatical groups – primarily, perhaps, in words where the case is not distinguished by the grade of the medial consonant. If this were the cause of vowel alternation, it would also explain the lack of vowel alternation in the word 'deed': here the case is indicated by the grade of the medial consonant, so there would have been no need to activate distinguishing vowel alternation. Therefore, the inflectional forms of this word would no longer be counterevidence to the existence of vowel alternation:

Suo ***tako* 'deed' < sg.nom **tək̄̃*

Suo ***tago* 'of deed, deed (object)' < sg.gen **tək̄̃-n*, sg.acc **tək̄̃-m*

Considering the data, the development of such conditional vowel alteration in Suonttavaara Saami is quite possible, although its existence can never be conclusively proven.

Among the morphological features, I will highlight in this section the conditional, which I did not include in my morphological analysis because there are only two instances of it in Sirma's catechism and because it is not possible to assess which language they would have originated from. There are two different conditional markers in the Saami languages. The first marker *-*k̄̃e-* begin appearing in the Northern dialects of Lule Saami and continues toward the East (Korhonen 1981: 253). The second marker *-*le-* occurs in the Western languages from Southern Saami to the Western Finnmark dialects of Northern Saami (Korhonen 1981: 255). Only the latter type is found in Sirma's catechism:

SC *kulalii* III:5 'he/she would hear' | No *gulalii* | In *kulâččij* < **kul̄̃e-le-j* / -*k̄̃e-j*

SC *mulsulii* VI:6 'it would change' | No *molssolii* | In *molsoččij* < **mols|u-le-j* / -*k̄̃e-j*

In Sodankylä Saami, on the other hand, only the first type of conditional occurs:

Sod-A *ainasim* 'I would see' | No *oainnášin* | In *uáináččim* < **oajn|ā-k̄̃em*

Sod-B *kirdadzim* 'I would fly' | No *girddášin* | In *kirdáččim* < **kirt|ā-k̄̃em*

At the very least, the latter conditional form in Sirma's catechism cannot represent Rounala Northern Saami based on its initial syllable vowel, but it must be associated with Suonttavaara or Peltojärvi Saami. In that case, this could be yet another feature in which Suonttavaara Saami would differ from Sodankylä Saami. However, it is not possible to be certain about this due to the scarcity of data.

5. Results of the analysis

In Appendix 1, I have listed the 23 morphological and phonological features presented above and compiled a matrix of the shared and distinguishing features of six different languages: reconstructed Proto-Saami, Northern Saami, Inari Saami, Skolt Saami, Suonttavaara Saami, and Sodankylä Saami. The final analysis has 20 items, because I have omitted some features due to scarce data or combined some changes concerning the same sound into the same item when doing so does not lose any essential information. In Proto-Saami, the value of all features is 0, and in the other languages, the value is also 0 if no discernible change has occurred, or some other numerical value depending on how many different changes can be observed in different evolutionary lineages (see Appendix 1). The numerical value is the same in all languages that have the same reflex.

I would like to emphasize that the result presented here does not require the reconstruction of the phonological system or grammar of dead languages, but it is sufficient that the data allows for an assessment of whether the languages have undergone common development, different development, or whether the reconstructed state of Proto-Saami has remained unchanged with regard to the features under consideration.

To graphically represent the feature matrix I compiled, I used the network graph from the SplitsTree6 software (Huson & Bryant 2024). While a phylogenetic tree diagram forces one to choose the closest connection and ignore the other connections, a multidimensional network diagram shows all connections simultaneously. The latter graph is best in a situation like this, where there are no reliable ways to distinguish between changes inherited from proto-dialects and changes that later spread between neighboring languages. It is possible, after all, that the closest connection selected in the phylogenetic tree would not represent a common proto-dialect but rather long-term neighboring influences, because the period of the supposed proto-dialect would, in any case, be considerably shorter than the entire subsequent long evolutionary continuum up to the present or documented vernaculars.

