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The Study of Saami Substrate Toponyms in Finland*

1. Research history

Since the emergence of the historical sciences the generally accepted view on the ethnic history of Finland has been a theory of immigration, that is, that the Saami (or Lapps, as they were formerly called) earlier inhabited most parts of Finland, and that the Finns and Karelians only later expanded to their present territories, displacing the original Saami settlement. This view was originally based mainly on the interpretation of the Finnish and Saami oral tradition (SCHEFFER 1704: 37–52, see also PORTHAN 1873: 31–42), but later research into historical records brought to light numerous references related to the Saami, especially in eastern Finland and Karelia (see e.g. KOSKINEN 1882, T. I. ITKONEN 1947, 1948 I, 92–97).

In the twentieth century comparative linguistics developed rapidly and linguistic evidence of a widespread earlier Saami inhabitation in the south of Finland started to emerge. The first noteworthy study of Finnish and Russian place names of Saami origin was K. B. WIKLUND's paper *Lapparnas forna utbredning i Finland och Ryssland, belyst af ortnamnen* (1911–1912). The question of place names of Saami origin had occasionally been touched upon even earlier, but WIKLUND's study was the first one to employ systematic and reasonably strict scientific methods to the subject. However, at that time the material available on Finnish place names was so limited that an entirely systematic search for Saami substrate place names could not be performed. Because of this, WIKLUND's results in central Finland and Karelia remained on the level of sporadic observations, and his conclusions on the earlier distribution of Saami settlement were partly erroneous due to the limitations of his material. Nevertheless, as outdated and incomplete as WIKLUND's paper today is in many respects, it was still the first to apply solid methods and can be considered as pioneering. (See also KALIMA's [1912] comment paper on WIKLUND's study.)

The next scholar to study the dialect geography of Saami substrate place names in Finland was T. I. ITKONEN, an eminent scholar in Saami ethnogra-

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phy. In a short paper in 1920 and an addendum to it in 1926, he presented a substantial number of Saami etymologies for Finnish place names. Later in his classic two-volume handbook on Saami ethnography, *Suomen lappalaiset vuoteen 1945* (1948 I, 99–107), he both critically re-evaluated and expanded his material to 167 borrowed name types (according to their Saami appellative parts), and showed the distribution of the names on a map. Itkonen's study was the first attempt to systematically map the distribution of Saami substrate place names in Finland, and because it is still the only one, it has remained the standard reference on the subject since its publication.

Despite the obvious merits of T. I. ITKONEN's toponymic studies, it is now impossible to view them uncritically. While ITKONEN's approach to the material can in general be considered critical, it is still evident that in the case of many individual etymologies his criteria for acceptability were not strict enough. Suspicions are raised, for example, in those cases in which a Finnish toponymic element is compared to a scarcely attested and etymologically opaque Saami personal name, such as the equation of the unclear Finnish place name elements *Saija-* and *Surnu-* with the Inari Saami pre-Christian personal names *Caijâ* and *Curnâž*. Nevertheless, the fact that some of Itkonen's etymologies must now be considered questionable or even implausible does not greatly diminish the value of his study as a whole. Many of the etymologies still bear critical scrutiny and can, combined with further evidence from oral tradition and historical record, be accepted as proof of an earlier widespread Saami inhabitation in inland southern Finland.

There are, nevertheless, certain factors in Itkonen's study that reduce its usability as a reference work to a significant degree. Firstly, the presented corpus of names of Saami origin is, in fact, not much more than a list. In most cases no detailed etymological argumentation is provided and occasionally even the assumed loan original is left unmentioned. The reader unacquainted with Saami historical linguistics will thus find it impossible to judge the plausibility of the etymologies. Secondly, ITKONEN's results are based on quite limited toponymic material because extensive collections of Finnish place names were not yet available in the 1940s. According to ITKONEN's map (ibidem 107) very few, if any, place names of certain Saami origin occur in a wide stretch covering the coast of the Gulf of Finland and the immediately adjacent inland areas (i.e., Finland Proper, southern and south-eastern Häme, Uusimaa, southern Kymi and the Karelian Isthmus). It appears that this blank in T. I. ITKONEN's map was echoed later in TERHO ITKONEN's famous map of Proto-Finnic dialects at the beginning of the Common Era (originally presented at the symposium in Tvärminne in 1980 and first published in T. ITKONEN 1983: 378), which has since been repub-



