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The Prehistoric Germanic Loanword Strata in Finnic

1. Introduction

1.1. Germanic

Germanic is an intermediate stage between the reconstructed Indo-European proto-language and all the modern Germanic languages, such as English and German (see Figure 1). As to the disintegration of Proto-Indo-European, I refer to Asko Parpola's article in this volume.[1] From the disintegration of Northwest Indo-European during the third millennium BC, the Germanic branch developed on its own until the mid-first millennium BC, when Germanic itself began to disintegrate into its dialects, as attested by classical authors. Since the Germanic branch underwent a lengthy period of independent development, it is no wonder that Proto-Germanic had become very different from Northwest Indo-European. Thus, it is also necessary to postulate intermediate stages between Northwest Indo-European and Proto-Germanic. I shall return to these stages only later in this paper, as our most direct evidence of them comes from loanwords in Finnic and Saamic (see Aikio 2006 on the latter).

1.2. Finnic

The difference between Germanic and German can be compared with that between Finnic and Finnish, namely that Finnic is simply an intermediate stage between the reconstructed Uralic proto-language and all the modern Finnic languages, such as Finnish and Estonian (see Figure 2).

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1. Since linguistically reconstructed proto-languages were not spoken in a vacuum without any contact with the archaeologically reconstructed outside world, the former can and must still be compared with the latter, although there are of course exceptions to one-to-one correlations between linguistic groups and archaeological cultures (see e.g. Simon 2008: 290–293; Aikio this volume).
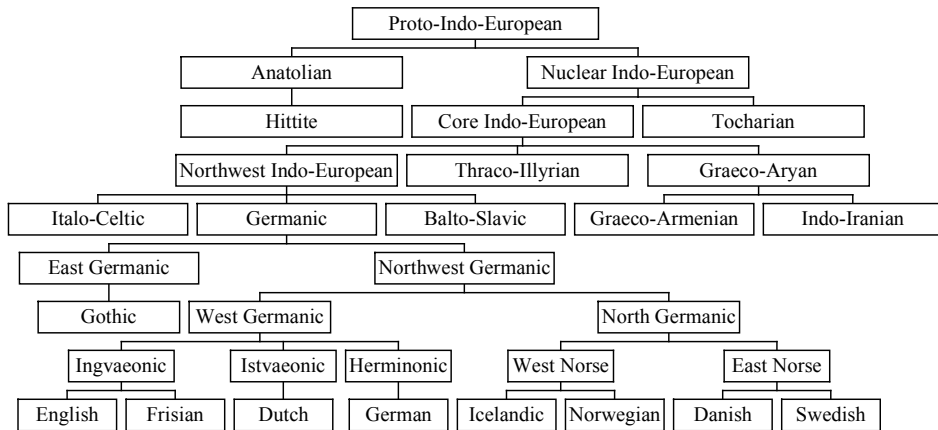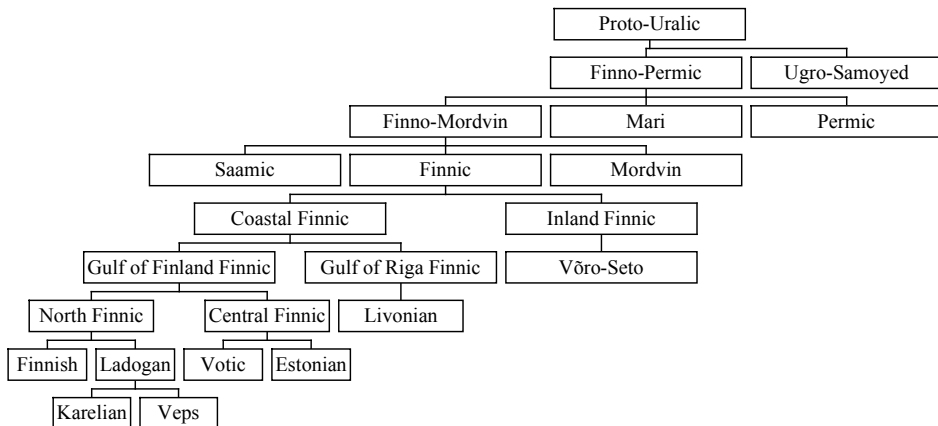
Figure 1. The position of Germanic.[2]

Figure 2. The position of Finnic.[3]

As I have argued elsewhere (Kallio 2007: 245–246), Finnic is similar to Germanic in the respect that the Finnic branch also underwent a very long separate development lasting from the disintegration of Proto-Finno-Mordvin during the second millennium BC until the disintegration of Late Proto-Finnic during the first millennium AD. Again, I shall deal with the postulated intermediate stages between Proto-Finno-Mordvin and Late Proto-Finnic later in this paper.