In some languages, instead of a number, there is a question mark for some features. I have tested the behavior of SplitsTree6, and the question mark affects the final result by "half," i.e., it is in magnitude as if it were between a different numerical value and the same numerical value. In my opinion, this is a good way to take into account in the modeling the uncertainty about whether a language shares the same change with other languages or not.

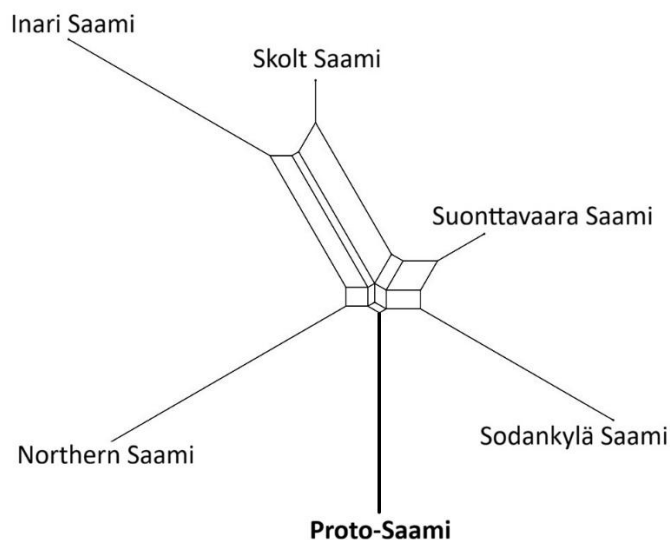


Figure 8: Five Saami languages rooted in Proto-Saami, based on 20 morphological and phonological unifying and distinguishing features, presented as a network diagram generated by SplitsTree6 software.

The figure shows that Inari Saami and Skolt Saami clearly share the greatest number of common features, and the next greatest number of features are shared by Suonttavaara Saami with Skolt Saami on the one hand and with Sodankylä Saami on the other. Although Suonttavaara Saami and Sodankylä Saami have evolved in their own directions, they also share common features. In terms of the features under consideration, Suonttavaara Saami has remained the most archaic language, meaning that it has the shortest distance to the reconstructed Proto-Saami. However, it should be noted here that the data also includes instances of sound loss, and such instances, of course, can occur in languages independently of each other, even if the result is the same. Loss, i.e., the attrition of the final sounds of words, is a widespread phenomenon especially in Skolt Saami, which may slightly distort the result, bringing Skolt Saami closer to Suonttavaara Saami, which also exhibits the loss of final sounds.

If, for example, Lule Saami were included, it would form a similarly long common branch with Northern Saami as Inari Saami and Skolt Saami do with each other. Including more distant regional

groups (Southern and Eastern regional groups) would not add value to the diagram, as their evolutionary lineages are already seen (from a historical linguistic perspective) as entirely distinct.

The traditional division into two groups, i.e., Western and Eastern Saami languages, is justified mainly from a geographical perspective, rather than from the standpoint of the languages' evolutionary lineages. Based on their evolutionary lineages, both the so-called Western and Eastern languages can each be further divided into two groups. At the beginning of the study, I presented four regional groups into which the living and recently extinct Saami languages can be divided (see Subsection 1.1).

While Sompio Saami and the presumed Kemikylä Saami initially appear to belong to the same regional group as Inari Saami and Skolt Saami – that is, they fit into this framework of four regional groups – Suonttavaara Saami and Sodankylä Saami do not. They represent a unique evolutionary lineage and therefore require an entirely new (fifth) regional group. The situation can be illustrated with a family fan like the one in Figure 9.

