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**SOME ADDITIONAL NOTES  
ON THE MACROHYDRONYMS OF THE LADOGA REGION**

In one of his last but not least ingenious papers, published posthumously in *Studia Etymologica Cracoviensia* 13, Eugene Helinski (2008) deals with the etymologies of the names *Ladoga* and *Neva*. Following V. S. Kuleshov (2003), he assumes that the river Neva, which was formed only slightly over three thousand years ago as a result of postglacial isostatic uplift, got its name from an Indo-European-speaking population who observed the birth of the ‘New’ river. The semantic identification of *Neva* with ‘new’ is synchronically supported by the homonymy of this hydronym with the Scandinavian words for ‘new’, as still in modern Swedish *Nyen* ‘Neva’ vs. *ny* ‘new’. Helinski concludes that the Neva region must have been within the range of the linguistic expansion routes which brought Germanic from the Indo-European homeland to northern Central Europe and Scandinavia. He also implies that the Neva has since its formation remained within the sphere of the geographic consciousness of Germanic speakers, especially the Scandinavians. In fact, the Swedish fort of *Nyenskans* was replaced by the Russian city of St. Petersburg only 300 years ago.

The etymology of *Neva* is potentially important in that it shows that the historical presence of the Finnic branch of Uralic on both sides of the Gulf of Finland is secondary to an earlier Indo-European expansion to the region. In addition to Germanic, Indo-European was represented by Baltic (Balto-Slavonic). This conclusion, also obvious from the modern distribution of the Germanic and Baltic languages, is confirmed by the well-known fact that the entire marine terminology of the Finnic languages is of an Indo-European origin. In some cases, as in that of the very word for ‘sea’, Finnic *\*meri* : *\*mere-* : *\*mer-*, the exact identification of the Indo-European source language is controversial (cf. SSA s.v. *meri*), and it cannot be ruled out that the borrowing took place from some earlier stage of Indo-European (Pre-Balto-Germanic), or also from some subsequently extinct branch (Para-Germanic, Para-Baltic). Even so, it is clear that both Germanic and Baltic were spoken at the Baltic Sea already in the second millennium BZ, while Finnic can have spread to the region from the east only a millennium later.

It may be added that the chronological anteriority of Germanic and Baltic at the Baltic Sea, as compared to Finnic, is also suggested by the notoriously large general corpora of early Germanic and Baltic loanwords in Finnic, as well as by the overall typological ‘Europeanization’ of the Finnic languages, apparently under Indo-European influence. The fact that the loanwords include even basic vocabulary items such as body part terms of the type ‘tooth’ and ‘neck’ (cf. SSA s.vv. *hammas*, *kaula*) and kinship terms of the type ‘daughter’ and ‘mother’ (ibid. s.vv. *tytär*, *äiti*) further suggests that the contacts took place in a situation in which local communities of Germanic and, especially, Baltic speakers changed their language in favour of Finnic (Pre-Proto-Finnic). While it is possible that this process of language replacement continued during the expansion of Finnic on both sides of the Gulf of Finland, the interaction is likely to have begun somewhat further to the east and south. The Germanic and Baltic influence also reached Saamic, and, to a lesser extent, Mordvinic, whose homelands must have been located immediately to the north and east of the Finnic centre of expansion.

The general conclusion from these considerations is that the territorial history of the Finnic and Saamic languages in the Baltic region and Fennoscandia is very shallow, extending back no more than three millennia, at most. In the Uralic context, this shallow dating is confirmed by the conspicuously close relationship of Finnic and Saamic with Mordvinic. In fact, Finnic and Mordvinic were until the Middle Ages geographically linked with each other by the language of the Muroma of the Russian chronicles (Para-Mordvinic or Para-Finnic?). The dispersal and differentiation of the Finnic languages on both sides of the Gulf of Finland, on the other hand, should primarily be seen as a consequence of the Slavonic expansion in the first millennium AZ. Moreover, as was pointed out by Helimski in another paper (2006), the Finnic languages also spread towards the Arctic coast of Northern Russia, where traces of their recent presence are still preserved in the local toponymy. In general, it may be said that Helimski’s views concerning the chronology and territorial history of the western branches of Uralic represented a bold deviation from the conventional paradigm of Finnish and Estonian historiography, which still continues to date the local roots of the ‘national’ languages as far back as the Neolithic. As a sign of change, however, researchers of the younger generation, such as Petri Kallio (2006) and Janne Saarikivi (2006), are now revising the conventional paradigm in favour of a more critical approach.