lished in several reference works (recently CARPELAN—PARPOLA 2001: 91). According to TERHO ITKONEN, a ‘northern dialect’ of Proto-Finnic was spoken approximately in the blank area on T. I. ITKONEN’s map and the Proto-Saami territory was located north of it. It must be noted though, that TERHO ITKONEN did not mean his map to be geographically exact, but merely a rough approximation. In any case, there is no proof that the absence of known Saami substrate place names in any region in southern Finland would not merely result from insufficient research (see section 3). Since T. I. ITKONEN published the results of his onomastic studies, comprehensive toponymic material has become available and the conditions for substrate research have thus been greatly improved. On the other hand, theoretical and methodological advances have also been achieved in toponymic typology, loanword research and language contact studies. These developments have yielded appropriate tools and material for a thorough mapping of the Saami place name stratum in Finland. But while the theoretical and material situation has substantially improved, the amount of research published on the topic has diminished. Few competent researchers treated Saami substrate toponyms in the latter half of the 20th century and there have not been many significant advances in the field.

The subject of Saami substrate place names in Finland has, however, been touched upon since T. I. ITKONEN in a couple of interesting but narrow case studies. AILA RÖNNBERG (1980) provides a thorough analysis of Finnish place names of the shape *Kuukas-*, *Kukas-*, *Kukka(s)-* and their connection with Proto-Saami **kukkē(-s)* ‘long’ (> SaaN *guhkki*, *guhkes*¹) in her unpublished graduate thesis. She concludes that all the hydronyms and also several other names of this shape are of Saami origin, but they have frequently become folk-etymologically contaminated with the Finnish word *kukka* ‘flower’. TERHO ITKONEN has examined the linguistic traces of Saami settlement in central southern Finland, especially in the surroundings of the northern part of Lake Päijänne, in a noteworthy paper *Lapin perua Sisä-Suomen sanastossa ja paikannimissä* (1993b) and in a short popular newspaper article published in the same year (1993a). ALPO RÄISÄNEN discusses place names of Saami origin in the province of Kainuu in two papers (1990, 1995). His recent monograph (2003) provides a detailed discussion of the etymologies of Finnish place names with the formants *-nkV* and *-ua*, several of which he analyses as borrowings from Saami. EEVA-MARIA NÄRHI (2002) has recently presented detailed argumentation for the Saami origin of two Finnish

¹ Saami adjectives have separate predicative and attribute forms which in this article as elsewhere in lexicological literature are both given. The predicative form is mentioned first (editor).



hydronyms of the shape *Outamo(-)*. Also VAHTOLA's (1999) summary of Saami substrate place names and the historical records of the Saami in Finland is worth noting, as it includes useful maps on the distribution of a couple of the more common substrate name types, such as names containing reflexes of Proto-Saami **kukkē(-s)* 'long' and **lättēs* 'even, gently sloping (terrain)'. However, the maps are not exhaustive because the author has not included all the phonological variants in which the words appear in Finnish toponyms.

Finally, the archaeologist UNTO SALO must be mentioned. He has recently presented a thorough synthesis of the prehistory of the provinces of Häme and Satakunta, drawing evidence from archaeology, linguistics and oral tradition (SALO 2000). According to SALO, the earliest Iron Age settlement in the valley of the River Kokemäki that practiced slash-and-burn agriculture as a subsidiary means of livelihood, was Saami-speaking. This prehistoric Saami culture and its language were displaced by a wave of Finnic settlers practicing slash-and-burn agriculture that expanded from the coastal area in the Pre-Roman Iron Age. SALO's analysis is convincing, and the proof of Saami inhabitation ultimately rests on the borrowed place names he has compiled from various references to his study. While the toponymic evidence summarised by SALO regrettably also contains a number of unlikely etymologies, its core must be considered convincing enough to validate his analysis. A more detailed assessment of the etymologies included in SALO (2000) is provided in A. AIKIO (2003).