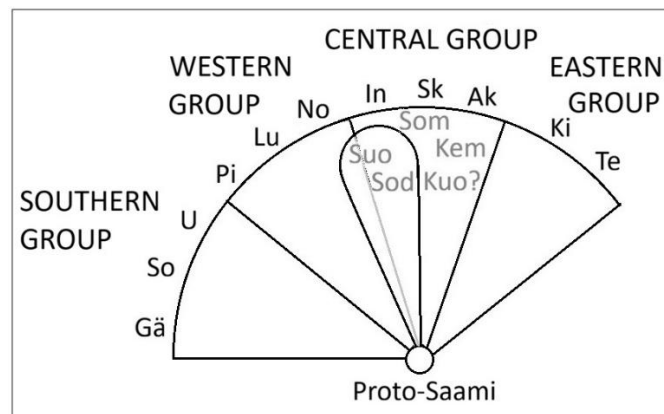


Figure 9: Family fan of the Saami languages. Suonttavaara Saami and Sodankylä Saami do not belong to any of the groups formed by the living Saami languages but instead require their own fifth group.

The linguistic diversity of Olaus Sirma's catechism reflects the linguistic diversity of Enontekiö in the late 17th century: it seems that the language informants included speakers of Rounala Northern Saami, Peltojärvi Saami, which resembles Inari Saami, and also Suonttavaara Saami, which to some extent resembles Sodankylä Saami. In addition to these main languages, there are some genuine Inari Saami features and even illative forms reminiscent of Lule Saami, as well as word forms from apparently still-unknown extinct languages. For example, occasional instances of old Kittilä Saami would not be surprising from the regional perspective. However, we do not have any textual material from

Kittilä Saami to compare with, so we can only speculate as to which features might be associated with it.

Unfortunately, the word forms that can be traced back to different languages are not consistently distributed across the various sections, but it seems that, as his work progressed over several decades, Sirma modified his text in completely random spots to conform to different languages. This, of course, makes it considerably more difficult to assess which word form could originate from which language. In this analysis, I have used the method of elimination: first, word forms similar to Northern Saami can be associated with Rounala Saami. If several different types still remain, then the next step is to associate the word forms that resemble another living neighboring language, Inari Saami, with Peltojärvi Saami (and in some cases even with Inari Saami itself).

The remaining representations of the various features appear to be consistent with each other in such a way that some kind of tendencies can be discerned. Suonttavaara Saami, for example, seems to have been a relatively "worn" language: in many inflectional forms, the loss of both final vowels and final consonants can be observed compared to living neighboring languages. At the same time, however, it was also an archaic language, as it had not undergone many changes of its own.

Nevertheless, it must be emphasized that I have only presented preliminary observations in this paper, and the Suonttavaara Saami described in the analysis is only a working hypothesis. Now that the study of these long-neglected Saami materials by Olaus Sirma has gained momentum, the topic will hopefully attract more researchers and students of Saami languages or Uralic historical linguistics.

The map in Figure 10 shows the boundaries of the regional groups examined: languages belonging to the same regional group share several common changes and thus represent closely related evolutionary lineages. Northern Saami belongs to the same regional group as Lule Saami and Pite Saami (which are not marked on the map). Inari Saami and Skolt Saami belong to the same regional group, which now also seems to include Peltojärvi Saami (Pel), Sompio Saami (Som) and the presumed Kemikylä Saami (Kem; apparently actually from the Russian side, see Subsection 1.1). Suonttavaara Saami (Suo) and Sodankylä Saami (Sod) initially belong to the same new (fifth) regional group, and on geographical grounds, it can then be assumed that old Kittilä Saami (Kit) also belonged to it, although no language samples are known to have survived from it.

The eastern dialects of Northern Saami exhibit similar metaphony changes as Inari Saami and Skolt Saami: the quality of the vowel in the second syllable has altered the quality of the vowel in the first syllable (Sammallahti 1998a: 11, 13–15). Most likely, such a widespread influence represents a linguistic substrate, i.e., Northern Saami, at the eastern edge of its speaking area, has spread to an

area where languages belonging to the more easterly regional group were previously spoken. The local inhabitants who had replaced their original language with the newcomer language would thus have transferred features of their mother tongue to the Northern Saami they had learned.