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2. This family tree is a compromise of numerous earlier family trees (on which see e.g. Blažek 2007). Note that Thraco-Illyrian is simply used as a cover term for several poorly attested Palaeo-Balkan languages, one of which was the ancestor of modern Albanian.
3. This family tree combines the Pre-Finnic one by Jaakko Häkkinen (2007: 63–81) with the Post-Finnic one by myself (Kallio forthcoming).

2. Prehistory

2.1. The Stone Age

Of course, we cannot speak of Stone Age Germanic or Stone Age Finnic. However, the ancestors of Germanic and Finnic were already in contact with one another during the Stone Age, as illustrated by the following examples:

- Northwest Indo-European *$b^hl(e)h_1tó$- (> Old Norse *blað*, Old English *blæd*, Old High German *blat*) 'leaf, blade' → Pre-Finnic *$lešti$ > Finnish *lehti* 'leaf, blade' (Koivulehto 2002: 584).
- Northwest Indo-European *$h_2ak\acute{i}áh_2$ (> Old Norse *egg*, Old English *ecg*, Old High German *ekka*) 'point, edge' → Pre-Finnic *$kaća$ > Finnish *kasa* 'point, edge' (Koivulehto 2002: 583).

As we can see, the Northwest Indo-European source language is still just a dialect of Proto-Indo-European, because there is nothing in its phonology or word-formation that would point to Germanic. Yet the fact that these particular derivatives are later attested in Germanic alone shows that we are indeed dealing with either the genetic ancestor of Germanic or at least its closely related Northwest Indo-European dialect. As Proto-Indo-European was spoken around 4000–3500 BC (see e.g. Parpola 2008), its Northwest Indo-European dialect can plausibly be dated to the Corded Ware period (ca. 3200–2300 BC). In any case, Northwest Indo-European was phonologically much more archaic than the earliest attested Indo-European languages, such as Hittite (ca. 1900 BC), Mitanni Aryan (ca. 1500 BC), and Mycenaean Greek (ca. 1450 BC).

As for the target language, the concept of Pre-Finnic is used here to refer to any chronological stage between Proto-Finno-Permic and Early Proto-Finnic which are phonologically so close to each other that they are most often indistinguishable. As also the distribution of the Northwest Indo-European loanwords can be anything from Finno-Permic to Finnish, these loanwords can only be dated on the basis of the phonology of their source. In general, the Indo-European loanwords should never be dated only on the basis of their distribution in the Uralic languages, contrary to what has been the general view among the Uralicists (e.g. Rédei 1986).

It is easier to say when than where the Northwest Indo-European loanwords were borrowed into Pre-Finnic. While some sort of connection between Northwest Indo-European and the Corded Ware culture is evident for both chronological and distributional reasons, the problem is that the Corded Ware area included both the earlier Finno-Mordvin homeland in the Volga area and the later Finnic homeland in the East Baltic area. Thus, the contacts between Northwest Indo-European and Pre-Finnic may have taken place in either one of these areas. More probative evidence comes from the loanwords borrowed from some early *centum* dialect:

- Proto-Indo-European *$\acute{g}\underset{.}{n}h_3io$- > Pre-Germanic *$g\underset{.}{n}nio$- (> Old Norse *kyn*) 'wonder' → Pre-Finnic *$koniš$ > Finnish *kone* 'magic', from which only recently 'machine' (Koivulehto 2002: 586).

As the centumization is shared by all the *centum* languages, the Pre-Germanic-ness of the source is once again based on its later attestation in Germanic alone. Still, the fact that Germanic is the only *centum* branch spoken anywhere close to Finnic makes any other *centum* source less likely, even though the theory of a *centum* substrate in Balto-Slavic still has its proponents (e.g. Andersen 2003, 2009). In any case, the concept of Pre-Germanic seems to be well-founded here.