A minor problem with the Indo-European etymology of *Neva* is that the word *\*newa* also appears in Finnic as a topographic term denoting ‘broad river, river system, open marshland’. Traditionally, it has been assumed that the appellative meaning is primary (SSA s.v. *neva*), but Helimski is probably correct

in assuming (with Kuleshov) the opposite. In fact, since the Neva basin must have been the very region from where the modern Finnic languages started their expansion during the first millennium AZ, the local landscape can well have left traces in their topographic terminology. It is therefore entirely possible that the appellative *\*newa*, which, moreover, has a diagnostically late phonotactic structure (the vowel combination *\*e-a*) represents a secondary development of the more original usage of the word as a proper noun. In the territory of today's Finland, toponyms ending in *-neva* are particularly common in the Finnish-speaking parts of Ostrobothnia along the northwestern coast of the country, where the landscape is dominated by broad and seasonally flooding rivers of the *Neva* type (though smaller), with adjoining plains and marshlands (SPNK s.v. *neva*).

Helimski's proposal of a Scandinavian etymology for *Ladoga* is more problematic. Although it is clear that the modern Finnic (Finnish-Karelian) shape *Laatokka* is based on Russian, it is far less obvious whether the Russian name can really be derived from Scandinavian *\*Ald-aug-ja* 'Old Eye(d)'. According to Helimski, this would originally have been the Scandinavian name of Lake Ladoga, from which the fort name *Aldeigju-borg* would have been derived. However, as Helimski himself points out, for the Russians, at least, the fort name *Ladoga* is more basic than the name of the lake (*Ladozhskoe ozero*), and there is also a river with a related name (*Ladozhka*). One would rather see a parallel with the name *Onega*, which for the Russians primarily denotes the river Onega, according to which the corresponding (though hydrographically unconnected) lake (*Onezhskoe ozero*) was named. Since both the Russian and the Scandinavian sources on Ladoga (with any reference) date only from the Middle Ages, it is difficult to see definitive evidence of the linguistic priority of any particular data. Even if the fort of Ladoga was operated by Scandinavian speakers at the time of the chronicles, its name may well have had a non-Scandinavian origin.

In this connection, it is impossible to ignore the traditional observation that *Ladoga* (*Ládoga*) also formally (except for the location of the accent) parallels *Onega* (*Onéga*) as well as several other Northern Russian hydronyms ending in *-ga*, notably *Pinega* (*Pínega*). In spite of occasional doubts, *Onega* and *Pinega* (cf. ESR Ia s.vv.) are probably best explained as deriving from the Finnic composite names *\*enä-yoki* 'large river' and *\*peen(i)-yoki* 'narrow river', respectively, with *\*-yoki* 'river' as the final component. It is natural to view *Ladoga* as a member of the same hydronymic series, in which case it might derive either by dissimilation from *\*Lagoga* << *\*laaka-yoki* 'wide river' or by simplification from *\*Lagdoga* << *\*laketa-yoki* id., with either *(\*)laaka* or *\*laketa* 'flat, low, wide' as the first component. Both *(\*)laaka* and *\*laketa* are Germanic loanwords, at least partly from the same original(s) (cf. SSA svv. *laaja*, *laaka*, *laakea*, *lakea*, *lavea*), but the hydronym itself would have to have been formed in a Finnic

context. The element (*\*)laaka-* (> *laa-*), in particular, is attested in several hydronyms in eastern Finland (cf. SPNK s.v. *Laakajärvi*), but *\*laketa* also has the topographic meaning of ‘treeless, open’. In modern Finnish, the derivative *lakeus* ‘width’ is used in reference to the flood plains of Ostrobothnia.

It appears, consequently, likely that the name *Ladoga* originally refers to a river. Some of the earlier etymologies of this hydronym, as listed by Helimski (2008: 78-79) also start from this assumption, but they are either semantically or phonetically unacceptable. At first glance, the derivation of *Ladoga* from the meaning ‘wide river’ is also problematic, since there is no actual wide river synchronically bearing the name. The location of the fort of Ladoga on the lower course of the river Volkhov, running between the lakes Ilmeń (from Finnic *\*Ilma-yärwi*) and Ladoga, suggests, however, that Ladoga originally was the Finnic name of the Volkhov. Although the origin of the Russian (Slavonic) name of the Volkhov is controversial (cf. ESR1a s.v.), there is no reason to regard the Russian data as secondary to Finnic *Olhava* and Swedish *Ålhava*. In this case, none of the languages seems to provide a formally and semantically credible explanation of the hydronym. However, in Finnic, at least, *Olhava* may be seen as a borrowing from Russian, rather than vice versa. Most probably, *Olhava* replaced the original Finnic name of the river, which must have been the source item of *Ladoga*.