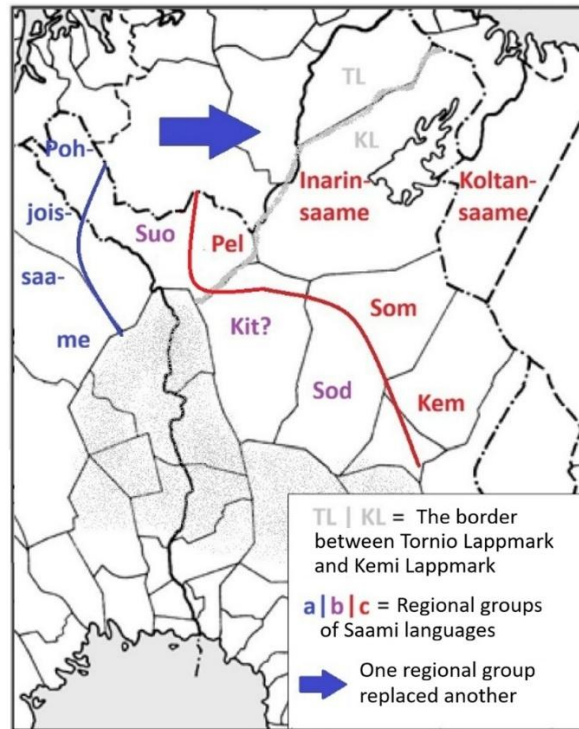


Figure 10: Map of the regional groups of Saami languages in Finland, the languages belonging to which represent closely related evolutionary lineages.

Finally, it can be noted that, as Sirma himself has stated, he did not use his native language, Sodankylä Saami, in writing his catechism. In this study, the following differences have been observed between the presumed Suonttavaara Saami and Sodankylä Saami:

1. A second imperative has developed in Sodankylä Saami (see 2.5), whereas it does not appear to have developed in any of the Enontekiö languages.
2. The **ɛ* of the second syllable of Suonttavaara Saami had probably merged with **a* (see 3.2), because the occasional vowels in the catechism that deviate from this are most parsimoniously explained on the basis of Peltojärvi Saami, which resembles Inari Saami. In Sodankylä Saami, the original quality of this vowel seems to have been preserved.

3. In Sodankylä Saami, *š had merged into *s, whereas in all Enontekiö languages, *š had retained its quality (see 3.6).
4. In Sodankylä Saami, *č had lost its palatalization within the stem of the word between vowels, and at the beginning of the word, it had generally merged with *s (see 3.8). In all Enontekiö languages, *č had generally been preserved as a palatalized affricate.

The differences between Sodankylä Saami and Rounala Saami (Northern Saami) and Peltojärvi Saami are even more pronounced, as seen in Figure 8 above. Thanks to Olaus Sirma's materials, we have been able to examine as many as four late 17th-century Saami languages, and in addition to the three main languages of Enontekiö, the catechism seems to contain intriguing random instances of even more Saami languages. Some of the presumed source languages are still alive (Inari Saami, Lule Saami), but some have already disappeared for good.