However, as the number of the Pre-Germanic loanwords is very limited, they do not suggest particularly intensive contacts between the late Neolithic ancestors of Germanic and Finnic, but these words may even have been bor-rowed through some third party, just as several later Germanic loanwords were borrowed through Finnic into Volgaic and Permic (cf. Hofstra 1985: 391–402). In theory, therefore, Pre-Finnic could still have remained in the Upper Volga area at the time when its Pre-Germanic loanwords were borrowed through some pos-sibly related language spoken in the East Baltic area.

Indeed, it seems likely that the late Neolithic languages in the East Baltic area included sisters and/or daughters of Proto-Uralic, because there were sev-eral cultural waves from the Upper Volga area to the East Baltic area as early as the Subneolithic period already (ca. 5100–3200 BC). In any case, the presence of Pre-Finnic itself in the East Baltic area during the late Neolithic period (ca. 2300–1900 BC) can also be questioned (see Kallio 2006b: 11–13).

2.2. The Bronze Age

Although the actual Germanic and Finnic proto-language levels were not reached until the Iron Age, it was the Bronze Age when both Germanic and Finnic came into being as distinct linguistic groups. According to my recent "provocative guess" (see Kallio 2006b: 16–17), Pre-Finnic spread from the Upper Volga area to the East Baltic area exactly at the beginning of the Bronze Age around 1900 BC. In turn, it has long been a common view that there were several Germanic-related waves from southernmost Scandinavia to the East Baltic area from 1600 BC onwards, and in particular during 1400–1200 BC and 900–700 BC (Car-pelan & Parpola 2001: 90–92).

As 450 "early Germanic" loanwords had already been discovered in Finnic more than a quarter of a century ago (Itkonen 1983: 225), their number must now be close to 500, of course depending on the definition of "early Germanic-ness". As a matter of fact, there are only 114 loanwords that are markedly "early Germanic", viz. earlier than the reconstructed Late Proto-Finnic stage (Aikio & Aikio 2001: 19–21). Yet many of these loanwords can further be stratified based on their phonology. For instance, the earliest stratum consists of borrowings whose vocalism clearly points to a more archaic source than Proto-Germanic, here labelled Palaeo-Germanic:[4]

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4. The concept of 'Palaeo-Germanic', first introduced by Theo Vennemann (1984), here corresponds to the concept of 'Early Proto-Germanic' by Frans Van Coetsem (1994).

- Palaeo-Germanic *kāpa-* (> Old Norse *hófr*, Old English *hōf*, Old High German *huof*) 'hoof' → Pre-Finnic *kapa*, suffixed with *-ja(w)* > Finnish *kavio* 'hoof' (LägLoS 1996: 69–70).
- Palaeo-Germanic *sāgja-* (> Gothic *sōkjan*, Old Norse *sœkja*, Old English *sēcan*, Old High German *suohhen*) 'seek' → Pre-Finnic *šakī-* > Finnish *hakea* 'seek' (LägLoS 1991: 68–69).

As Pre-Finnic had no long *aa*, its short *a* was substituted for Palaeo-Germanic long *ā* (> Proto-Germanic *ō*). Indeed, the Palaeo-Germanic loanwords in Finnic support the idea that Pre-Germanic *ā* and *ō* first merged as Palaeo-Germanic *ā* which only later shifted to Proto-Germanic *ō* (cf. Van Coetsem 1994: 76–81).

Palaeo-Germanic largely dates to the Nordic Bronze Age (ca. 1800–500 BC), at the end of which, however, it had almost reached the Proto-Germanic stage. Now the problem is that the Germanic loanwords in Finnic do not show perhaps the most characteristic Proto-Germanic innovations, namely Grimm's Law and the accent shift to the initial syllable.[5] In most cases, therefore, it is impossible to decide if the source language was Palaeo-Germanic or Proto-Germanic, even though one can only see the latter reconstructions in the scholarly literature (e.g. LägLoS 1991–2012).

As a matter of fact, the best evidence for a Bronze Age date comes from the Finnic side. For instance, the Bronze Age loanwords often have regular cognates in Saamic and therefore seem to go back to the Proto-Finno-Saamic stage. Even when they do not have cognates in Saamic, their phonological structure corresponds to the same Early Proto-Finnic stage (on which see Lehtinen 2007: 82–93). This stage has generally been dated to the Bronze Age (see the Table in Kallio 2006b: 2, 24), and I see no reason to disagree (see Kallio 2007: 245–246).