It is fairly safe to assume that the river names *Ladoga* and *Onega* were borrowed by the early Russians of the Novgorod region directly from the local Finnic speakers, who represented the ‘aborigines’ of the region at the time of the Russian expansion.. This lexical contact may be dated to the last centuries of the first millennium AZ, a period when also many other items of regional and cultural vocabulary were exchanged in both directions. Soon after this, the name *Ladoga* was transferred from Russian to the Scandinavians, who at this time may be regarded as a ‘foreign’ element in the region, and who probably also initially used the item as a river name with reference to the Volkhov (or the lower course of the latter). The Scandinavian shape *\*Aldauga* is, of course, not in a regular relationship to the Russian data, and it may, in fact, represent a folk-etymological reinterpretation along the lines proposed by Helimski. In any case, with the decline of the Viking trade, and with the growth of Russia, toponyms also underwent changes, and the Russian names *Volkhov* and *Ladoga* were introduced into local Finnic in the shapes *Olhava* and *Laatokka*, respectively.

To be exact, the linguistic situation behind the toponyms in question may also have been more complicated, in that the Western Uralic source language of hydronyms of the *Ladoga* and *Onega* type need not have been Finnic in the strict sense of the term. At least in the northern parts of the region it may also have been a language more closely connected with Saamic (Para-Saamic). It is therefore not immediately possible to tell what the exact shape of the end com-

ponent underlying Russian *-ga* was. The word for ‘river’ shows in Finnic and Saamic an irregular variation between two different shapes: *\*yoki* (Finnic) vs. *\*yuki* (Saamic), and there is also the apparently more original (Proto-Uralic) shape *\*yuka*, which is attested in Finnic in the meaning ‘rapids’ (cf. SSA s.vv. *joki, juka*). The presence of a Saamic type of language in the region is suggested by the modern Finnic (Finnish-Karelian) shape of the name of Lake Onega, which is *Ääninen* (or *Äänisjärvi*). Although synchronically associated with the noun (*\*)ääni* ‘sound’, the lake name actually reflects Saamic *\*äänV-* ‘large’, the cognate of Finnic *\*enä(-)* id. Of a similar origin is the hydronym *Äänekoski* (with *-koski* ‘rapids’) in Central Finland (SPNK s.v.). In the Middle Ages, the Finnic-Saamic language boundary still seems to have been located in the Onega region, as is pointed out by Saarikivi (2004a: 174 map 1).

The fact that the modern Russian hydronyms of the Ladoga region are of a Finnic and/or Saamic origin does in no way interfere with the general ethno-historical picture sketched by Helimski. Finnic and Saamic were certainly the principal languages of the region at the time when the Russian expansion started, that is, towards the end of the first millennium AZ. The Russian language gradually pushed the southern boundary of Finnic towards the north, while the resulting Finnic expansion had a similar impact on the southern boundary of Saamic. In this context, the mediaeval Scandinavians, whose Finnic name (Finnish *ruotsalaiset*) even became the name of Russia (Russian *Ruś*), represented a secondary intrusion from the coastal parts of Sweden, and it is only natural that they borrowed most of their local toponyms from, or via, Russian. Even so, as Helimski proposed, it is possible that the name of the Neva represents a more ancient stratum of Indo-European (Pre-Germanic) toponyms, which had been preserved in Scandinavian since earlier times. It is quite likely that the Scandinavians, even prior to the Vikings, never completely lost an understanding of the geography of the Baltic Sea and its eastern extremity, including the mouth of the Neva.

