

# Comment on the article *Archaeology, Language, and the Question of Sámi Ethnogenesis*

Minerva Piha, Associate Professor, Nord University (minerva.m.piha@nord.no), corresponding author

Mikko K. Heikkilä, Associate Professor, Tampere University (mikko.k.heikkila@tuni.fi)

Jaakko Häkkinen, Independent Researcher, Finland (hakkinenjaakko@gmail.com)

[This is a manuscript version of the article published online 5 February 2024 in *Acta Archaeologica* 93.2 (2022), 456–470. DOI:10.1163/16000390-09401059. Beginnings of pages in the published article are marked in square brackets.]

[456]

## Abstract

In this response<sup>1</sup> to the article *Archaeology, Language, and the Question of Sámi Ethnogenesis* by Asgeir Svestad and Bjørnar Olsen (2023), we correct some major misunderstandings made by Svestad and Olsen concerning the methodology of historical linguistics and its relation to archaeology. Our comment concerns the following topics: We explain that there cannot be one ethnogenesis that could be approached by different disciplines because different disciplines are independent and meet only momentarily. We also state that continuity does not disprove migration, or *vice versa*, and explain some basic methods of linguistic substrate studies that the authors have misunderstood. In Svestad and Olsen's article, there are also some clearly erroneous statements that we correct in our response. In spite of our critical comments, we genuinely encourage multidisciplinary discussion and cooperation because we share the same research interest: to deepen our understanding of the human past.

## Keywords

Fennoscandia, Saami archaeology, Saami linguistics, Saami past, methodology of historical linguistics

---

<sup>1</sup> As a response, this article has not been peer-reviewed.

## 1 Introduction

This is a response to the article *Archaeology, Language, and the Question of Sámi Ethnogenesis* written by Asgeir Svestad and Bjørnar Olsen, professors in archaeology. Their article was published in *Acta Archaeologica* (Volume 93.2, pp. 1–29). In their article, Svestad and Olsen (2023) take a very critical stance on studies in historical linguistics concerning the Saami (linguistic) prehistory. They criticize the notions of linguistic homelands and migrations as well as language as the primary indicator of ethnicity among other indicators. Along with the criticism, they outline a past to Saami based on archaeological record, specifically in Northern Norway. This outline, they claim, does not concur well with the results achieved in the studies of historical linguistics.

We want to begin our response by stating that we warmly welcome all dialogues between scholars from different disciplines. However, no dialogue on any subject can be productive if either side has misunderstood the other. We therefore find it necessary to first correct both some fundamental misunderstandings concerning

[457]

methodology and some single erroneous statements appearing in the article by Svestad and Olsen.

Svestad and Olsen (2023, 1) “target” the corpus of Finnish linguistic research on the Saami past. Actually, they attack (the methodology and results of) historical linguistics in their article, especially those of loanword study, although they frankly admit (2023, 14, 22) that they do not possess any expertise on the subject. Furthermore, they claim that Finnish linguists “*lean heavily* on assumptions about the archaeological record in their reasonings.” (Svestad & Olsen 2023, 1; italics by the present authors). This claim is based on a serious misunderstanding.

Svestad and Olsen have misunderstood the scientific procedure in question, because linguistic results do not lean on archaeological record, but instead an archaeological match is only afterwards searched for linguistic results if a linguist considers it at all important. When we consider language, we must take the linguistic results as the starting point and see if there is a match in the results of other disciplines concerning time, place, and direction of expansion. Irrespective of whether or not there is an archaeological match to be found, the linguistic results remain valid in any case. Only linguistics can study language, and language cannot be traced from material remains, unless these contain inscriptions. And if they do, their analysis belongs to the field of linguistics.

Proto-Saami as a name of a language denotes the time period ranging from the disintegration of the Pre-Proto-Saami language from West-Uralic into a Uralic language branch of its own to the disintegration of Late Proto-Saami into its Saami daughter languages. The Saami-specific language changes occurred during the Proto-Saami language period, and Late Proto-Saami, the immediate

ancestor of all the Saami languages, denotes the final stage of this time period. The concrete linguistic result, on which the dating and locating of Late Proto-Saami is based, is a multi-layered continuum of pairwise loanwords between Saami, Germanic and Finnic. This data is formed and updated by taking into account cumulative results of etymology and historical phonology. The absolute chronology comes from the Germanic side, where the runic inscriptions appear already in the first centuries AD, and we can follow the sound changes in the Germanic → Scandinavian language lineage from those inscriptions (e.g. Ralph 2002). Through the Germanic loanwords, the sound changes in Saami and Finnic can also be anchored to the absolute chronology.

Both linguistic and archaeological data are adjusted into our calendrical system by methods of natural sciences (as well as dated historical documents). However, we emphasize that in the case of locating the Saami homeland (= the speech area of (Late) Proto-Saami), archaeology plays no important role, because the location is based on mutual loanwords and the required adjacency to Germanic and Finnic lineages, as well as place-names in Southern Finland testifying for the early presence of all these three language lineages. This differs from the cases of Late Proto-Indo-European or Late Proto-Indo-Iranian, where meanings of certain words are compared to their material referents<sup>2</sup>, and the proto-language is then located within the most suitable archaeological culture (e.g. Anthony & Ringe 2015). To conclude: the interpretation made by Svestad and Olsen is incorrect.

There is no room to go through the actual linguistic data here, but Svestad and Olsen are already familiar with many of the sources in which these matters have been considered (Koivulehto 2002; Aikio 2006; 2007; Kallio 2009; Häkkinen 2010b; Heikkilä 2011; 2014; Piha & Häkkinen 2020). Suffice to summarize here that from the sound shape of the Germanic loanwords in the Saami languages, we can notice that the great Saami vowel shift (a series of subsequent changes in the Proto-Saami vocalism) postdated the Proto-Germanic language period which can be dated to the Pre-Roman Iron Age thanks to the Celtic and Latin loanwords into Proto-Germanic. Even distinctly Northwest Germanic loanwords are older than the vowel changes leading to Late Proto-Saami, bringing this reconstruction stage to the centuries immediately surrounding the beginning of the Common Era. As it happens, also the common Saami word for ‘iron’ is an old loanword (see Chapter 3.3), since the Saami word has participated in the vowel changes leading to Late Proto-Saami. Consequently, Late Proto-Saami cannot antedate the Iron Age. Therefore, Late

[458]

---

<sup>2</sup> In her doctoral dissertation, Minerva Piha does compare meanings of certain words to their possible material referents but does not attempt to locate a homeland of any protolanguage; rather, she studies the dating of the presence of South Saami in Central Scandinavia. She does not lean on archaeological record in her linguistic analysis either. She has handled the linguistic and archaeological datasets separately and correlated the results of her analyses of these datasets.

Proto-Saami, the immediate ancestor of all the Saami languages, must be dated to centuries after the beginning of the Iron Age in Northern Europe.

And as regards the age of the presence of the Saami languages in Northern Fennoscandia, it should be noted that the numerous Saami place-names of unknown, i.e. ante-Saami origin, in Northern Fennoscandia show vowel combinations that *postdate* the vowel changes leading to Late Proto-Saami, as well as initial consonant clusters which occurred only after the disintegration of Late Proto-Saami (Aikio 2004, 13–14). Consequently, all the linguistic evidence points to a presence of the Saami languages in Northern Fennoscandia only after the expansion of Late Proto-Saami from Southern Finland (Figure 1).