6. References

- (Aikio) Luobbal Sámmol Sámmol Ánte. 2006. On Germanic-Saami contacts and Saami prehistory. *Suomalais-Ugrilaisen Seuran Aikakauskirja* 91, 9–55. [LINKKI](#)
- (Aikio) Luobbal Sámmol Sámmol Ánte. 2007. The Study of Saami Substrate Toponyms in Finland. *Onomastica Uralica* 4, 159–197. Debrecen/Helsinki: Debreceni Egyetem, Magyar Nyelvtudományi Intézet / Kotimaisten kielten tutkimuskeskus. [LINKKI](#)
- (Aikio) Luobbal Sámmol Sámmol Ánte. 2009. *The Saami Loanwords in Finnish and Karelian*. Väitöskirja, Oulun yliopisto. [LINKKI](#)
- Álgu-tietokanta. Sámegielaid etymologas diehtovuodđu = Saamelaiskielten etymologinen tietokanta [online-tietokanta]. Helsinki: Kotimaisten kielten tutkimuskeskus, marraskuu 2006. Päivitetään jatkuvasti. Saatavissa: [LINKKI](#)
- Giellatekno: Sanakirjat. UiT The Arctic University of Norway. [LINKKI](#)
- Gezelius, Johannes. 1666. *Yxi paras lasten tawara*. [LINKKI](#)
- Heikkilä, Lydia. 2001. 9 Luonnonkäytön historia. Liisa Kajala ja Teppo Loikkanen (toim.): *Käsivarren erämaa-alueen luonto ja käyttö*. Metsähallituksen luonnonsuojelujulkaisuja. Sarja A, No 123. [LINKKI](#)
- Huson, Daniel H. & Bryant, David. 2024. The SplitsTree App: interactive analysis and visualization using phylogenetic trees and networks. *Nature Methods* 2024. [LINKKI](#)
- Häkkinen, Jaakko. 2018. Metsälappalaisten kielelliset jäljet. Esitelmä Metsälappalaispäivillä 2018. [LINKKI](#)
- Häkkinen, Jaakko & Piha, Minerva. 2023. Kantasaamesta eteläkantasaameen, osa 2. Äännehistorian todisteita eteläsaamen varhaisesta eriytymisestä. *Sananjalka* 65, 7–30. [LINKKI](#)
- Itkonen, Erkki. 1940. Olaus Sirman kotiseudusta ja kielestä. *Virittäjä* 44, 334–349.

- Jounila, Santeri. 2026. *Mii Katekismus lij? Olaus Sirman Katekismuksen nominien taivutuskategoriat*. Maisterintutkielma, Helsingin yliopisto. [LINKKI](#)
- Kallio, Kati & Valtonen, Taarna & Jouste, Marko. 2019. Olaus Sirman runojen vertailevaa luentaa – runojen poetiikka suhteessa suullisiin ja kirjallisiin lähikulttuureihin. *Suomalais-Ugrilaisen Seuran Aikakauskirja* 97, 109–152. [LINKKI](#)
- Koivulehto, Jorma. 2002. Contact with non-Germanic languages II: Relations to the East. Bandle, Oscar & Braunmüller, Kurt & Jahr, Ernst Hakon & Karker, Allan & Naumann, Hans-Peter & Tellemann, Ulf & Elmevik, Lennart & Widmark, Gun (toim.): *The Nordic Languages. An International Handbook of the History of the North Germanic Languages*, 583–594. Berlin–New York: Walter de Gruyter.
- Korhonen, Mikko. 1981. *Johdatus lapin kielen historiaan*. Suomalaisen Kirjallisuuden Seuran toimituksia 370.
- Lönnrot, Elias. 1837. Lähteä Lappiin. *Mehiläinen* 11, 1837. [LINKKI](#)
- Maijala, Eeva-Maria (toim.). 2016. *Kemin-Lappi elää! Alkuperäiskansa keminlappalaiset – yksi Suomen neljästä Saamen ryhmästä*. Pihkassa Lapin luontoon ry.
- Meister, Einar & Meister, Lya. 2019. Production of Estonian vowels by Finnish speakers. *ESUKA – JEFUL* 2019, 10–1, 129–143. [LINKKI](#)
- Müller, Merit. 2017. Adjektiiviattribuutin vaihtelu Erkki Itkosen ”Inarinsaamelaisissa kielinäytteissä”. Bakalaureustutkielma, Tarton yliopisto. [LINKKI](#)
- Persson, Anna. 2024. The acoustic characteristics of Swedish vowels. *Phonetica* 2024; 81(6), 599–643. [LINKKI](#)
- Piha, Minerva & Häkkinen, Jaakko. 2020. Kantasaamesta eteläkantasaameen. Lainatodisteita eteläsaamen varhaisesta eriytymisestä. *Sananjalka* 62, 102–124. [LINKKI](#)
- Rytilahti, Niko. 2025. Keminsaamen murteet ja niiden tutkimus tänään, osa 1. *Entisen Kemin Lapin metsäsaamelaista kulttuuria* (blogi). [LINKKI](#)
- Sammallahti, Pekka. 1998a. *The Saami Languages. An Introduction*. Kárášjohka: Davvi Girji OS.
- Sammallahti, Pekka. 1998b. Olaus Sirma: Kulnasatz nirásam. Vesa Guttorm (toim.): *Giellačállosat III*. Diedut 1998: 1, 84–95. Guovdageaidnu: Sámi Instituhtta.
- Schefferus, Ioannis. 1673. *Argentoratensis Lapponia*. [LINKKI](#)
- Teleman, Ulf. 2019. *Svensk ortografihistoria. Från 1200-tal till 1700-tal*. Lunds Universitet. [LINKKI](#)
- Valtonen, Taarna & Kallio, Kati. 2024. Chapter 7. Olaus Sirma: Sami Poetics and Clerical Networks in Early-Modern Swedish Lapland. K. Kallio, T. M. S. Lehtonen, A. Lahtinen, & I. Leskelä (toim.): *Networks, Poetics and Multilingual Society in the Early Modern Baltic Sea Region*, 164–191. BRILL. [LINKKI](#)
- Wiklund, K. B. 1913. En kemilapsk text från år 1716. *Le Monde Oriental* 7, 82–96. [LINKKI](#)