As the Bronze Age date of the earliest strictly Germanic loanwords in Finnic has long been acknowledged among both archaeologists (e.g. Salo 1969) and linguists (e.g. Koivulehto 1971–1973),[6] I do not need to go into further details. Still, while the Bronze Age loanword stratum was no doubt important, it must not be overestimated at the expense of the Iron Age loanword strata. For instance, we cannot date Finnish *lattia* 'floor', *miekka* 'sword', *patja* 'mattress',

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5. First, Finnic had only one series of stops, *T*, which was substituted for both Pre-Grimm *T*, *D*, *Dh* and Post-Grimm *P*, *T*, *D*. Second, Finnic had fixed initial stress even in loanwords whose sources had a completely different accentuation.

6. Leaving aside the Nostraticists (e.g. Xelimskij 1995) who have their own obvious reasons for denying any ancient contacts between Indo-European and Uralic, the most vocal critic of the earliest Germanic loanword strata in Finnic was the late Ralf-Peter Ritter (1993) who, however, mostly cited the German-language history of research by Tette Hofstra (1985) rather than the original Finnish-language primary studies by Jorma Koivulehto and others. Thus, either Ritter was unaware of standard scholarly practice, or he felt uncomfortable to read Finnish, something that should be rather embarrassing for anyone who is supposed to critically discuss etymologies of Finnic words. It is therefore no wonder that he failed to achieve recognition in Fennistic circles outside his native Germany, and even there his anti-Koivulehto sentiments were never shared by the grand old man of the field, Hans Fromm (1997). In non-Fennistic circles, however, Ritter managed to gain more credibility, no doubt because it was easier for him to get away with his selective citation, distorted interpretation of conclusions, and deliberate misinterpretation of others' results (on which see e.g. Häkkinen 1994; Koivulehto 1997).

and *vaatia* 'demand' to the Bronze Age (cf. Salo 2008: 90–111), because they are phonotactically too modern to have existed before the Late Proto-Finnic stage (on which see Lehtinen 2007: 137–154).

2.3. The Iron Age

While the disintegration of the Germanic proto-language has generally been dated to the Pre-Roman Iron Age (ca. 500–1 BC), that of the Finnic proto-language can hardly have occurred until the Middle Iron Age (ca. 400–800 AD), because Common Finnic still has Christian terminology of Slavic origin, dating to the eighth century AD at the earliest (see e.g. Kallio 2006a: 156–157). Thus, Late Proto-Finnic was not concurrent with Proto-Germanic but Early Runic (ca. 200–500 AD).

As there is such a long temporal gap between the Early and Late Proto-Finnic stages, I recently introduced the Middle Proto-Finnic intermediate stage (Kallio 2007: 234–235). No less than seven Early Proto-Finnic consonant phonemes (viz. *č, *ś, *δ, *δ´, *γ, *ń, *ŋ)[7] had already been eliminated by the Middle Proto-Finnic stage (Kallio 2007: 231–235), after which typical Late Proto-Finnic morphophonemic alternations arose, such as consonant gradation (Kallio 2007: 235–243).

In loanword studies, however, even more important than historical phonology is historical phonotactics. Early Proto-Finnic already had several new consonant clusters, which are not found in Proto-Uralic (see Sammallahti 1988: 491–494, 1998: 198–202). Still, even more new consonant clusters arose between the Early and Middle Proto-Finnic stages, and very often they were introduced through Germanic loanwords. For instance, after all the Early Proto-Finnic palatalized consonants had been depalatalized, many clusters containing a consonant + *j were introduced into Middle Proto-Finnic through loanwords from Germanic (or sometimes also Baltic):

- Proto-Germanic or Northwest Germanic *asjōn- (> Old Swedish *æsia*, Old High German *essa*) 'forge' → Middle Proto-Finnic *ašjo > Finnish *ahjo* 'forge' (LägLoS 1991: 5–6).
- Proto-Germanic or Northwest Germanic *ansjō (> Old Norse *æs*, Middle Low German *ōse*) 'loop' → Middle Proto-Finnic *ošja > Finnish *ohja* 'rein' (LägLoS 1996: 309).[8]

The examples above are particularly interesting because they are indisputably Middle Proto-Finnic. First, they cannot be Early Proto-Finnic whose *ś would more probably have been substituted for *sj. And second, they cannot be Late Proto-Finnic which no longer had *š. The simplification *nsj → *šj also shows

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7. There are no reasons to reconstruct the phoneme *l´ (cf. Kallio 2007: 230, 233), which hardly has any comparative evidence (see e.g. Sammallahti 1988: 491) and whose coexistence with the cluster *lj (cf. *ńeljä 'four') would also have been typologically problematic. Note that the phoneme *ŕ did not exist either, but only the cluster *rj (cf. *śarja 'spar').