An important circumstance to be considered here is that there must also have been other languages that were spoken in the Baltic region and Fennoscandia until, at least, mediaeval times. These other languages need not have been either Uralic or Indo-European, rather, they belonged to entirely different language families that can only generically be labelled as ‘Palaeo-European’. Most importantly, traces of these languages are preserved in the local toponyms, especially in the macrohydronyms, as well as in other substratal features in the modern languages, as has also been pointed out by Saarikivi (2004b). In large parts of Finland, for instance, the current Finnish toponyms are layered upon an earlier toponymic stratum of a Saamic type, as has been demonstrated most recently by Ante Aikio (2003), but several macrohydronyms in different parts of

the country cannot be explained from any known language. In the Ladoga region an example of such a hydronym is the name of Lake Saimaa (Finnish *Saimaa*, Swedish *Saima* or *Saimen*), the largest lake of today's Finland (cf. UVF s.v. *Saimen*). Extant etymologies of the lake name (possibly from \**Saimas* : *Saimaa*-) are based on vague Saamic comparisons (cf. SPNK s.v. *Saimaa*), but more probably it is a question of a Palaeo-European substratal hydronym.

It is, however, relevant to note that the river draining Saimaa into Ladoga has the name *Vuoksi* (Swedish *Vuoksen*, earlier also written as *Woxen*), which at least formally is of a Finnic origin. This is particularly interesting since the *Vuoksi* is a river that was formed in the same way as, and apparently only slightly earlier than, the Neva, that is, as a result of isostatic uplift about four millennia ago. Like the Neva, the *Vuoksi* is a short but broad and rapid river (cf. UVF s.v. *Vuoksen*), whose birth involved a significant change in the local environment. The river must have had a name already prior to the expansion of Saamic and Finnic to the region, but its current name is rather transparently identical with the Finnic appellative noun \**wooksi* > Finnish *vuoksi* 'rapid stream, tide', based on the noun-verb \*(*w*)*oxi*(-) > \*(*w*)*oo*(-) 'flow; to flow' (SSA s.vv. *uoma*, *vuokse*, *vuoksi*, *vuotaa*). It is true that the derivational type *vuokse* (: *vuokse*-) is rather unique due to the monosyllabic structure of the root, but there is no formal problem to derive the word especially from the verbal base \*(*w*)*oo*- > *vuokse*- 'to flow' (as in Finnish *kuto*- 'to weave' : *kuto*-s : *kudokse*- 'weft', cf. also SPNK s.v. *Vuoksi*).

Even so, it is impossible not to notice that the hydronym *Vuoksi* bears a distant resemblance to the name of the Central European river Waag (*Vág*, *Vah*), a tributary of the Danube, as most recently discussed by Albrecht Greule (2008: 73-74). According to Greule, the river name *Waag* is connected with Germanic words meaning 'wave, flow, flood' (English *wave*), ultimately based on \**weg-a-* 'to move' (German *bewegen*). It happens that a similar hydronym with the shape *Vaga* is attested from the Northern Dvina basin, though the similarity may, of course, be accidental. Of more immediate interest is the passage in the *Getica* of Jordanes (mid 6th century AZ) to which both Greule (l.c.) and Helimski (2008: 75 note 1) refer. Jordanes mentions a river by the name *Vagus*. According to Aalto & Pekkanen (1980: 161 s.v. *Scythia*) the passage goes as follows: *haec ergo habet ab oriente vastissimum lacum in orbis terrae gremio, unde Vagi fluvius velut quodam ventrae generatus in Oceanum undosus evolvitur*, which in Mierow's (1915) translation is: "This [= the island of Scandza] has in its eastern part a vast lake in the bosom of the earth, whence the Vagus river springs from the bowels of the earth and flows surging into the Ocean."

From the context of the passage it is fairly obvious that the large lake mentioned by Jordanes is, indeed, Ladoga, while the Ocean must refer to the Baltic Sea. The river *Vagus*, on the other hand, could well refer to the Neva, as Helimski

(l.c.) proposes. Helimski assumes that *Vagus* “must be another name of the Neva river [...] not attested from other sources”. This may be so, but the similarity with *Vuoksi* < \**Wooksi* might also mean that Jordanes, or his sources, have somehow confused the two rivers, or their names. Another possibility is that, since \**wooksi* seems to have been an appellative for ‘(rapid) stream’, it can have been used by Finnic speakers also of other rivers than *Vuoksi* proper. In that case, it could possibly also have referred to the Neva. In any case, the formal similarity of \**wooksi* and *Vagus* suggests that Jordanes may have had knowledge of the Finnic name, though its exact shape has been distorted in the surviving version(s) of the text, possibly due to the influence of hydronyms of the *Waag* type.