Appendix 1: Presentation of data in SplitsTree6's network graph

Step 1. 20 out of the 23 features in the table have been included.

Feature	Proto-Saami	Northern Saami	Inari Saami	Skolt Saami	Suonttavaara Sa	Sodankylä Sa
Illative ending:	*-jɛn	-i	-n	—	—	—
Pres. pl.3:	*-jɛk	-k ~ -t	-h	—	—	—
Pres. sg.3: ¹	*-ā	-a	—	—	—	??
Connegative:	*-k	—	—	—	—	—
2nd imperative:	—	—	—	—	—	- ̥k
Verb abessive:	*-keannā	-geahtá	-hánnaá	-k̄áni	⟨-k̄anna⟩	??
Attrib. agreem:	ESS + LOC	GEN + LOC	GEN + LOC	GEN + LOC	LOC + LOC	LOC + LOC
1st syllable:	*ā(-ē)	á	ä	ä	⟨a⟩	⟨a⟩
1st syllable:	*uo(-ē)	uo	ye	ue	⟨uo⟩	⟨uo⟩
1st syllable:	*e	a	a ~ o	â ~ õ	⟨a⟩	⟨a⟩
2nd syllable:	*e	a	â	â	⟨a⟩ (⟨e⟩/⟨o⟩)	⟨a⟩/⟨ä⟩/⟨e⟩/⟨o⟩
2nd syllable long vowels:	*ā, *ē, *ō	á, i, u	á, e/i, o/u	a, e, a	⟨a⟩, ⟨e⟩/⟨ä⟩, ⟨o⟩/⟨â⟩	⟨a⟩, ⟨e⟩/⟨ä⟩, ⟨o⟩/⟨â⟩
Contracted vowels:	*ā, *ē, *ō	á, e, o	á, e/i, o/u	a, e, a	⟨a⟩, ⟨e⟩/⟨ä⟩, ⟨o⟩/⟨â⟩	⟨a⟩, ⟨e⟩, ⟨â⟩
Contr. vowels:	*ī, *ū	e, o	e/i, o/u	e, u	⟨i⟩?, ⟨â⟩	⟨i⟩, ??
Long nasals: ²	*mm, *nn, *ŋŋ	pm, tn, kŋ	mm, nn, ŋŋ	mm, nn, ŋŋ	⟨mm⟩, ⟨nn⟩, —	⟨mm⟩, ⟨nn⟩, —
Before a cons.:	*š	jh	š	š	??	⟨s⟩
Betw. vowels:	*š	š	j (weak)	š	⟨ssi(j)⟩	⟨s⟩
Elsewhere:	*š	š	š	š	⟨sij⟩	⟨s⟩
Before a cons.:	*c	s	s	c	??	??
Betw. vowels:	*c	c	s (weak)	c	⟨tz⟩	⟨tz⟩
Elsewhere:	*c	c	c	c	⟨tz⟩	??
Word-initially:	*č	č	č	č	⟨tzi⟩	⟨s⟩ (⟨dzi⟩)
Before a cons.:	*č	š	š	č	??	??
Betw. vowels:	*č	č	j (weak)	č	⟨tzi⟩	⟨tz⟩