To sum up, the research history of Saami substrate place names in Finland can be characterised as long and lean. The first substantial study of the subject by K. B. WIKLUND was published over 90 years ago and its results were significantly extended by T. I. ITKONEN's later studies. However, in the latter half of the 20th century active research on the subject almost completely ceased. After T. I. ITKONEN, SALO's analysis on the settlement history of Häme and Satakunta is the only major result in the ethnic history of southern Finland that was based, among other sources, also on the interpretation of Saami substrate place names. The other studies mentioned above have only added details (which are, naturally, interesting and important in themselves, too) to the overall knowledge of place names of Saami origin.² The situation

² Saami substrate toponyms have also been discussed in numerous local and provincial histories, but most of these treatments can be characterised as methodologically inadequate: opaque Finnish place names have been arbitrarily compared to phonologically similar Saami words, taking no heed of historical phonology or onomastic typology. Symptomatically, the Saami words cited in such references are frequently wrongly spelled, and which Saami language they belong to is often



is currently changing though: a comparative analysis of several geographically widespread Saami substrate name types in Finland and northern Russia is provided in SAARIKIVI (2004), and a detailed examination of the Saami substrate nomenclature in central and southern Finland is being prepared by the present author (A. AIKIO, in preparation).

Loanwords of Saami origin in the Finnish dialects have been subject to more thorough study than loan names, especially during recent decades. As this paper concentrates on questions of toponymy, only references to the relevant publications are given here. The reader interested in the subject will find further information in ÄIMÄ 1908, T. ITKONEN 1957: 16–23, 52–59, 77–84, 1993a, 1993b, WICKMAN 1968, E. ITKONEN 1970, VALONEN 1971, O. KORHONEN 1979, 1982: 61–81, KOPONEN 1988, 1996, KOIVULEHTO 1989: 47–48, SÖDERHOLM 1991, A. AIKIO 2001. A summary and assessment of previous research on Saami loanwords, as well as several new etymologies, is provided in A. AIKIO 2002 (in North Saami). For a literary survey and a bibliography of the research on Saami place names in general the reader is referred to RYDVIK 1995.

During the last three decades, the debate on the origin of the Finns and the Saami and on Uralic prehistory in general has become very lively and some significant advances in linguistics and archaeology have been achieved (see GALLÉN 1984, FOGELBERG 1999, CARPELAN—PARPOLA—KOSKIKALLIO 2001 for papers from the most important congresses on these themes). One could even say that there has been an influx of theories on the origin of the Finns and the Saami, especially compared to the sixties, when there was little discussion on the subject and indeed very few researchers actively working on questions related to ethnic history. But in spite of this progress, the current trends in research must be criticised for being too heavily oriented towards geographically and temporally far-reaching models. There are still considerable gaps to be filled in basic linguistic research, especially in substrate studies. As VAHTOLA (1999) and S. AIKIO (1999) point out, our knowledge of place names of Saami origin is still in many areas almost entirely lacking. SALO's recent paper (2000) should be seen as an indication that new studies in this field may cause many questions to be reassessed.

2. Methodology

The purpose of this article is to develop a critical methodological framework for the future study of Saami substrate toponyms in Finland. The place

left unmentioned. As an example of such a haphazard treatment one can mention VAHTOLA (1996: 135–137), wherein numerous such badly substantiated Saami etymologies are presented for place names in the municipality of Rovaniemi.



names treated in the subsections below are merely meant to serve as examples of each methodological issue discussed; the intention is to apply the presented framework in a more detailed analysis of Saami substrate nomenclature in central and southern Finland in a forthcoming publication (A. AIKIO, in preparation). The presented examples include both well-known comparisons established by previous research and new etymologies. The new cases have been discovered during research in the data in the Archive of Names (Fi. *Nimiarkisto*, containing approximately 2,250,000 file cards on Finnish place names) at the Research Institute for the Languages of Finland, and by conducting various computer searches in the nomenclature included in the NLS Topographic Database (containing approximately 800,000 place names) published by the National Land Survey of Finland. In connection with each name, the municipality in which the name occurs is mentioned in parentheses. For exact localisation and further information the reader is referred to the primary data in the archive and the database.