8. As for first-syllable vocalism, the substitution *a → *o was regular before a nasal, even though the substitution *a → *a was regular elsewhere. As for second-syllable vocalism, the substitution rules remain vague (cf. Sundberg 2001; Palviainen 2004).

that Middle Proto-Finnic still had no actual three-consonant clusters (contrary to Late Proto-Finnic),[9] even though it had clusters of a resonant + a geminate obstruent (contrary to Early Proto-Finnic):[10]

- Proto-Germanic or Northwest Germanic *maldjō(n-)* (> Old Swedish *mæld*, Old English *melde*, Old High German *melta*) 'orach' → Middle Proto-Finnic *malcca* > Finnish *maltsa* 'orach' (LägLoS 1996: 248–249).
- Proto-Germanic or Northwest Germanic *anþja-* (> Old Norse *enni*, Old High German *endi*) 'forehead' → Middle Proto-Finnic *o(n)cca* > Finnish *otsa* 'forehead' (LägLoS 1996: 312–313).

Then again, there were no clusters of a semivowel + a geminate obstruent in Middle Proto-Finnic:

- Proto-Germanic or Northwest Germanic *raidjaz* (> Old English *rǣde*) 'mounted' → Middle Proto-Finnic *raccas* > Finnish *ratsas* 'riding, etc.' (LägLoS 2012: 133).

Note that the earliest diphthongs arose from combinations of a vowel + a semivowel after the Middle Proto-Finnic stage (cf. Kallio 2007: 238–241). As there were also no long vowels in closed syllables until the Late Proto-Finnic stage, the possible Middle Proto-Finnic syllable types were open *(C)V(V)-* and closed *(C)V(R)C-*. Remarkably, while Early Proto-Finnic had only had long vowels in *e*-stem words,[11] this phonotactic constraint was lost by the Middle Proto-Finnic stage:

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9. According to the common opinion, the only exception was the cluster that was later reflected as Late Proto-Finnic *str*. This cluster is generally reconstructed for only four Late Proto-Finnic words, namely *astraɣa* 'fishing spear', *istra* 'lard', *kesträ* 'spindle', and *ostra* 'barley', the first two of which had only lately been borrowed from Middle Slavic *astragā* (> Russian *острога*) 'fishing spear' and North Germanic *īstra-* (> Old Norse *ístr*) 'lard', respectively. Thus, only the latter two words can go back to Pre-Finnic where their cluster is most usually reconstructed as *štr*, based on Mordvin *штере/китирь* 'spindle'. Still, as Proto-Mordvin *št* was often metathesized from Pre-Mordvin *č* (cf. Keresztes 1986: 37, 115–116, 155, 163; 1987: 151–152), the word for 'spindle' could in fact be reconstructed as *kečrä* (← Pre-Indo-Iranian *kētstro-* > Sanskrit *cāttra-* 'spindle'; Koivulehto 1979: 71–78). Furthermore, the word for 'barley' could also be reconstructed as *očra* or *oćra* (← Proto-Iranian *acra-* or Proto-Indo-Iranian *aćra-* > Sanskrit *aśra-* 'sharp > corner'; cf. Koivulehto 1979: 67–71), which can even further be compared to Komi-Zyryan *öu* 'grain' (cf. Lytkin 1975: 91–93). However, the latter word, because of its irregular vocalism and limited southwestern distribution (Luza-Letka), is hardly a cognate but rather a borrowing from some eastern Finnic source, which had after all preserved its affricate. Thus, the Late Proto-Finnic shape seems to have been *ocra*, which was indeed the regular outcome of Early Proto-Finnic *oćra* (see Kallio 2007: 233, 241–242). Unfortunately, it is harder to decide the regular outcome of Early Proto-Finnic *kečrä*, because there is no other example of Early Proto-Finnic *čr* and because Early Proto-Finnic *č* was subject to a phoneme split into Middle Proto-Finnic *t* and *š* (> Late Proto-Finnic *t* and *h*). Still, the modern Finnic reflexes of this cluster are the same as those of Late Proto-Finnic *cr* and *str*, namely southern *tr*, eastern *sr*, and western *hr* (see Map 1 in Viitso 2000).
10. According to Pekka Sammallahti (1988: 552–554), there was already Proto-Finno-Permic *rtt*, only occurring in two words, *kertti-* 'bind' (cf. Inari Saami *korttâđ*, Udmurt *кертты̄ны*, Komi *кöртавны*) and *portta* 'vessel' (cf. North Saami *boarti*, Udmurt *пурты*, Komi *нöрм*). Yet the Saami and Permic words are more likely separate borrowings from Indo-European, because their vocalism does not match (Koivulehto 1988: 34–37, 41–42). Besides, there seems to have occurred secondary gemination in both Saamic (cf. Proto-Finno-Permic *ertä* ~ Pre-Saamic *erttä* > North Saami *earti* 'side') and Permic (cf. Proto-Finno-Permic *mertä* ~ Pre-Permic *merttä* > Udmurt *мурт*, Komi *морт* 'man'). Thus, I see no reason to reconstruct Proto-Finno-Permic *rtt*, but this cluster must rather have arisen independently in the already separate Finno-Permic branches.
11. For research historical reasons, I keep on speaking of *e*-stem words, even though it looks much more likely that the Early Proto-Finnic stem vowel was either *I* or *Ə* (see Kallio 2012).