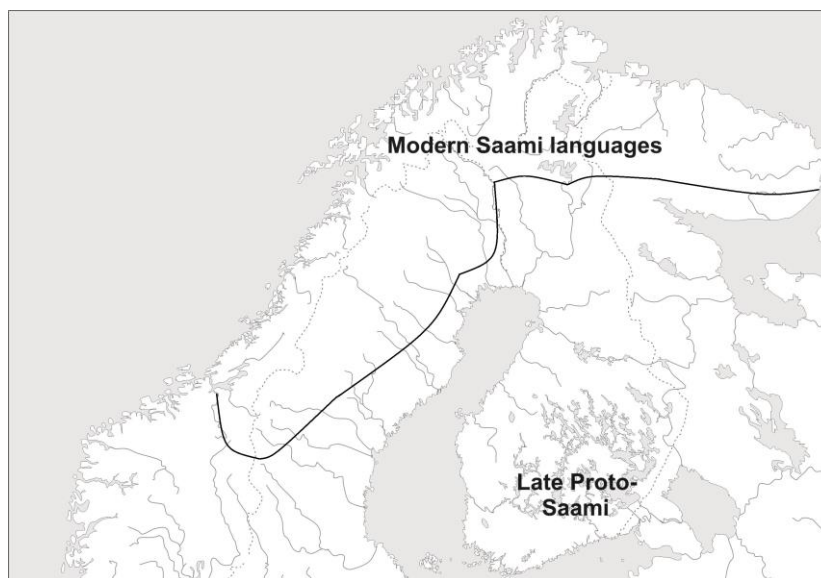


Figure 1. Modern Saami languages and the original region of Late Proto-Saami.

## 2 Methodology

In this chapter, we comment and correct some misinterpretations by Svestad and Olsen (2023). They seem to think that (1) there is always only one ethnogenesis, approachable by different disciplines, and that (2) archaeological results could have a decisive effect on the reconstruction of linguistic prehistory. These both are false presumptions. Further in our scrutiny, individual claims by the authors are commented.

First, we want to emphasize that there is no single ethnogenesis (Chapter 2.1) and that different disciplines are independent (2.2) and thus, it is not possible, for example, to overthrow linguistic reasoning with archaeological reasoning. We will also argue why continuity cannot disprove migration (2.3). Lastly, we will clarify some methods of the substrate studies (2.4) that are misunderstood by Svestad and Olsen in their paper.

## 2.1 There is no single ethnogenesis

The authors erroneously believe that there is one ethnogenesis approachable by different disciplines. In reality, every discipline can only reach its own restricted part of ethnogenesis: linguistics can only study the language, genetics can only study DNA, and archaeology can only [459]

study material remains of people and their culture. There is no obligation for all these different origins to agree with each other: they only meet momentarily and are not causally interdependent.

Most importantly, every discipline is independent from each other: linguistic results cannot be overruled by genetic or archaeological results any more than *vice versa*. This has been thoroughly explained in Häkkinen (2010a).

“Saaminess” appears different through the filter of different disciplines. From the linguistic perspective, “Saaminess” is connected to the root of language: we cannot label as Saami any people who did not speak any Saami language. For linguists, “Saaminess” appears in any area abruptly: at the very moment when the first community speaking Saami (including the ancestral stages) arrives within that particular region.

From the genetic or archaeological perspective, “Saaminess” appears very different: it is a sum of all traits from different directions at different times leading to the extant Saami people or their culture. There is no single definite trait which could be pointed out as the primary factor for “Saaminess”. Consequently, there is no abrupt starting point, but instead a cumulative layering of traits, leading to a temporal continuum interpreted as more Saami in the shallower time depths and as less Saami in the deeper time depth (Figure 2).

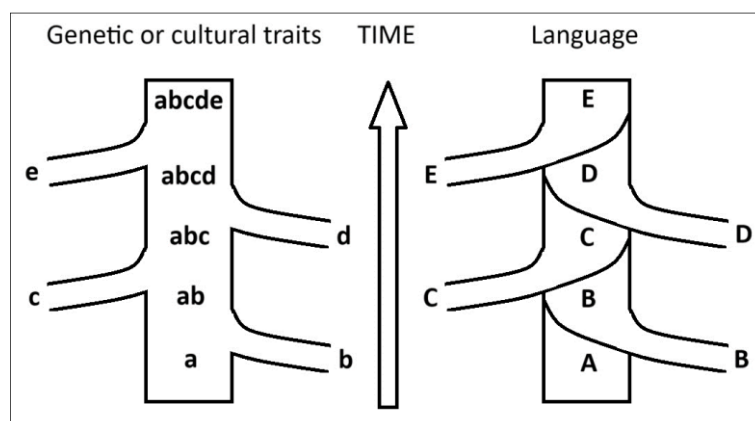


Figure 2. Genetic and cultural traits are cumulative, while languages are exclusive.

It is highly important to understand that there is no reliable method for seeing language from DNA or culture. There are several genetic and cultural roots for every human community, and any of them

could be connected to a certain language lineage (the Saami lineage = the Saami languages and all of their ancestral stages). Other roots, then, are connected to other languages – or they were connected to the same language lineage (Saami) but were not able to replace an earlier language or later became replaced by some other language lineage.

The only scientific method to find a genetic or cultural correlation for a language is to accept the linguistic results and find a correlation matching them concerning space, time, and direction of expansion. Still, it is not even necessary to consider genetic or archaeological results when reconstructing the linguistic past, just as well as one can delve into genetic or archaeological results without considering language at all.

Concerning prehistoric communities, which part of it best correlates with ethnicity? The question is actually irrelevant, and we can totally dismiss ethnicity as a too vague and indefinite term. As has repeatedly been seen, scholars from different disciplines interpret ethnicity differently, which leads to crosswise communication. Most importantly, we have no knowledge of the true ethnic identity of prehistoric peoples – we can only

[460]

approach their ethnicity indirectly through their language, endonym (ethnic label used by the speakers themselves), and cultural traits.

## **2.2 Different disciplines are independent**

Disciplines study different objects but also aim to answer different questions. Coming from the field of archaeology, the authors repeatedly raise the questions “how” and “why”, while historical linguists concentrate on the questions “when” and “where”. The latter questions are of course primary: it is not possible to find answers to “how” and “why” before we have found the answer to “when” and “where”. If one thinks that first answering “how” and “why” could help us to find answers to “when” and “where”, one has gravely mistaken. There are always several possible answers for “how” and “why”, but there is no reliable way to choose between those alternatives without taking as the starting point the answers to “when” and “where”.

Moreover, language truly is the primary factor in prehistoric ethnicity. “Saaminess”, as we now know it, only began when the Saami language from the south arrived to the north and/or was adopted by the people of northernmost Fennoscandia. Going back in time from this merger moment, different roots of “Saaminess” scatter in different directions: there were in a wide area several “ante-Saami”<sup>3</sup>

---

<sup>3</sup> Latin *ante* ‘before’

communities, all of which brought some traits into the later “Saaminess”, but they cannot all be labelled Saami. Now, which, if any, of these “ante-Saami” communities could we call Saami?

Let us take an example from the first millennium BC. If we compare 1) a community in northernmost Fennoscandia making scree graves and Kjelmmøy ceramics, speaking some unknown Paleo-Laplandic language, and referring to itself with some lost Paleo-Laplandic endonym, to 2) a community in Southern Finland making Lapp cairns and Luukonsaari ceramics, speaking earlier stages of Proto-Saami, and referring to itself with ancestral form of the endonym Saami (Late Proto-Saami *\*sāmē* < Early Proto-Saami *\*sämä* or *\*šämä*), it should be obvious that the ethnic label Saami makes sense only referring to the second community (or some undefined core of it, because boundaries of language communities do not always coalesce with boundaries of archaeologically defined cultures and because it is not possible to delimit ancient language communities so accurately on the map).

We do not mean to deny the role of material traits in constructing ethnicity and expressing ethnic identity – only to emphasize that they still remain secondary compared to language. The level of language also contains the ethnic label: the endonym of people.