¹ = Trisyllabic forms.

² = Also applies to semi-long nasal consonants *m̄, *n̄, *ŋ̄ formed in the strong grade.

Step 2. The representations in the table have been converted into numerical values.

1. Illative ending: KSa 0, No 1, In 2, Sk 3, Suo 3, Sod 3
2. Present tense, 3rd person plural: KSa 0, No 1, In 2, Sk 3, Suo 3, Sod 3
3. Present tense 3rd person singular: KSa 0, No 0, In 1, Sk 1, Suo 1, Sod ?
4. Connegative *-k: KSa 0, No 1, In 1, Sk 1, Suo 1, Sod 1
5. Second imperative: KSa 0, No 0, In 0, Sk 0, Suo 0, Sod 1
6. Verbal abessive: KSa 0, No 1, In 0, Sk 0, Suo 0, Sod ?
7. Attribute agreement: KSa 0, No 1, In 1, Sk 1, Suo 2, Sod 2
8. 1st syllable *ā: KSa 0, No 0, In 1, Sk 1, Suo 0, Sod 0
9. 1st syllable *uo: KSa 0, No 1, In 2, Sk 2, Suo 0, Sod 3
10. 1st syllable *ē: KSa 0, No 1, In 2, Sk 2, Suo 1, Sod 1
11. Primarization *ē > o and *g > a: KSa 0, No 0, In 1, Sk 0, Suo 0, Sod 0
12. 2nd syllable *e: KSa 0, No 1, In 0, Sk 0, Suo 1, Sod 0
13. 2nd syllable *ē, *ō: KSa 0, No 1, In 2, Sk 3, Suo 0, Sod 0
14. Contracted vowels *ē, *ō: KSa 0, No 1, In 2, Sk 3, Suo 0, Sod 0
15. Plosive onset of non-short nasals: KSa 0, No 1, In 0, Sk 0, Suo 0, Sod 0
16. Proto-Saami *š: KSa 0, No 1, In 2, Sk 0, Suo 0, Sod 3
17. Proto-Saami *c: KSa 0, No 0, In 1, Sk 0, Suo 0, Sod 0
18. Word-initial *ć: KSa 0, No 0, In 0, Sk 0, Suo 0, Sod 1
19. Medial *ć: KSa 0, No 0, In 1, Sk 0, Suo 0, Sod 2
20. Proto-Saami *kt: KSa 0, No 0, In 1, Sk 1, Suo 1, Sod 0

Step 3. The numerical values are compiled into a simplified matrix that SplitsTree6 can read.

6 20

Taxon1 0

Taxon2 11010110110111110000

Taxon3 22110011221022021011

Taxon4 33110011220033000001

Taxon5 33110020010100000001

Taxon6 33?11?20310000030120

(6 = number of languages; 20 = number of coded features.

Taxon1 = KSa; 2 = No; 3 = In; 4 = Sk; 5 = Suo; 6 = Sod.)