It is also theoretically possible, though difficult to verify, that the Finnic hydronym *Vuoksi* represents a folk-etymological adaptation based on an originally non-Finnic item. In this respect, the possibility of a parallelism with *Neva* is obvious, though in the latter case it is not certain whether the language had a homonymous appellative (\**newa*) before the introduction of the hydronym, while in the former case the appellative association is beyond doubt. It is interesting to note that the Vuoksi basin contains the exceptionally spectacular rapids of Imatra (UVF s.v.), which must have attracted the attention of local people since the formation of the river. The name *Imatra* has been subject to many speculations (cf. SPNK s.v.), including, most commonly, a comparison with the name of Lake Imandra on the Kola Peninsula. Obviously, both *Imatra* and *Imandra*, which may or may not have a common origin, belong to the general corpus of Northern European substratal hydronyms, which Peter Schrijver (following Krahe) prefers to derive from a single language of ‘Old European Hydronymy’ (Schrijver 2001: 418-419), but which are more likely to derive from a variety of different languages.

The difficulty of making a distinction between appellatives and proper names, and between semantically motivated native items and loanwords in hydronyms is also illustrated by the name of the river Kymi, flowing into the northeastern section of the Gulf of Finland from Lake Päijänne in Central Finland. The name *Päijänne* (: *Päijäntee*-) is itself a substratal hydronym (cf. SPNK s.v.), and so may *Kymi* (or *Kymijoki*) be, although the word is also attested in restricted appellative usage as Finnish dialectal *kymi* : *kyme*- ‘large river’ (SSA s.v.). Jorma Koivulehto (1987: 36-37) has, however, proposed that *Kymi* could also be derived from a Germanic original of the type \**kwem*- ‘easy to approach’ (German *bequem*), which seems to be attested as a hydronym in the shape *Kymmen* also in Värmland, Sweden. It is perhaps relevant to note that the Swedish name of the Kymi is *Kymmene*, which is conventionally thought to be based on the Finnish genitive *Kyme-n*-, but which in actual fact could also be a native Scandinavian form preserved since ancient times, like Swedish *Nyen* for the

Neva. Possibly, the shape *Kymmene* has also been influenced by the Swedish name of Päijänne, which has the form *Päjäne*, though the latter is certainly a borrowing from Finnish.

Koivulehto (op. cit.) also correctly looks for Germanic (including Pre-Germanic and Para-Germanic) explanations for other hydronyms along the Finnish coast. The most promising example is formed by the two river names *Aura* and *Eura*, which both seem to belong to the context of the widespread hydrographic term represented in German as *Ader* 'vein, stream' (as in *Wasserader*), and also in the hydronym *Oder*. The presence of such hydronyms in Finland can hardly mean anything else but that the coastal parts of the country were once inhabited by Germanic and/or other Indo-European-speaking populations. These populations were at least partly assimilated by the expanding Finnish speakers towards the end of the first millennium AZ, but it is also possible that in some parts of the coastal belt the non-Finnic-speaking population has persisted until modern times, being now represented by the so-called 'coastal Swedes'. It goes without saying that the origin of the toponyms in the Finnish coastal regions has been a topic of much dispute between Finnish and Scandinavian scholars. The widely-held nationalist doctrine of many Finnish linguists and archaeologists according to which there are no 'old' (pre-mediaeval) Germanic toponyms in Finland seems, in any case, to be mistaken. On the other hand, it is always necessary to reckon with the possibility of substratal toponyms which are originally neither Finnic (Uralic) nor Germanic (Indo-European).

Accepting the probable presence of Indo-European toponyms, especially hydronyms, in the coastal belt extending from the Neva to, at least, the rivers *Aura* and *Eura* in southwestern Finland, we may summarize the ethnohistorical situation as follows: The original (pre-Bronze-Age) population(s) of the region spoke a variety of unspecifiable Palaeo-European languages whose traces are still preserved in the names of several large rivers, lakes, and rapids. Subsequently, but not necessarily before the second millennium BZ, the coasts of the Gulf of Finland were occupied by Indo-European speakers, who represented the northern margins of the waves of linguistic expansion that have brought the Germanic and Baltic languages to their historical and modern territories. The speakers of the languages belonging to the western branches of Uralic interacted with these Indo-Europeans already in the region between Ladoga and the Volga, from where Finnic and Saamic gradually moved towards the Gulf of Finland. While the coastal parts of Finland continued to be occupied by Germanic and/or Baltic speakers, the inner parts of the country became a target of a Saamic expansion, possibly already in the first millennium BZ. Later, in the first millennium AZ, Finnic started its expansion from the Ladoga-Neva region and pushed Saamic both in Finland and in Karelia towards the north, where Saamic, in turn, absorbed the last Palaeo-European languages.