Cultural and genetic traits of the Saami today are what they are only due to chance – if the expansion of the Saami languages had gone differently, the modern “Saaminess” would have a different delimitation. If the Saami languages had survived only in Southern Finland, genetic and cultural sums of “Saaminess” would be very different from what they are today. In that sense, language is an important factor, helping to frame an ethnic group of the past (although even language does not always overlap perfectly with ethnicity).

### **2.3. Continuity cannot disprove migration**

If this is right, though caution should be taken, it means that these genetic ancestors of the Sámi have lived in the northeastern Sámi settlement area since at least the beginning of the Early Metal Age. This would accordingly speak against the claim that the Sámi had no ancestry here before the early common era arrival of the Proto-Sámi speakers, who from their homeland in southeastern Finland are presumed to have moved north and replaced the original population. (Svestad & Olsen 2023, 8–9)

Contrary to the interpretation of the authors, linguists do not assume that the spread of Saami to Northern Fennoscandia would have meant total population replacement. How could there be hundreds of loanwords and place-names borrowed from Paleo-Laplandic languages to Saami if there was a total population replacement? Therefore, all recent linguistic models assume assimilation and

language shift of the earlier population, together with the migration of the Saami language carriers. Both migration and assimilation (language shift) are true at the same time.

The reason for the authors' misunderstanding seems to grow from an erroneous presumption that partial continuity seen in the archaeological data could somehow disprove cultural influence and population movements from other regions. However, the normal case is that continuity and discontinuity (new traits from the outside) coexist. Only on very remote and isolated islands is it possible to see cultural development with 100% local continuity and 0% foreign influence.

Moreover, even continuity as a concept is often misused: continuity is not to be seen defined to cover only local continuity. There is no reason why a local

[461]

continuity would be more important for ethnogenesis than roots (continuities) arriving from the outside. The more there appear foreign cultural influxes in a certain region, the less probable it becomes that the original language would have survived (Häkkinen 2010a, 27–28).

It also seems that continuity argumentation is applied in a rather selective manner. For example, there is no uniform Saami grave type in the relevant period, because the hunting ground graves in Central Scandinavia and the scree graves in Northern Scandinavia apparently share no common origin. If one tries to apply continuity argumentation to such traits, then one inevitably reaches two contradicting conclusions. Moreover, these conclusions are both wrong, as both of these grave types descend from times long before there were any Saami speakers in Scandinavia.

#### ***2.4 The methods of substrate studies and South Saami substrate vocabulary***

In relation to continuity and migration, a comment on substrate studies must be given. Svestad and Olsen write about the Southern Saami language migration to central Scandinavia:

The aboriginal Paleo-European speakers are believed to have assimilated with the arriving Sámi speakers, and their language to have become extinct 500–800 AD. Despite a considerable period of linguistic dualism, their lexical influences in the South Sámi religious language appear strangely insignificant [...]

[W]hat are the demographics involved – how many people could have arrived here, across the Bothnian Sea, and why did they decide to move here in the first place? Moreover, why did these migrants adopt an alien burial custom rather than continue their own native burial practice as one would expect? Further, if they undertook a cultural adoption of such ritual and religious significance, should we not, especially given the suggested centuries of linguistic coexistence, expect a more pronounced Paleo-



European influence in the South Sámi religious language, not the least with reference to burials? (Svestad and Olsen 2023, 14–15)

These questions are directed to Minerva Piha's (2020a) research in which she studies the indigenous religion from archaeological and linguistic perspectives. It is a part of her PhD thesis, in which the aims are, for example, to find the arrival date of the South Saami language (speakers) to Central Scandinavia by combining linguistic and archaeological results. The issue for Svestad and Olsen (2023) seems to be the fact that a majority of researchers do not see a change in burial customs of the inland areas of central Scandinavia around the time the South Saami language migrated into the area according to language historical analysis. Piha claims that such a change can be seen; the question will be addressed more thoroughly below (see Chapter 3.2). Here, we address the question of the lack of religious words of Paleo-European origin in South Saami.

Substrate studies is a subfield of (historical) linguistics which has become increasingly significant to Uralic language history in the 2000s (see e.g. Aikio 2004; 2012; Saarikivi 2006; Rahkonen 2013). Ante Aikio (2004; 2012) has concentrated on Saami substrate studies.

Methods for historical substrate studies to find substrate influence in a language are unique to the field although the methods of historical linguistics (e.g. sound changes) can be applied when the possible substrate influence is discovered. To find substrate influence, five criteria must be taken into account (Aikio 2004, 8–9; 2012, 83):

- (1) The quantitative criterion: If there is a large number of words without etymologies, it might point to substrate influence.
- (2) The structural criterion: If the potential substrate words have non-native features e.g. in phonology or morphology, it might indicate substrate influence.
- (3) The criterion of irregular correspondence: If the potential substrate words have irregular sound correspondences between languages, it is an indication of parallel borrowing from outside sources.
- (4) The semantic criterion: If the potential substrate words are found in semantic fields that are typical of substrate vocabulary, it indicates substrate origins.
- (5) The onomastic criterion: If the potential substrate vocabulary is paralleled by toponyms of unknown origin which has similar non-native structures as the vocabulary, it is an indication of substrate origins.

Aikio (2004; 2012, 84–88) has shown that all these criteria are fulfilled in the substrate elements found in the Saami languages. Here, to answer the criticism by Svestad and Olsen (2023: 14–15)

about the lack of religious vocabulary of Paleo-European origin in South Saami, we repeat what Aikio (2004; 2012) and other substrate researchers (for references see Aikio 2004: 6–10) have already established – the fourth criterion: semantic fields of substrate vocabulary.

[462]

The semantic fields typical of substrate vocabulary are animals (and their body parts), topography, weather and climate conditions of the area in which the contacts between the languages in question happened. Thus, substrate vocabulary that survives hundreds or thousands of years in a language, is related to the environmental conditions of the area in which the contacts happened.

Such a phenomenon is rather understandable: the substrate language has vocabulary that refers to the environmental conditions of the area that the newcomer language lacks. This is often due to the fact that the substrate language has been in the area before the newcomers' language. For example, the homeland from where the Saami languages spread to their present geographical areas is in the south, and the environmental conditions there differ vastly from those of Northern Fennoscandia. Before the Saami speakers arrived in the area of Northern Fennoscandia, they did not have words for such conditions, so they needed new words for the conditions which were new to them. It was simple to borrow them from the people who had dwelled there possibly for hundreds or even thousands of years and already had words for the environmental phenomena.

Religion and burial customs are not environmental phenomena, although environmental conditions do affect religious views and convenient ways to bury the deceased. The environmental conditions are the reason why the Saami speakers migrating to Central Scandinavia adopted the burial customs of the people who knew convenient ways to bury their dead in the area. In fact, archaeological continuity might quite often be due to the fact that certain phenomenon of the material culture fit the conditions of the area better than the customs of newcomers.

The difference between substrate studies and loanwords research is that substrate studies concentrate on lost languages, i.e. there is nothing left of these languages other than the substrate influence in extant languages. Loanword research, on the other hand, has not as its source only the languages into which words have been borrowed, but also the languages from which words have been borrowed. (See also Aikio 2004, 7–9; 2012, 83.) As the contacts between a substrate language and the language that has substrate influence might have been similar to those of other contact situations, it is plausible to believe that other kind of vocabulary has also been borrowed, e.g. words related to burial customs.

First, it has to be noted that the Saami languages have old words for 'to die' (South Saami *jaemedh* < Late Proto-Saami \**jāmē* < Proto-Uralic), 'the dead' and 'burial' (South Saami *gaelmie* [grave out in the nature; corpse, cadaver] < Late Proto-Saami \**kālmē*; Lehtiranta 1989 s.v. \**kālmē*) that would

be useful even in the new environment of Central Scandinavia. Other words in South Saami that are connected to burial customs and death are, for example, the following:

*aajmoe* [the other world] < Late Proto-Saami \**ājmō* ← Proto-Scandinavian \**haima* [home] (see e.g. Piha 2020a, appendix 1)

*hiegke* [life'] ← Late Proto-Finnic / Finnish *henki* [breath; life; spirit] (see e.g. Piha 2020a, appendix 1)

*juvledh* [to bury] ← ?