2.1. Sound correspondences and phonological nativisation

A basic phonological criterion is that place names in central and southern Finland must be compared to reconstructed Proto-Saami. Comparisons to present-day forms which have become phonologically divergent during the independent development of the Saami languages can obviously lead to erroneous results. On the other hand, operating with hypothetical divergent developments in unattested donating idioms would allow *ad hoc* creation of sound laws, which would make it too easy to construe “Saami” etymologies for obscure Finnish place names. Of course, the Saami languages of southern Finland underwent various divergent courses of development, but because there are no direct attestations of these extinct idioms, reconstructed Proto-Saami is the best approximation to them that we have. Thus, Proto-Saami reconstructions are given as loan originals below, but this is not meant to imply that the place names in question were actually borrowed from Proto-Saami; instead, Proto-Saami (hence forward PS) is used as a meta-language representing the extinct and unattested Saami idioms of central and southern Finland.

The phonological correspondence between the Finnish place name and the reconstructed (Proto-)Saami loan original must agree with systematic and natural patterns of phonological nativisation. The patterns need not only be phonetically motivated, as several other factors also influence sound substitution in loanwords. When dealing with borrowings between Saami and Finnic, particular attention must be paid to the occurrence of a special method of sound substitution, referred to here as ‘etymological nativisation’. In Finnic-Saami language contact situations speakers do not always substi-



tute the phonetically closest native equivalents for foreign sounds in the donating language. Instead, there is a tendency to conform borrowings to the patterns of regular sound correspondence that occur in cognate words. This is due to the large amount of Finnic-Saami cognate vocabulary which, combined with widespread bilingualism among the Saami, has led the speakers to recognise the regular correspondences. As a result, new loanwords are frequently adapted to these (probably subconsciously) observed patterns.³

For example, the sound correspondence Finnish *i* ~ PS **ē* can be observed in numerous cognate pairs such as Finnish *nimi* ‘name’ ~ PS **nēmē* ‘id.’ (> Northern Saami [hereafter SaaN] *namma*), Finnish *silmä* ‘eye’ ~ PS **čēlmē* ‘id.’ (> SaaN *čalbmi*), Finnish *pilvi* ‘cloud’ ~ PS **pēlvē* ‘id.’ (> SaaN *balva*), Finnish *rinta* ‘chest, breast’ ~ PS **rēntē* ‘id.’ (> SaaN *raddi*). This situation gave rise to the pattern of substituting PS **ē* for Finnic **i* in old borrowings, such as SaaN *vašši* ‘hatred’ (< PS **vēšē* < Pre-Finnic **viša* ‘id.’ > Finn. *viha*), SaaN *šaldi* ‘bridge’ (< PS **šēltē* < Proto-Finnic **silta* ‘id.’ > Finn. *silta*), SaaN *šallat* ‘smooth’ (< PS **šēlētē* < Proto-Finnic **siletä* ‘id.’ > Finn. *sileä*). As borrowed words conformed to this correspondence, the resulting new instances served as new models, upholding and strengthening the pattern. Eventually PS **ē* was opened to become *a* in many Saami languages, including North Saami, and this resulted in the substitution pattern Finnish *i* > Saami *a* in borrowings, despite the fact that the vowels *i* and *a* occupy opposite corners of the vowel space. Examples of late loanwords displaying this substitution include SaaN *haddi* ‘price’ < Finnish *hintä* ‘id.’, SaaN *hapmu* ‘craving (for a certain food)’ < Finnish *himo* ‘lust, desire, craving’, SaaN *barta* ‘cabin’ < Finnish *pirtti* ‘id.’ (< Russian). These borrowings must have been adopted after the break-up of Proto-Saami, as shown by the preserved *h-* (Proto-Saami had no phoneme *h*) or be of Russian origin.

The etymological substitutions observed in the Finnish loanwords in Saami are relevant also for the analysis of Saami substrate toponyms in Finland,

³ Etymological nativisation has been little discussed in linguistic literature. R. L. TRASK’s *Dictionary of historical and comparative linguistics* (2000, s.v. *loan nativisation*), however, recognises the phenomenon and defines it as follows: “When there is widespread bilingualism between speakers of two closely related languages, speakers will often be keenly aware of the phonological and morphological correspondences holding between the two languages. In such circumstances, a loanword may be nativised by replacing each of its segments with the regularly corresponding segment in the borrowing language... As a result, the borrowed items may be indistinguishable from native formations”. According to TRASK, the names ‘loan nativisation’, ‘loan adaptation’ and ‘correspondence mimicry’ have been applied to the phenomenon. The term ‘etymological nativisation’ which stems from H. H. HOCK (1986: 393–394) seems particularly apt.