- Proto-Germanic *sēda- (> Old Norse sáð) 'seed' → Middle Proto-Finnic *šeeta > Finnish hieta 'fine sand' (LägLoS 1991: 101).
- Proto-Germanic *sēman- (> Old High German sāmo) 'seed'[12] → Middle Proto-Finnic *šeema > Finnish hiema 'slight' (LägLoS 1991: 100).

A recent date is further suggested by the fact that the stem type *(C)e(e)Ca- violates Early Proto-Finnic vowel harmony. Yet both of the examples above were borrowed before the Northwest Germanic development *ē > *ǣ > *ā, whereas the following example below was borrowed during it:

- Proto-Germanic *skēwja- (> Gothic skēwjan) > Early Northwest Germanic *skǣwja- (> Old Norse skæva) 'go' → Middle Proto-Finnic *käve- > Finnish käydä 'go, walk' (LägLoS 1996: 141–142).

Finally, there are many examples that were borrowed after the Northwest Germanic development *ē > *ǣ > *ā:

- Proto-Germanic *gētja- > Northwest Germanic *gātja- (> Old Norse gæta) 'watch' → Middle Proto-Finnic *kacco- > Finnish katsoa 'look' (LägLoS 1996: 59).[13]
- Proto-Germanic *spēda- > Northwest Germanic *spāda- (> Middle High German spāt) 'spar' → Middle Proto-Finnic *paati > Finnish paasi 'rock bench, flagstone' (LägLoS 2012: 5).

Yet even these loanwords were borrowed before the Late Proto-Finnic stage, whose *tti would have been substituted for *tj and whose *ti should have remained as such, as shown by the following examples:

- North Germanic *flatja- (> Old Norse flet) 'floor' → Late Proto-Finnic *lattia > Finnish lattia 'floor' (LägLoS 1996: 176).
- North Germanic *harðjōʀ (> Old Norse herðar) 'shoulders' → Late Proto-Finnic *hartia > Finnish hartia 'shoulder' (LägLoS 1991: 84).

In brief, if these words had been borrowed into Middle Proto-Finnic, their modern Finnish shapes should not be lattia and hartia but *latsa and *kartsa, respectively. Even though they must therefore have been borrowed into Late Proto-Finnic, they show no i/j-umlaut dating from the mid-first millennium AD onwards (see Schulte 1998 on runic evidence). All this agrees with what was said before that Late Proto-Finnic dates to the Early Runic period (ca. 200–500 AD).