*jöörtedh* [to bury] ← Swedish / Norwegian *jorda* / *jorde* [to bury] (Hasselbrink 1981–1985, 798)

*kroepete*, *groepete* [grav; grop] ← Old Norse *krǫptr* (Qvigstad 1893, 180)

*sealoe* [soul] ← West Germanic, e.g. Old Saxon *seola* (Piha 2021, 31)

All these burial-related words are loanwords, and rather new loanwords at that. Of these six words, only the Proto-Scandinavian loanword *aajmoe* would be approximately as old as the substrate vocabulary in Saami languages; the rest are younger. The last three words on the list, *jöörtedh*, *kroepete* and *sealoe* might refer to Christianity as Piha (2021, 31 and references there) has argued (in connection with the word *sealoe*). The word *juvledh* is somewhat of a mystery when it comes to etymology. Lagercrantz (1939, 224) has noted that this might be a Scandinavian loanword, but the matter has not been researched further.

These six words would indicate that words related to burials get replaced by new words easily. The domain of world view is not one of the most quickly changing domains of life, but it is easy to observe many changes in world views within the last two thousand years in the area of Fennoscandia: the indigenous religions have been replaced with Christianity, and views within Christianity have changed quite often. Recently other world religions and atheism among others have had a significant impact on world views. Such changes bring new words into use and old ones into extinction.

It is quite possible, or even probable, that the predecessor of modern South Saami borrowed burial-related (or religious) words of Paleo-European origin when they adopted the burial custom, but they have fallen out of use or been replaced by new ones, for example those of Scandinavian origin that refer to Christianity. Of the Paleo-European vocabulary, only those have survived

[463]

through the centuries that refer to more stable phenomena than culture and religion, i.e. environmental conditions.

Related to the substrate topic, Svestad and Olsen (2023, 14) write:

Moreover, since there are no signs in the material repertoire of northernmost Fennoscandia of any new people arriving in the actual period, this must mean that the arriving Proto-Sámi completely and straight away adopted the Paleo-European peoples' way of living, customs, maritime technology, and material culture at large.

In especially such a challenging climate and environment, it is crucial for the newcomers to adapt to the local way of living as quickly as possible. And indeed, the cultural continuity corresponds more likely with linguistic substrate (related to local environment and livelihood) than with a new arriving language. There are hundreds of loanwords and place-names borrowed by the Saami speakers from the earlier inhabitants, which clearly prove the direction of adaptation (Aikio 2004; 2012). According to *Luobbal Sámmol Sámmol Ánte* (Aikio 2021), as much as 34% of the Saami words (3,421 in total) are of unknown origin.

Moreover, how can Svestad and Olsen claim that there are no traces of any new people arriving at the relevant period? They wrote earlier in their article that Kjelmo ceramic ceases 300 AD (page 7), bear graves appear during the 3rd century AD (page 10), and contacts with Central and Eastern Russia cease in the first centuries AD (page 12). These are clear cultural changes – how can the authors declare that there are no signs of any new people arriving? What counts for a sign of new people, if these are not even considered possible traces?

Of course, if the authors represented a steep anti-migrationist school, such a statement would be expected. However, we believe that there no longer exists any radical anti-migrationists, because ancient DNA research during the last decade has proven that practically every noteworthy prehistoric cultural change in Europe was accompanied by undisputed migration of people carrying new kind of genetic ancestry (Mallory, Dybo & Balanovsky 2019, 1479).

Admittedly, the strongest evidence would be an appearance of a trait which was earlier seen in another region (concerning the Saami: in Southern Finland). Nevertheless, a change is still a change, irrespective of whether it adds on or removes something. In theory, all the mentioned traits could still originate in Southern Finland: (1) ceasing of pottery could have spread from the south to the north, but the margin of error in the dating methods probably prevents accurate enough results to decisively judge this question; (2) ceasing of contacts with regions in Russia could be caused by appearance of a new distributor in a nearby region (Southern Finland); (3) idea of bear graves could originate in Southern Finland, but because organic material like unburnt bones and birch bark are so poorly preserved there, conclusive evidence can no longer be found. Nevertheless, burnt animal bones are frequently found in Lapp cairns (mostly undeterminable at the species level), sometimes even without human bones (Saipio 2023, 7–8).

It seems that the declaration of the authors is highly exaggerated, and there is no ground for such a plain denial of the arrival of new people in the relevant period. Moreover, there are even verified linguistic expansions which cannot be seen in the archaeological record, like the spread of Gaelic from Northern Ireland to Scotland (Mallory 1989, 166).

### **3 Comments on individual claims**

We now proceed to correct some single erroneous statements about some of our publications occurring in the article written by Svestad and Olsen. Here, we cover four topics: we describe what is meant by “archaeological invisibility” in linguistic (and archaeological) research (Chapter 3.1), comment on the periodization of the hunting ground graves on central Scandinavia (3.2), outline some possible correlations between early iron production of the inland areas of southern Finland and the Proto-Saami language (3.3), and correct misinterpretations Svestad and Olsen (2023) have about the doctoral thesis of Mikko Heikkilä (3.4).

#### ***3.1 Archaeological invisibility misinterpreted***

In their article, Svestad and Olsen (2023, 3) criticize linguists and Finnish archaeologists for seeing northern Finland as an archaeologically void area from around AD 300 to 800 AD:

In other words, and indeed somewhat surprisingly, the archaeological correlate is represented by what is believed to be a ‘void period’, ca. 200/300–800 AD, characterized by the termination of ceramic and local iron production, and, in general, very sparse finds. [...] The present article challenges the archaeological assumptions that these linguistic reconstructions are based on. For one

[464]

thing, it shows that there was no void period in the Iron Age of northern Fennoscandia, Finnish Lapland included. (Svestad & Olsen 2023, 3)

What the authors themselves call “void period”, is by the linguists they cite explicitly written to mean the ceasing of production of ceramic, iron and visible cemeteries. Nothing more. Let us prove this by showing what these linguists actually wrote:

Concerning time and place, a convenient correlate could be the spread of “archaeological invisibility” to the north: ceramics producing ceases in the interior parts around the

Younger Roman Iron Age, and visible cemeteries were no longer built. (Translation from Häkkinen 2010: 61 by the authors.)

According to archaeological evidence ca. 300 AD, during the phase under scrutiny, production of ceramic and iron ceased in the asbestos ceramic cultural region in the interior of Fennoscandia and Northern Scandinavia connected to the Saami, which probably reflects changes in the Saami society (e.g. in the fur trade) and which involves simultaneous fairly fast expansion of Proto-Saami speech area in and to the north, which then offered favorable conditions for the divergence of separate Saami languages. (Translation from Heikkilä 2011: 76 by the authors.)

It has been independently noted by Heikkilä (2012 [= 2011], 75–76) and Häkkinen (2010b, 61) that there is, indeed, a surprising correlate to the expansion of Saami in the archaeological record of Lapland. The period between 250–800 AD in Lapland is characterized by ‘archaeological invisibility’: the production of iron and ceramics ceased and finds from this period are scarce and scattered. Metal objects associated with this period are imported. (Aikio 2012: 104–105)

How are the quotes above radically different from what one of the authors (Bjørnar Olsen) himself has recently written?

The period from around AD 200–900 has been described as remarkably poor in regard to archaeological finds in the Sámi settlement area. For example, it has proven difficult to identify locally produced artifact types from this period that are chronologically characteristic of the northern hunting population. More recent archaeological investigations have modified this picture considerably, but at the same time confirmed a certain ‘anonymity’ in the archaeological material. (Hansen & Olsen 2014, 45–46)

And:

It seems that after this early formative phase, the need for a deliberate symbolic articulation of Sámi ethnicity changed. Once the production of Kjelmo pottery had ceased during the early centuries AD, it is not until the Viking Age that material/symbolic cultural manifestations with a similar geographical distribution can be observed. (Hansen & Olsen 2014, 30.)