because the substitution patterns are mirrored in borrowings in the opposite direction. Thus, even the relatively late Saami loanwords in the Far-Northern dialects of Finnish usually show Finnish *i* in the place of PS **ĕ* / SaaN *a*: compare, for example, Finnish *kika* ‘lump of frozen snow’ < PS **čĕkĕ* (> SaaN *čahki*), Finnish *kivalo* ‘mountain ridge; wilds, wilderness’ < PS **čĕvĕlkĕ* ‘mountain ridge; spine’ (> SaaN dial. *čavil*), Finnish *nili* ‘small storage house built on one pillar’ < PS **ñĕlē* (> SaaN *njalla*).

Even though etymological substitution patterns are very frequent in borrowings between Finnic and Saami, in most cases their application is not predictable. The substitution models provided by cognate vocabulary compete with a principle of phonetic nearness and thus there often exist two substitutes for a given vowel. For example, cognate words display the correspondence Finnish *u* ~ PS **o* (> SaaN *o*), compare, for instance, Finnish *muna* ‘egg’ ~ SaaN *monni* id., Finnish *suku* ‘family, kin’ ~ SaaN *sohka* id., Finnish *tuli* ‘fire’ ~ SaaN *dolla* id. The same correspondence is attested in relatively late loanwords: cf. Finnish *hupa* ‘scanty, short-lasting’ > SaaN *hohpi* id., Finnish *ruma* ‘ugly’ > SaaN *ropmi* id., Finnish *tapaturma* ‘accident, mishap’ > SaaN *dáhpedorbmi* id. However, there are also loanwords which on distributional grounds are clearly older, but which show the substitution Finnic **u* > PS **u*: compare Finnish *tulva* ‘flood’ > SaaN *dulvi* ‘id.’, Finnish *uksi* ‘door’ > SaaN *uksa* ‘id.’, Finnish *kuru* ‘gorge’ > SaaN *gurra* ‘id.’, Finnish *muista-* ‘to remember’ > SaaN *muiti-* ‘id.’.

The existence of two alternative methods of sound substitution has important implications for the chronological interpretation of loanwords. When one phoneme in the source language shows two environmentally unconditioned substitutes in the target language, the situation is normally interpreted as implying either two different phases of borrowing or the former existence of two distinct source idioms. Thus, WIKLUND (1911–1912: 112) and KALIMA (1912: 117), in accordance with the Neogrammarian framework of their time, saw the correspondence Finnish *i* ~ Saami **ĕ* in loanwords as evidence of a very early borrowing that had taken place before the development of Pre-Saami **i* > PS **ĕ*. The latter interpretation is chosen by SALMINEN (1999: 15). He notes that Finnish place names of the shape *Pisa-*, which have been compared to the Saami word for ‘sacred’, seem to point to a donating idiom exhibiting an archaic form **pisa* instead of the PS form **pĕsĕ* (> SaaN *bassi* ‘sacred’). On these grounds, he suggests that the languages spoken by the medieval ‘Lapps’ in southern Finland were not necessarily Saami, but rather transitional idioms that could not properly be classified either as Finnic or as Saami.



Nevertheless, a single example suffices to illustrate the problem involved in both of these interpretations. PS **ĕ* developed in certain positions into Inari

Saami *a(a)*, and there are examples of the substitution rule SaaI *a(a)* > Finnish *i* in the borrowed place names of the Inari Saami area: compare, for example, SaaI *Aanaar* > Finnish *Inari*, SaaI *Avveell/juuhâ* > Finnish *Ivalojoki*, SaaI *Kaareeh/juuhâ* > Finnish *Kirakka/joki*.⁴ These borrowings must be quite recent because the Finnish settlement in Inari only dates back to the 18th century. It would be equally impossible to use such names as evidence of archaic ‘transitional’ idioms because they are known to derive from Inari Saami. Etymological nativisation offers the only realistic explanation for such data.