As we already saw above, Middle Proto-Finnic was in turn concurrent with the Northwest Germanic development *ē > *ǣ > *ā, whose terminus ante quem was the earliest runic inscriptions of the second century AD (Nielsen 2000: 205–206). On the other hand, its terminus post quem was of course the Proto-Germanic development *ā > *ō, whose latest proposed dates to the beginning of our era can be rejected on good grounds (Stifter 2009). Instead, both of

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12. Compare also the hypothetical Proto-Germanic adjective *sēma- 'small or insignificant in quantity or quality' (Falk & Torp 1909: 434) whose positive, however, is not attested at all but only its comparison forms such as the comparative *sēmizan- > Old Swedish sæmbre 'worse', Old English sǣmra 'weaker' (Heidermanns 1993: 477–478).
13. Early Proto-Saamic *kāćći- (> North Saami geahččat) 'look, herd' looks like a separate borrowing from Early Northwest Germanic *gētja- 'watch'.

the developments were possibly finished well before the beginning of our era (Koivulehto 1999: 14–15).[14]

Hence, the Middle Proto-Finnic period would roughly have covered both the Pre-Roman Iron Age (ca. 500–1 BC) and the Early Roman Iron Age (ca. 1–200 AD). Interestingly enough, the Germanic loanwords in Finnic have hardly ever been dated to the Pre-Roman Iron Age when Scandinavia no longer influenced Finland as much as it did during the Bronze Age. However, Finnic was also spoken in Estonia, which in fact remained in close contact with Scandinavia throughout the Pre-Roman Iron Age (cf. Kriiska & Tvauri 2007: 117–129; Lang 2007: 255–256, 262–263).

In this respect, the Early Roman Iron Age was totally opposite. The contacts between Scandinavia and Estonia ended, and they both started to strongly influence Finland. Still, all Germanic influence did not necessarily spread from Scandinavia, because Estonia and Finland also had a trade connection with Prussia which was at that time occupied by Pliny's *Gutones* and Tacitus' *Gothones*. However, only a few Germanic loanwords, after all, came from this direction, whereas all the rest came from the west, more precisely from Svealand and Gotland based on archaeological evidence (for which see Salo 2008: 123–167).

Thus, the Northwest Germanic loanwords in Middle Proto-Finnic most likely date to these periods.[15] As the number of the Finnic speakers dramatically decreased during the cold and wet Pre-Roman Iron Age, the number of the Germanic-speaking newcomers did not even need to be particularly significant in order to result in a massive amount of loanwords. In any case, the Early Roman Iron Age reestablished very close contacts between Sweden and Finland, and from this period onwards there has been a continuous stream of loanwords from Germanic into Finnic.

3. Legacy

As I noted above, Finnic has around 500 "early Germanic" loanwords. As standard Finnish has around 6000 word stems (Häkkinen 2004: 6), it is a considerable percentage of the Finnic vocabulary. Moreover, the Germanic loanwords also introduced several new phonotactic features into Proto-Finnic, such as new

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14. The dating is also complicated by the fact that different dialects with different vocalism could have coexisted. Consider Late Proto-Finnic *meekka* (> Finnish *miekka*) 'sword', which for phonotactic reasons can hardly go back to Middle Proto-Finnic, even though it reflects Proto-Germanic *ē* (cf. Proto-Germanic *mēkjaz* > Gothic *mēkeis*, Old Norse *mækir* 'sword'). Thus, although Late Proto-Finnic was mainly in contact with the *ā*-dialect(s) of Scandinavia, it also seems to have had a more remote connection with some *ē*-dialect(s) of, say, Prussia.

15. The same must also be said about the North Baltic and Early (Middle) Slavic loanwords in Middle Proto-Finnic (see Kallio 2006a, 2008), and especially those of the latter that already reflect the First Palatalization (e.g. Finnish *hauki* 'pike' and *hirsi* 'beam') date to AD rather than BC. Therefore, they most likely had something to do with the Early Roman Iron Age trade routes along the Russian rivers connecting the Finnic and Slavic homelands. At least the idea that they could, after all, be borrowings from Baltic where their suggested sources are not even attested (cf. Nieminen 1949; Liukkonen 1999: 40–42; Gliwa 2009: 193–197) must be abandoned for good, because otherwise nothing would stop us to take any Finnic word for a borrowing from some nonexistent Baltic source.

syllable structures. Most of all, while Early Proto-Finnic had only had mono-moraic syllables (i.e. *(C)V-*) and bimoraic syllables (i.e. *(C)VV-*, *(C)VC-*), Late Proto-Finnic also had trimoraic syllables (i.e. *(C)VVC-*, *(C)VCC-*).[16] Strangely enough, this particular fact went unnoticed by Lauri Posti (1953), who was, after all, the first scholar to regard Late Proto-Finnic as phonologically Germanicized (see Kallio 2000).