Even in the article at hand, Svestad and Olsen write:

Although small-scale local iron production may have taken place, it seems reasonable to assume that the continuous and increased iron use documented among the Sámi throughout the Iron Age was mainly facilitated through economic dealings with the Germanic/Norse population and with Finnish and Karelian groups in the southeast [...] (Svestad & Olsen 2023, 13).

Was it the term “archaeological invisibility” in quotation marks used by Häkkinen (and referred to by Aikio), which made it impossible for the authors to read neutrally any words following it? If that is the case, Häkkinen apologizes for his unfortunate choice of words.

Then, why did Häkkinen and Heikkilä connect this particular phase to the spread of Late Proto-Saami, at the same time and unbeknown of each other’s views? Because it happened to be in the right place at the right time to match the linguistic results (see Chapter 2). There exists no reliable method to see the expansion of Late Proto-Saami from the archaeological record. Concerning language, the linguistic results are always primary.

We also find it slightly unfair that Svestad and Olsen (2023) direct their criticism at linguists on this matter. The linguists have based their understanding about archaeological invisibility on what archaeologists have written about it. This period has been expressed to be void by many archaeologists (e.g. Storli 1986; Hamari & Halinen 2000, 156; Carpelan 2003, 60–61; 2006, 81). Who would the linguists trust in archaeological questions if not archaeologists? Linguists do not have the

[465]  
competence to assess the validity of archaeological research any more than archaeologists have competence to assess the validity of linguistic research (see e.g. Svestad & Olsen 2023, 22). Thus, the linguists commenting on the archaeological invisibility of northern Finland have trusted the archaeologists to know and understand their own field of research.

### ***3.2 Hunting ground graves of Central Scandinavia: dating and periodization***

As noted above, Svestad and Olsen (2023, 14–16) see Piha’s (2020) interpretations on hunting ground graves of Central Scandinavia as problematic because they claim that Piha sees change in burial customs there where they do not see it. Hunting ground graves are a burial custom that has been in use in Jämtland and Dalarna from around 200 BC to at least the 13th century AD. They are stone settings of various forms and sizes that change from phase to phase. They are, at first, found near lakes and other water systems but later also further away from water. Grave goods in hunting

ground graves get richer the closer we come to the end of the period of the burial custom. Grave goods include iron knives, glass, bronze and bone artefacts as well as spearheads and bones of wild animals and, later, also domestic animals. (Sundström 1989; 1997, 21–24; Zachrisson et al. 1997, 195–199; Fossum 2006, 90–96.)

The burial custom of hunting ground graves is divided in several phases according to changes in characteristics of the burials. Svestad and Olsen (2023: 16) remark that most scholars would not divide the burial custom as Piha (2020a) has done. She writes that the hunting ground graves “often are divided into three or four periods: 200 BCE–200 CE, 200–550 CE and 800–1200 CE” (Piha 2020a, 121). Here, we discuss only the first two phases as Svestad and Olsen’s (2023) critique concerns mostly them.

Svestad and Olsen (2023, 16) claim that Piha’s first and second phase have most often been treated/considered as one phase, that is 200 BC–550 AD. Here, they refer to Zachrisson and others (1997, 195–199),<sup>4</sup> Ojala (2009, 148–149), Hansen & Olsen (2014, 93–95) and Gjerde (2016, 82–92), and assume that Piha’s (2020a) view is based on Fossum (2006, 90–96). However, this is not so even though Piha’s (2020a) view is similar to that of Fossum. Piha’s (2020a) view is based on careful analysis of literature and field work reports (see the reports and literature used in Piha 2018, 222 appendix 3; see also pp. 144–146).<sup>5</sup> In addition, there are also others who have studied the hunting ground graves of central Scandinavia and who do support a phasing Fossum (2006, 91–93) and Piha (2018; 2020a) suggest: Sundström (1989b, 163–164) separates the phases 200 BC–200 AD and 200–550 AD from each other.<sup>6</sup> In her research about antlers on hunting ground contexts, Olofsson (2010, 98) sees the first phase to date from 200 BC to 200 AD. Thus, we would not say that *most* scholars do not share Piha’s (2020a) view as Svestad and Olsen claim, but rather that there are two interpretations on the periodization of the burial custom. Here, we shall briefly argue why Piha’s (2020a) view is valid.

If the characteristics of hunting ground graves are compared between the suggested first (200 BC–200 AD) and second (200–550 AD) phases, differences can be seen (Table 1): The size of the cemeteries become significantly smaller and individual graves start to appear after 200 AD. The first phase includes triangular graves which disappear when coming to the second phase. Grave goods increase in amount from the first to the second phase, and they suggest changes in society as, for example,

---

<sup>4</sup> Svestad and Olsen (2023, 16) refer, in fact, only to Zachrisson because the particular chapter is written by Zachrisson alone.

<sup>5</sup> Admittedly, a reference to Piha (2018) could have been more explicit in Piha (2020a, 120). However, as Piha (2018) is found in Svestad and Olsen’s (2023, 27) bibliography, it is expected that they would have read the article which was also a part of Piha’s PhD thesis (Piha 2020b) and thus, in dialogue with the article Piha (2020a).

<sup>6</sup> The same separation is found in Sundström (1997, 22–23) although quite implicitly.



weapons and bones of domestic animals start appearing in the graves. However, also continuity from the first phase to the second is visible, for example, in stone chains, depositing wild animal bones as grave goods, the round shape of the graves and topographic location.

<b>Characteristics of hunting ground lakes</b>	<b>Phase I 200 BC–200 AD</b>	<b>Phase II 200–550/600 AD</b>
<b>topographic location</b>	near lakes and other water systems	near lakes and other water systems
<b>size of the cemetery</b>	at least 30 graves	4–10 graves, individual graves
<b>formation of an individual grave</b>	round, triangular	round, seldom square
<b>size of an individual grave</b>	2–3.6 m in diameter for round graves, 4–5 m per side of triangular graves	2–5 m in diameter
<b>stone chains</b>	yes	yes
<b>grave goods</b>	few other than bones of wild animals, antlers	iron knives, spearheads, glass, bronze and bone objects, bones of wild and domestic animals
<b>other characteristics</b>	erect stones in triangular graves, human remains covered with flat stones	human remains scattered in the fire layer

Table 1. Characteristics of hunting ground lakes phases I and II in Jämtland and Härjedalen. Characteristics are gathered from Ambrosiani et al. 1984; Hvafner & Kvarning 1958; Larje 1989; Sundström 1984; 1989a; 1989b, 163–164; Fossum 2006, 91–93; Piha 2018, 144–146.

As we have argued above, the appearance of new language(s) is not necessarily seen in archaeological material as a cultural change. Such a change can also reflect something other than the arrival of a new language. However, it is possible that arrival of a new language in an area can be seen as a cultural change, if the dating of an archaeological phenomenon agrees with the linguistic dating. In regard to hunting ground graves, there can be seen a change – not immense but visible either way – around 200 AD, and this change correlates with what we know about dating of the spread of the Saami language to Central Scandinavia.

Perhaps the increased amount of grave goods or the decreased size of cemeteries as well as the appearance of individual graves outside cemeteries are features which the new language speakers brought with them. Grave

goods start to appear also in Lapp cairns in Finland in the Early Metal Period, metal items mainly in the Roman Iron Age (Saipio 2023: 385). As Lapp cairns are found in the speaking area of Proto-Saami in the right time, they might have a connection with the Proto-Saami speakers. Thus, the increasing amount of grave goods in hunting ground graves of Central Scandinavia could be seen as a continuity from Lapp cairn burials. This is, naturally, only an educated guess because this connection between Lapp cairns and hunting ground graves has not yet been researched in any detail. The topographic locations, the building materials of graves (e.g. stones) among other features would reflect continuity from the earlier phase of hunting ground graves. They might reflect the fact that these elements have been seen as suitable for burials in the area.