A similar example is involved in the dual substitution of Finnish *uu ~ u* for PS **u* in substrate toponyms reflecting PS **kukkē(-s)* ‘long’ (< Pre-Saami **kūkka[-s]*). Here, too, lake names such as *Kuukas/järvi* (Ranua), *Kuukkainen* (Jyväskylä) and *Kuukka* (Urainen) deceptively seem to point to an archaic Pre-Saami form **kūkka(-s)*, as opposed to forms such as *Kukas/järvi* (Mäntyharju / Savitaipale) and *Kukkanen* (Pihtipudas) which show a short vowel in the first syllable. Thus, RÖNNBERG (1980) analyses these substitutions as reflecting two chronologically distinct phases of borrowing. However, the variant reflexes merely seem to mirror the competition between two methods of phonological nativisation. This interpretation is supported by the fact that the geographical distributions of the two variants do not show any pattern; forms with both short and long vowels are attested in northern and southern Finland alike.

Due to etymological nativisation it is often difficult to determine the age of individual borrowings between Saami and Finnic, at least on purely phonological grounds. Moreover, the existence of etymological nativisation does not of course in itself eliminate the possibility of Pre-Saami borrowings or transitional idioms. However, it implies that the exact chronological phase or genetic identity of the source language cannot be determined by simply looking at a single substrate name type such as *Pisa-* or *Kuukas-*. Instead, it is necessary to examine whether the different reflexes of one phoneme show geographical distribution pattern. If such search only reveals inconsistent variation, as is the case with the names reflecting PS **kukkē(-s)* ‘long’, competition between two strategies of sound substitution provides the most plausible explanation.

⁴ For the sake of clarity, in this paper the border of the specific and the generic is indicated with a slash and inflectional endings are separated with a hyphen. Derivational suffixes and formants (see chapter 2.3.) are not indicated. A list of the Finnish and Saami topographic nouns that occur as generics in the place names discussed is provided as an appendix.



2.2. Lexical structure

The majority of Saami and Finnish topographic place names fall into one structural type, a compound consisting of a specific and a topographic noun functioning as a generic. Other types also occur, mainly monomorphemic or derivative names based on a single lexical root, but they are not as frequent. It is important to note a general typological feature of the compound place names borrowed from Saami into Finnish: instead of borrowing the entire name directly, the components of the name have nearly always been treated separately. The following three main structural types can be distinguished.

a) The specific is borrowed but the generic is replaced with a corresponding Finnish topographic noun: for example, *Kukkas/järvi* (Kuhmoinen) < PS **kukkē-s* ‘long (attributive form)’ (> SaaN *guhkes*) + Finnish *järvi* ‘lake’; *Ellivuori* (Karkku) < PS **ēlē* ‘high (attributive form)’ (> SaaN *alla*) + Finnish *vuori* ‘hill, mountain’ (this comparison derives from R. L. Pitkänen, p.c.); *Sapsa/lampi* (Alavus) < PS **šāpšē* ‘whitefish’ (> SaaI *šapšâ*) + Finnish *lampi* ‘pond, small lake’. This is the most common type. A secondary genitive suffix is also often added in Finnish, for example, *Konta-n/järvi* (Pihtipudas) < PS **kontē* ‘wild reindeer’ (> SaaN *goddi*) + Finnish *-n* GenSg suffix + Finnish *järvi* ‘lake’; *Raasi-n/järvi, -joki* (Yläne) < PS **rāsē* ‘grass’ (> SaaN *rássi*) + Finnish *-n* GenSg suffix + Finnish *järvi* ‘lake’. In Saami the genitive normally occurs only in place names indicating ownership or usufruct or in derived names with another place name in the specific position. The genitive suffix in substrate toponyms appears to be a hypercorrect addition which serves to make the opaque borrowed name appear structurally more native-like or natural in Finnish.

b) The specific is borrowed but the generic is dropped: for example, (*Iso-, Pieni-, Salmi-*)*Kuukka* (three lakes; Uurainen) < PS **kukkē(-s)* ‘long’ (> SaaN *guhkki*, attributive form *guhkes*); *Änkää* (a forest area; Nummi) < PS **āṅkēs* ‘hunting fence with nooses or pit traps placed in the gaps (for trapping wild reindeer)’ (> SaaN *ákkis*, I *äägis*); *Naakkima* (a lake; Haukivuori / Virtasalmi) < PS **ñākē-mē* ‘sneaking, covertly approaching (e.g. game)’ (> SaaN *njáhkka-n*); *Jänky* (a lake surrounded by bogs; Savitaipale) < PS **jeañkē* ‘bog’ (> SaaN *jeaggi*). The Saami loan originals of these names must have had a topographic noun as a generic, because the present-day Saami place name system does not allow monolexical names of the type SaaN **Guhkki* ‘long’, **Ákkis* ‘hunting fence’, **Njáhkan* ‘sneaking’, etc. A monolexical name consisting of a topographic noun with a wrong denotation (e.g., **Jeaggi* ‘bog’ as the name of a lake) would presumably be unacceptable in any language. The ellipsis of the generic may also have occurred later in Finnish and not during the borrowing process itself.