So what can the Germanic loanwords in Finnic tell us about the linguistic map of prehistoric northern Europe? First of all, they totally destroy the theory advocated by some German scholars (e.g. Udolph 1994) that Germanic was spoken nowhere in Scandinavia until the Iron Age (see Koivulehto forthcoming). Second, they similarly disprove the idea still cherished by many Russian scholars (e.g. Napol'skix 1990) that Finnic did not arrive in the East Baltic area until the Iron Age (see Koivulehto 2004). In brief, the Germanic loanwords in Finnic show that both Germanic and Finnic were present in the Baltic Sea region during the Bronze Age.

As for where exactly in the Baltic Sea region the contacts between Germanic and Finnic took place, they can hardly have occurred anywhere outside Finland and Estonia, east of which there seems to have been no significant Germanic superstrate until the eighth century AD, judging from archaeological evidence (Carpelan 2006: 88–89).[17] Even Finland has been excluded from this contact area by Ante and Aslak Aikio (2001), according to whom the Finnic homeland could not have been on both sides of the Gulf of Finland (cf. Kallio 2006b: 17–19). However, there is onomastic evidence for the Finnic presence in South Finland before the Northwest Germanic development *$\bar{e}$ > *$\bar{æ}$ > *$\bar{a}$, dating to the Pre-Roman Iron Age (ca. 500–1 BC):

- Proto-Germanic *$\bar{e}þr\bar{o}$/*$\bar{e}dr\bar{o}$ (> Old Swedish *ādher*, Old English *ǣdre*, Old High German *ādra*) 'artery, vein' (cf. Swedish *Ådran*, German *Oder*) → Middle Proto-Finnic *etra* > Finnish *Eura* (Koivulehto 1987: 33–36).
- Proto-Germanic *$kw\bar{e}mja$- (> Old Norse *kvæmr*, Old English *(ge)cwēme*, Old High German *(bi)quāmi*) 'accessible' (cf. Swedish *Kymmen*, *Köm*) → Middle Proto-Finnic *kümi* > Finnish *Kymi* (Koivulehto 1987: 36–37).[18]

Note that neither *etra* nor *kümi* can have been borrowed through Saamic, because the regular Saamic reflex of Indo-European *Tr was not *tr but *rtt (see Koivulehto 1988) and because Saamic had early lost its *$ü$ (see Sammallahti

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16. After trimoraic syllables had been introduced through Germanic loanwords, they soon further spread to inherited Finnic words through certain phonological developments, such as postvocalic *je/*ji* > *i* (cf. Kallio 2007: 239–240). Consider the inessive plural of the word for 'pot': since Early Proto-Finnic **pata-j-sna* would have been phonotactically impossible, we can only reconstruct Early Proto-Finnic *pata-j-ï-sna* > Middle Proto-Finnic *patojesna* > Late Proto-Finnic *paðoissa* 'in pots'. All this can be compared with the adessive plural of the same word in the light of the new theory on the postpositional origin of the Proto-Finnic *l*-cases: the genitive plural *pata-j* + the postposition *ülnä* 'on, above, over' would regularly have developed into Early Proto-Finnic *pata-j-ïlna* > Middle Proto-Finnic *patojelna* > Late Proto-Finnic *paðoilla* 'on pots' (Aikio & Ylikoski 2007: 33–36).

17. Also from a linguistic point of view it would be rather far-fetched to locate Germanic any further to the east, not least because of its close relations with Celtic (see e.g. Hyllested 2010).

18. Even though *kymi* also occurs as an appellative meaning 'large river', its limited distribution in the Kymi valley suggests that the hydronym was appellativized rather than vice versa.

1998: 181).[19] Thus, we have a reason to think that the Finnic presence in South Finland goes back to the Bronze Age (ca. 1600–500 BC). At least there is no other place where the contacts between Germanic and Finnic could be dated this early on equally good linguistic grounds.

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19. As a matter of fact, if Proto-Germanic **kwēmja-* had been borrowed as Pre-Saamic **kümi*, it would have developed into Proto-Saamic **këmë*, whose expected Finnic reflex would not have been **kümi* but rather **kemi*. Incidentally, there are two major rivers called *Kemi(joki)*, one in Finnish Lapland and another in Viena Karelia, both of which were relatively recently Saamic-speaking.

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