Another question Svestad and Olsen (2023, 15) ask, loosely related to this one, can now be answered in more detail than before: Why did some Late Proto-Saami speakers decide to migrate to Central Scandinavia in the first place? Next, we will address this question.

### **3.3 Iron production and the spread of Late Proto-Saami**

Svestad and Olsen (2023, 3, 13) suggest that the archaeological material related to the Proto-Saami period in Southeastern Finland and the expansion of Late Proto-Saami to a large area in Fennoscandia should be studied. This is very much true: until today not many studies have been done about archaeological remains that could be connected to Proto-Saami homeland and the spread of the Saami languages in Fennoscandia.

However, a project that examines the early Iron Age iron production in the area of the linguistic homeland of Proto-Saami and its connection to Proto-Saami has recently begun. The preliminary results are promising: the Luukonsaari asbestos pottery group, with finds primarily from Lakeland Finland, is simultaneous with Early Proto-Saami. It seems that Luukonsaari pottery (950 cal BC–15 cal AD) has been used in connection with iron production, as some of the pots seem to have been used as crucibles in working iron ore, and also a somewhat later variant of asbestos pottery, Sirnihta (180 cal BC–500 cal AD) connects to iron production. (Pesonen et al. 2023.)

Within the same project, the origin and age of iron-related vocabulary in the Saami languages has been researched (Piha, forthcoming). However, it has been known for already decades that the speakers of Proto-Saami must have known about iron and iron ore already in the Pre-Roman Iron Age (c. 500–1 BC) because Proto-Saami had a specific word for iron (North Saami *ruovdi*, South Saami *ruevtie* etc. < Late-Proto-Saami *\*ruovtē* < Early-Proto-Saami *\*ravta*) and because it is a borrowing from Proto-Germanic *\*raudan*. The relative chronology and a fairly accurate date of the borrowing of the Proto-Saami word can be estimated because 1) it has gone through the metaphonic sound

changes of Proto-Saami (the great Saami vowel shift, see e.g. Aikio 2012, 70–71), and consequently predates them,

[467]

and because 2) Proto-Germanic can be dated to the Pre-Roman Iron Age (e.g. Ramat 1981, 12–13; Aikio 2006, 12, 39; Euler & Badenheuer 2009, 14; Heikkilä 2014, *passim*).

However, the preliminary results are interesting: the modern Saami languages seem to have received their other iron-related vocabulary mainly from two different directions: the southwestern Saami languages (South and Ume Saami) seem to have borrowed the iron production vocabulary mainly from Proto-Scandinavian — the predecessor of Danish, Faroese, Icelandic, Norwegian and Swedish, spoken around 200–550 AD — while the more northern and northeastern Saami languages (e.g. Lule, North, Inari and Skolt Saami) have borrowed their iron vocabulary mostly from Finnish. The iron vocabulary in the southern Saami languages is much older than in the northern and northeastern Saami languages. (Piha, *forthcoming*.)

Iron production was intensive in the region of Central Scandinavia (e.g. Magnusson 1986, 168 fig. 95, 193 fig. 96) to where Southern Proto-Saami migrated (and later developed into South and Ume Saami). The age of iron-related vocabulary of Proto-Scandinavian origin in the southern Saami languages is simultaneous with the intensive iron production seen in the archaeological material of Central Scandinavia. In turn, the young iron-related vocabulary of Finnish origin in the more northern and northeastern Saami languages does support the assumption that the speakers of these languages did not practice iron production themselves albeit knowing the metal itself, and this agrees well with the lack of iron production seen in the Iron Age northern Finland from 300 AD (see Chapter 3.1).

How does this, then, relate to the likely traces of iron production seen in the Luukonsaari pottery? The Saami have had knowledge of iron already in the Pre-Roman Iron Age as the word for iron in the Saami languages indicates. Thus, the knowledge of iron production is old enough to correlate with the Luukonsaari pottery; the Proto-Scandinavian origin of iron vocabulary in the southern Saami languages is, in turn, approximately simultaneous with the Sirnihta pottery. Both these pottery types are in the geographical area in which Proto-Saami was spoken and, as noted, their dating correlates with the dating of the Saami language.

A scenario that could be sketched from this knowledge is as follows (Piha *forthcoming*):

Proto-Scandinavian words might have been borrowed into the common Proto-Saami before the disintegration that led to the modern Saami languages. This would have happened in the area of Finland where the North-Germanic/Proto-Scandinavian language and Proto-Saami were spoken around the beginning of the Common Era. This is supported by the fact that even the northern and northeastern Saami languages do have some words that originate from Proto-Germanic and Proto-

Scandinavian. This would mean that their speakers were familiar with iron, iron production and iron-work but lost the more detailed vocabulary while it was preserved in Southern Proto-Saami, which migrated to Central Scandinavia.

As noted, the Iron Age iron production ceases in the areas of Northern Finland where Saami languages spread around 300 AD. In turn, Central Scandinavia was a significant area of iron production in the early Iron Age, and the Southern Proto-Saami speakers were most likely a part of this production network. The iron-related vocabulary in the southern Saami languages supports this. Thus, the iron production connected to Luukonsaari and Sirnihta potteries might be, at least partially, connected to Proto-Saami speakers.

The relationship between iron production and the Saami language does explain, partly, which archaeological remains might be connected to the homeland of Proto-Saami, which is defined to the area between the Lakeland of Southeastern Finland and Lake Ladoga in Russian Karelia (e.g. Aikio 2006, 42, 45; Kallio 2006, 18; 2009, 38) and perhaps reaching even the western and southern coastlands of the modern area of Finland. However, it does not explicitly explain why and how the spread of Saami languages happened. It is possible that the Saami speakers knew of the rich iron ore area of central Scandinavia and a group or groups of them migrated there to share their knowledge in iron production. Why the iron production would have ceased among the Saami speakers when they headed north, is unclear. Possibly the iron ore deposits in the area of Northern Finland were not known at the time and, thus, could not offer a living for the Saami speakers and, thus, they had to find new ways of subsistence.

### **3.4 Corrections on erroneous statements on Bidrag till Fennoskandiens språkliga förhistoria i tid och rum**

Svestad and Olsen have read Mikko K. Heikkilä's doctoral thesis *Bidrag till Fennoskandiens språkliga förhistoria i tid och rum* (2014) in a tendentious manner, and they express several clearly erroneous statements about

[468]

it in their article. To begin with, Heikkilä's dissertation *is* interdisciplinary, not just declared to be interdisciplinary (by him) like Svestad and Olsen (2023, 13) erroneously claim, since Heikkilä's dissertation really (1) consists of evidence and (2) combines evidence from at least the following well-established academic disciplines: sound history (of a range of ancient European languages), etymology, onomastics, history, church history and archaeology. All these are, *Nota bene*, separate established academic disciplines within the humanities, which definitely makes Heikkilä's PhD thesis

interdisciplinary. We can also mention that Heikkilä's doctoral dissertation in linguistics was pre-examined and approved e.g. by a well-known experienced Finnish archaeologist, professor emeritus Unto Salo.

Secondly, Heikkilä certainly explains in his dissertation what the absolute dates mentioned in it are about and how they should be read (see Heikkilä 2014, 96, 101, 125). Svestad and Olsen have completely overlooked that fact.