c) A Finnic topographic noun is attached to a borrowed element which must have functioned as the generic in the donating language: for example, *Jaurajärvi* (Kuhmo) < PS **jāvrē* ‘lake’ (> SaaN *jávri*) + Finnish *järvi* ‘lake’; *Kotkuu-n/niemi* (Enonkoski) < PS **kuotkōj* ‘isthmus; promontory’ (> SaaN *guotkku*) + Finnish *-n* GenSg + Finnish *niemi* ‘headland’; *Jängä-n/suo* (Uukuniemi) < PS **jeanjē* ‘bog’ (> SaaN *jeaggi*) + Finnish *-n* GenSg + Finnish *suo* ‘bog’; *Vuonamo-n/lahti* (Keitele; Kivijärvi) < PS **vuonē* ‘fjord; large, narrow bay’ (> SaaN *vuotna*) + *-mo*, a formant of unclear background + Finnish *-n* GenSg + *lahti* ‘bay’. In some cases the loan original may have been a monolexical name in Saami, but this can hardly account for all cases of this type.

The structural adaptation that the Saami substrate toponyms have undergone in Finnish contrasts starkly with many other cases of substrate influence. The great majority of Saami substrate names are hybrids consisting of a borrowed specific and a Finnish generic. Nevertheless, the borrowing of compounded names in their entirety is very common elsewhere, for example, in Finnic substrate toponyms in the northern dialects of Russian (see e.g. SAARIKIVI, this volume). PITKÄNEN (this volume) reports that nearly 60 per cent of Finnish substrate toponyms in Finland Swedish belong to this type. In contrast, I have failed to find a single clear example of this type of Saami loan name in southern and central Finland.

Whatever the reason for this typologically unusual pattern of structural nativisation may be, it has a crucial methodological implication. The analysis of toponym formants and pseudolexemes which reflect source language generics has yielded highly informative results in Russian research (see e.g. MATVEEV 2001). However, this method appears to lead to a dead end in the study of Saami substrate toponyms in Finland because the Saami generics have either been dropped or Finnish ones have been substituted for them. Thus, in the analysis of compound names one must concentrate on the identification of the lexical elements which occur as specifics.

2.3. Suffixal morphology and toponymic formants

A ‘toponymic formant’ can be defined as any place name element which structurally resembles a derivational suffix, regardless of whether it has any application in word formation outside the nomenclature (cf. PODOL’SKAYA 1988 s.v. *toponimnyj formant*). In etymological onomastics it is crucial to make a distinction between formants and derivational suffixes, for two reasons. Firstly, in addition to unambiguous cases of derivational suffixes, place names frequently contain suffix-like elements whose status in the morphological system of the language is less clear. A well-known example of a widespread and productive Finnish toponymic formant is *-nkV*, whose



role in appellative formation is so marginal that it is questionable whether it can be called a true derivational suffix at all. Secondly, etymological analysis of place names reveals that formants are often heterogeneous in origin. Thus, the term ‘formant’ refers to synchronic name structure and implies nothing with respect to the diachronic background, whereas the term ‘suffix’ also has an etymological dimension via the process of word formation.