**Final note.** The author remembers with gratitude the many discussions he had with Eugene Helimski concerning the linguistic history of Northern and Eastern Europe. The author's impression was that our understanding of the chronology and territorial history of the Uralic and Indo-European languages concerned was gradually approaching a mutual consensus. Recent developments among younger scholars in Finland and elsewhere suggest that this consensus, or some parts of it, may also be gaining a wider support against other, as it would seem, methodically antiquated paradigms, which often serve hidden nationalist interests.

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### L i t e r a t u r e

- Aalto, Pentti & Tuomo Pekkanen (1975-1980). *Latin Sources on North-Eastern Eurasia*. Asiatische Forschungen 44 & 57. Wiesbaden: Otto Harrassowitz.
- Aikio, Ante (2003: 99-106). 'Suomen saamelaisperäisistä paikannimistä.' *Virittäjä* 107. Helsinki.
- Greule, Albrecht (2008: 67-74). 'Exonyme im etymologischen Wörterbuch der deutschen Gewässernamen.' *Studia Etymologica Cracoviensia* 13. Kraków.
- Helimski, Eugene (2006: 109-127). 'The "Northwestern" group of Finno-Ugric languages and its heritage in the place names and substratum vocabulary of the Russian North.' [In:] Juhani Nuorluoto (ed.). *The Slavicization of the Russian North*. Slavica Helsingiensia 27. Helsinki.
- Helimski, Eugene (2008: 75-88). 'Ladoga and Perm revisited.' *Studia Etymologica Cracoviensia* 13. Kraków.
- Kallio, Petri (2006: 2-25). 'Suomen kantakielten absoluuttista kronologiaa.' *Virittäjä* 110. Helsinki.
- Koivulehto, Jorma (1987: 27-42). 'Namn som kan tolkas urgermanskt.' [In:] Lars Huldén (ed.). *Klassiska problem inom finlandssvensk ortnamnsforskning*. Skrifter utgivna av Svenska Litteratursällskapet i Finland 539. Studier i Nordisk filologi 67. Helsingfors.
- Kuleshov, V. S. (2003: 27-36). 'Neva'. [In:] *Ladoga: Pervaia stolica Rusi. 1250 let nepreryvnoi zhizni. Sed'mye chteniia pamiati Anny Machinskoi*. St. Peterburg.

- Mierow, Charles C. (1915). *The Gothic History of Jordanes*. Princeton: Princeton University Press. (Revised internet version: [<http://www.ucalgary.ca/~vandersp/Courses/texts/jordgeti.html#geograph>].)
- Saarikivi, Janne (2004a: 162-234). 'Über das saamische Substratnamengut in Nordrußland und Finnland.' *Finnisch-Ugrische Forschungen* 58. Helsinki. (Also included in Saarikivi 2006.)
- Saarikivi, Janne (2004b: 187-214). 'Is there Palaeo-European substratum interference in western branches of Uralic?' *Journal de la Société Finno-Ougrienne* 90. Helsinki. (Also included in Saarikivi 2006.)
- Saarikivi, Janne (2006). *Substrata Uralica: Studies on Finno-Ugrian Substrate in Northern Russian Dialects*. [Tartu & Helsinki:] Tartu University Press.
- Schrijver, Peter (2001: 417-425). 'Lost languages in Northern Europe.' [In:] Christian Carpelan & Asko Parpola & Petteri Koskikallio (eds.). *Early Contacts between Uralic and Indo-European: Linguistic and Archaeological Considerations*. Mémoires de la Société Finno-Ougrienne 242. Helsinki.
- ESRIa = Maks Fasmer. *Etimologičeskii slovar' russkogo iazyka* 1-4. Pervod s nemeckogo s dopolneniiami O. B. Trubacheva. Moskva: Izdatel'stvo "Progress", 1964-1973.
- SPNK = *Suomalainen paikannimikirja*. Kotimaisten kielten tutkimuskeskuksen julkaisuja 146. [Helsinki:] Karttakeskus, 2007.
- SSA = *Suomen sanojen alkuperä: Etymologinen sanakirja* 1-3. Suomalaisen Kirjallisuuden Seuran Toimituksia 556. Kotimaisten kielten tutkimuskeskuksen julkaisuja 62. Helsinki, 1992-2000.
- UVF = *Uppslagsverket Finland* 1-5. Esbo & Helsingfors: Schildts Förlags Ab, 2003-2007.