Thirdly, Svestad and Olsen (2023, 8–9) write:

If this is right, though caution should be taken, it means that these genetic ancestors of the Sámi have lived in the northeastern Sámi settlement area since at least the beginning of the Early Metal Age. This would accordingly speak against the claim that the Sámi had no ancestry here before the early common era arrival of the Proto-Sámi speakers, who from their homeland in southeastern Finland are presumed to have moved north and replaced the original population (e.g. Heikkilä 2014, 135–136).

In reality, however, Heikkilä does not make such a claim as he explicitly – and repeatedly – writes about the *linguistic* ancestry of the Saami people (*samernas språkliga förfäder*) in the passage referred by Svestad and Olsen. The target of the criticism presented by Svestad and Olsen has been made up by them. Furthermore, Svestad and Olsen (2023, 14) claim that “Sámi place names such as *Ráigegáisi* and *Háldi* are dated to just before the Common Era” by Heikkilä, “although place names in Sápmi are generally considered fairly young” by Heikkilä. Even this alleged inconsistency in Heikkilä's argumentation is made up by Svestad and Olsen, because Heikkilä does not date the aforementioned place names “to just before the common era” but writes instead that the *earliest possible* date for their name giving is little before the Common Era. These are distinct issues.

#### **4 Conclusion**

In this comment on Svestad and Olsen's article (2023) we have clarified some misunderstandings which the authors have of linguistic research on the Saami past. We have touched the methodological topics of ethnogenesis and ethnicity, nature of different disciplines studying the past, continuity versus migration, and the linguistic substrate studies. Moreover, we have wanted to comment on some individual claims of the authors which we see as misinterpretations. These include the questions of the so-called archaeological void of northern Finland, periodization of hunting ground graves, the

possible archaeological correlate of the Proto-Saami language and clarifications on interpretations on Mikko Heikkilä's doctoral thesis. Svestad and Olsen (2023, 20) conclude:

We, therefore, maintain that what eventually became the Sámi ethnogenesis cannot be properly understood without considering the processes that took place in the first millennium before the common era. - - At first, language played no, or an unknown, role in creating this awareness. It was rather added later to an already emergent or emerging identity.

We can agree with this, although it should be explicated that these older roots of the Saami cultural ethnogenesis were not Saami but “ante-Saami”, because the Saami language and ethnic identity were not yet present in the region.

Finally, we draw attention to a major philosophical inconsistency in Svestad and Olsen's article: in the Conclusion of their article Svestad and Olsen (2023, 21) refer to “poststructuralist thinking” by using it as a philosophical argument against the validity of the results of contemporary historical linguistics, such as ours. Given the highly sceptical stance of poststructuralism (and other postmodern theories) towards the existence of any (intersubjective) truth and certainty of human knowledge, it should be noted that a poststructuralist (as well as a postmodernist) cannot logically present his/her view as being closer to the truth in question than anyone else's view. A postmodernist (and poststructuralist as well as deconstructionist) might now object by saying that even logics (as well as mathematics) is merely a construction of human mind. Maybe, maybe not, but if there is no logics, human knowledge nor truth, there is no

[469]

difference between science and, say, politics either, and science is no longer “legitimate” (see e.g. Heikkilä 2022, 2023). In addition, we kindly point out that the humanities involved in the actual discussion share a common research object, that of the human past. Thus, we warmly encourage open-minded interdisciplinary approaches to our common research object.

## References

- Aikio, A. 2004. An Essay on Substrate Studies and the Origin of Saami. Hyvärinen et al. 5–34.
- 2006. On Germanic-Saami Contacts and Saami Prehistory. *Journal de la Société Finno-Ougrienne* 91. 9–55.
- 2007. The Study of Saami Substrate Toponyms in Finland. *Onomastica Uralica* 4. 159–197. Debrecen/Helsinki: Debreceni Egyetem, Magyar Nyelvtudományi Intézete / Kotimaisten kielten tutkimuskeskus. <<http://mnytud.arts.klte.hu/onomural/kotetek/ou4/08aikio.pdf>>
- 2012. An Essay on Saami Ethnolinguistic Prehistory. Grünthal & Kallio 2006. 63–117.
- 2021. The layers of substrate vocabulary in western Uralic. (Presentation in Leiden, Aug 30 2021: Sub-Indo-European Europe: Problems, Methods and Evidence.)
- Ambrosiani, B. & E. Iregren & P. Lahtiperä 1984. *Gravfält i fångstmarken*. Rapport 1984:6. Stockholm (Riksantikvarieämbetet och Statens historiska museet).
- Anthony, David W. & Ringe, Don. 2015. The Indo-European Homeland from Linguistic and Archaeological Perspectives. *Annual Review of Linguistics* 2015. 1: 199–219. DOI: <10.1146/annurev-linguist-030514-124812>
- Carpelan, C. 2003. Inarilaisten arkeologiset vaiheet. Lehtola 2003. 28–95.
- Carpelan, C. 2006. Etnicitet, identitet, ursprung? Exemplet samerna. Herva 2006. 75–82.
- Euler, W. & Badenheuer, K. 2009. *Sprache und Herkunft der Germanen. Abriss des Protogermanischen vor der Ersten Lautverschiebung*. Hamburg (Verlag Inspiration Unlimited).
- Fossum, B. 2006. *Förfädernas land. En arkeologisk studie av rituella lämningar i Sápmi 300 f.Kr–1600 e.Kr*. Studia archaeologica universitatis Umensis 22. Umeå (Umeå universitet).
- Gjerde, H. 2016. Sørsamisk eller førsamisk? Arkeologi og sørsamisk forhistorie i Sør-Norge. En kildekritisk analyse. Oslo (University of Oslo).
- Grünthal, R. & P. Kallio, (eds.). 2012. *A Linguistic Map of a Prehistoric Northern Europe*. Mémoires de la Société Finno-Ougrienne 266. Helsinki (Société Finno-Ougrienne).
- Hamari, P. & P. Halinen. 2000. Saamelaisperäisten muinaisjäännösten inventointi. Maaranen & Kirkinen 2000. 153–171.
- Hansen, L. I. & B. Olsen. 2014. *Hunters in Transition: An Outline of Early Sámi History*. Leiden (Brill).
- Hasselbrink, G. 1981–1985. *Südlappisches Wörterbuch*. Schriften des Instituts für Dialektforschung und Volkskunde in Uppsala. Ser C:4. Uppsala (AB Lundequitska Bokhandeln).
- Heikkilä, M. K. 2011. Huomioita kantasaamen ajoittamisesta ja paikantamisesta sekä germaania etymologioita saamelais-suomalaisille sanoille. *Virittäjä* 1/2011. 68–84.

- 2014. *Bidrag till Fennoskandiens språkliga förhistoria i tid och rum*. Helsingfors (Unigrafia).
- 2022. *Heinien herrat. Suomen historian pisin perinne*. Sastamala (Warelia).
- 2023. Diakronisten (ihmis)tieteiden peruslähtökohdista – esimerkkinä ylisukupolvinen kielivälitteinen informaatio. Riikka Juuti et al. (eds.). *Dosentit: yliopistojen merkittävä voimavara*, 13–22. Tampere Society for Associate Professors.
- Hemmendorff, O. (ed.). 1989. *Arkeologi i fjäll, skog och bygd 1. Stenalder – tidig järnålder*. Fornvardaren 23. Östersund (Jämtlands läns museum).
- Herva, V-P. (ed.). 2006. *People, Material Culture and Environment in the North. Proceedings of the 22nd Nordic Archaeological Conference, University of Oulu, 18–23 August, 2004*. *Studia humaniora ouluensia* 1. Oulu (University of Oulu).
- Hvafner, H. & L. Å. Kvarning. 1958. *Rapport över kulturhistoriska undersökningar vid sjön Lossen i Ljusnans källområden, Tännas socken, Härjedalen 1956–1958. Del II: Gravfältet på Smålnäset*. Stockholm (Riksantikvarieämbetet).
- Hyvärinen, I., P. Kallio, & J. Korhonen (eds.). 2004 *Etymologie, Entlehnungen und Entwicklungen: Festschrift für Jorma Koivulehto zum 70. Geburtstag*, 5–34. *Mémoires de la Société Néophilologique de Helsinki* LXIII. Helsinki (Société Néophilologique).
- Häkkinen, J. 2010a. Jatkuvuusperustelut ja saamelaisen kielen leviäminen. *Muinaistutkija* 1/2010. 19–36.
- 2010b. Jatkuvuusperustelut ja saamelaisen kielen leviäminen (osa 2). *Muinaistutkija* 2/2010. 51–64.
- Kallio, P. 2006. Suomen kantakielten absoluuttista kronologiaa. *Virittäjä* 1/2006. 2–25.
- 2009. Stratigraphy of Indo-European Loanwords in Saami. *Äikäs* 2009. 30–45.
- 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 & Telemann, Ulf & Elmevik, Lennart & Widmark, Gun (eds.). *The Nordic Languages. An International Handbook of the History of the North Germanic Languages*. 583–594. Berlin–New York: Walter de Gruyter.
- Korhonen, M. 1981: *Johdatus lapin kielen historiaan*. Helsinki: Suomalaisen Kirjallisuuden Seura.
- Lagercrantz, E. 1939. *Lappischer Wortschatz*. *Lexica Societatis Fenno-Ugricae* VI. Helsinki (Société Finno-Ougrienne).
- Larje, R. 1989: *Analys av benmaterial från s k skogsgrav. Raä 10:1, Nyhem sn, 1989-02-09*. Östersund (Jämtlands läns museum).
- Lehtiranta, J. 2001 [1989]. *Yhteissaamelainen sanasto*. *Mémoires de la Société Finno-Ougrienne* 200. Helsinki (Société Finno-Ougrienne).



- Lehtola, V-P. (ed.). 2003. *Inari – Aanaar. Inarin historia jääkaudesta nykypäivään*. Inari (Inarin kunta).
- Maaranen, P. & T. Kirkinen (eds.). 2000. *Arkeologinen inventointi. Opas inventoinnin suunnitteluun ja toteuttamiseen*. Helsinki (Museovirasto).
- Magnusson, G. 1986. *Lågteknisk järnhantering i Jämtlands län*. Jernkontorets Bergshistoriska Skriftserie N:r 22. Stockholm (Jernkontoret).
- Mallory, J. P. 1989: *In Search of the Indo-Europeans. Language, Archaeology and Myth*. London: Thames and Hudson.
- Mallory, J. & Dybo, A. & Balanovsky O. 2019. The Impact of Genetics Research on Archaeology and Linguistics in Eurasia. *Russian Journal of Genetics* 2019, Vol. 55, No. 12. 1472–1487.
- Ojala, C-G. 2009. *Sámi Prehistories: The Politics of Archaeology and Identity in Northernmost Europe*. Occasional papers in archaeology 47. Uppsala (Uppsala University).
- Olofsson, C. 2010. Making New Antlers: Depositions of Animal Skulls and Antlers as a Messages of Regeneration in South Sámi Grave Contexts. *Norwegian Archaeological Review* 43:2. 97–114.
- Pesonen, P., M. Piha, M. Ahola & E. Holmqvist. 2023. *The Iron Saami. On the Connection between Iron Production, Asbestos Pottery, and Saami Language c. 900 cal BCE to 600 cal CE Finland*. Presentation at the European Association of Archaeologists 29th Annual Meeting in Belfast, 2 September 2023.
- Piha, M. 2018. Combining Proto-Scandinavian Loanword Strata in South Saami with the Early Iron Age Archaeological Material of Jämtland and Dalarna, Sweden. *Finnisch-Ugrische Forschungen* 64. 118–233.
- Piha, M. 2020a. Archaeological and Lexical Perspectives on Indigenous South Saami Religion. *Äikäs & Lipkin* 2020. 110–157.
- 2020b. *Eteläsaamelaiset rautakautisessa Pohjolassa. Kielitieteellis-arkeologinen näkökulma*. *Annales Universitatis Turkuensis ser C*, tom 498. Turku (University of Turku).
- 2021. Comments on the Origins of Some South Saami Words within the Domain of Indigenous Religion. *Ural-Altische Jahrbücher* 28. 23–43.
- forthcoming. Vocabulary Related to Iron Manufacture and Iron-working in Saami Languages. An Etymological Study.
- Piha, Minerva & Häkkinen, Jaakko. 2020. Kantasaamesta eteläkantasaameen. Lainatodisteita eteläsaamen varhaisesta eriytymisestä. *Sananjalka* 162. 102–124. <<https://journal.fi/sananjalka/article/view/95727>>
- Qvigstad, J. K. 1893. *Nordische Lehnwörter im Lappischen*. Christiania Videnskabs-Selskabs Forhandling for 1893 No. 1. Christiania (Grondahl & Son).

- Rahkonen, P. 2013. *South Eastern Contact Area of Finnic Languages in the Light of Onomastics*. Helsinki (University of Helsinki).
- Ralph, Bo. 2002. Phonological and graphematic developments from Ancient Nordic to Old Nordic. Bandle, Oskar & Braunmüller, Kurt & Jahr, Ernst Håkon & Karker, Allan & Naumann, Hans-Peter & Telemann, Ulf (eds.). *The Nordic Languages. An International Handbook of the History of the North Germanic Languages*. 583–594. Berlin–New York: Walter de Gruyter.
- Ramat, P. 1981: *Einführung in das Germanische*. Linguistische Arbeiten 95. Tübingen (Max Niemeyer Verlag).
- Saarikivi, J. 2006. *Substrata Uralica. Studies on Finno-Ugrian Substrate in Northern Russian Dialects*. Helsinki (University of Helsinki).
- Saipio, J. 2023. *Lapp cairns. Spatial and Cultural Context of Early Metal Period Stone Structures in the Finnish Lake District*. Iskos 25. Helsinki (The Finnish Antiquarian Society).
- Storli, I. A. 1986. Review of Archaeological Research on Sami Prehistory. *Acta Borealia* 3 (1). 43–63.
- Sundström, J. 1984. *Rapport över fornlämning nr 9, Ljungå 1:1, Hällesjö socken, Bräcke kommun, Jämtland. Delundersökning och återställning av stensättning*. Jämtlands läns museum 189. Östersund (Jämtland läns museum).
- Sundström, J. 1989a. Järnåldersgravar i fångstlandet. Hemmendorff 1989. 155–171.
- Sundström, J. 1989b. *Rapport över arkeologisk undersökning och återställning av en stensättning, Raa 10:1, Klevsand, Gindalen 2:11, Nyhem sn, Bräcke kn, Jämtland*. Jämtlands läns museum 194. Östersund (Jämtland läns museum).
- Sundström, J. 1997. Järnålder i fångstlandet. Zachrisson et al. 1997. 21–27.
- Svestad, A. & Olsen, B. 2023. Archaeology, Language, and the Question of Sámi Ethnogenesis. *Acta Archaeologica* 93.2. 1–29.
- Zachrisson, I., V. Alexandersen, M. Gollwitzer, E. Iregren, L.-K. Königsson, C.-H. Siven, N. Strade & J. Sundström. 1997. *Möten i gränsland: Samer och germaner i Mellanskandinavien*. Monographs 4. Stockholm (Statens historiska museum).
- Äikäs, T. (ed.), *Máttut – Máddagat. The roots of Saami Ethnicities, Societies and Spaces / Places*. Publications of Giellagas Institute 12. Oulu (Giellagas Institute).
- Äikäs, T. & Lipkin, S. (eds.) *Entangled Beliefs and Rituals. Religion in Finland and Sápmi from Stone Age to Contemporary Times*. Monographs of the Archaeological Society of Finland 8. Helsinki (Suomen Arkeologinen Seura).