Occasionally formants in substrate names can be quite reliably identified as reflexes of certain Saami derivational suffixes. An example is provided by names of uppermost lakes such as *Elimys/järvi* (Kuhmo) and *Elämyö ~ Elämyö-n/järvi* (Kuhmalahti) (< analogically from NomSg **Elämys* : oblique stem **Elämye-*, or the like) which can be matched with PS **ēlēmūs(s)ë* ‘uppermost’ (> SaaN *alimus*), showing reflexes of the Saami superlative suffix **-mūs(s)ë*.⁵ However, other examples of this substrate name type demonstrate that suffixal morphology has often been adopted in a phonologically distorted form. Thus, no trace of **-s(s)ë* occurs in the lake names *Elimo* (Lieksa) and *Elimo-n/järvi* (Ilomantsi). The lake name *Ilmii-n/järvi* (Köyliö) shows a morphophonological trace of the **s* in its long vowel (**Ilmis* : *Ilmii-*), but the suffixal vowel is curiously illabial and the vowel preceding the suffix has been syncopated. A parallel for the syncope occurs in the pond name *Ilmus/lampi* (Suomenniemi), with an otherwise expected reflex of the Saami superlative suffix.

These slight phonetic inconsistencies may in part reflect phonological innovations in the donating Saami languages. It is entirely possible that vowels had been illabialised and syncopated or final sibilants lost in extinct varieties of Saami, even though this can never be known for certain. (As for syncope and illabialisation, cf. e.g. PS **ēlēmūs(s)ë* > SaaSk *ââ’lmōs*; <ō> indicates a central unrounded vowel in the Skolt Saami orthography.) However, later irregular developments in Finnish must also have played a role. For instance, the name of lake *Elämyö(-n/järvi)* in Kuhmalahti mentioned above is also attested in the form *Elamo-n/järvi*, which no longer shows any trace of the sibilant **s* in the Saami superlative suffix. The irregular development

⁵ Some names of this type can also reflect another PS superlative suffix **-māñčë* (? ~ **-muñčë*) which combines only with spatial noun roots. In present day Saami the suffix has an irregular labial vowel (e.g. SaaN *-muš*) which has developed due to the analogy of the more common superlative suffix **-mūs(s)ë*. The PS form **ēlēmāñčë* ‘uppermost’ accounts at least for the names of the town *Ilomantsi* and the adjacent lake *Ilomantsi-n/järvi* (Ilomantsi). The *-a-* in the third syllable suggests that the extinct Saami language spoken in the area did not possess the analogical labial vowel. The Saami etymology of *Ilomantsi* is discussed in more detail in A. AIKIO (2003).

Elämyön- > *Elamon-* was probably motivated by a transition towards a less marked phonotactic structure. On the other hand, factors such as folk etymology may also cause secondary developments. For instance, the present forms of the name of lake *Elämäjärvi* ~ *Elämäinen* (Pihtipudas) are quite clearly the result of contamination with Finnish *elämä* ‘life’ (← *elä-* ‘to live’). The transcriptions of this name in historical records from the 16th to the 18th century point to an original form **Elämys* (NISSILÄ 1964: 78–79), which accords perfectly with the Saami superlative suffix. (Note that NISSILÄ [o.c.] actually derives the lake names of the type *El-* from the word family based on Finnish *elä-* ‘to live’; this etymology is, however, clearly erroneous.)

Folk etymology can also lead to lexical restructuring, as in the name of the town *Eli/mäki* in southeastern Finland (this etymology derives from JOHANNA HALONEN, p.c.). In its present form the name contains the generic *mäki* ‘hill’ (oblique stem *mäe-*). Historically, however, the original form is *Elimä*, and the current form resulted from a reinterpretation of the formant *-mä*. The name of the village is originally a retrograde formation, and the primary name belonged to the adjacent lake *Elimäjärvi*, which is now drained, but once was the uppermost in its water system. A similar reinterpretation of the formant *-mä* has also occurred in a few other opaque Finnish place names as well, e.g. *Mynä/mäki* < *Mynämä*, *Längel/mäki* < *Längelmä*.

Formants, unlike derivational suffixes, are often heterogeneous in origin. A group of names containing a given formant often includes both native formations and loans, and in individual cases it may be difficult to determine the diachronic background of the formant. For instance, the Finnish toponymic formant *-mo* combines rather freely with Finnish noun bases: compare, for example, *Aittamo* (*aitta* ‘storehouse; granary’), *Honkamo* (*honka* ‘old pine tree’), *Huhtamo* (*huhta* ‘burn-beaten area’), *Kaitamo* (*kaita* ‘narrow’), *Laitamo* (*laita* ‘border, fringe’), *Rantamo* (*ranta* ‘shore’), *Sorsamo* (*sorsa* ‘wild duck’), *Sotkamo* (*sotka* ‘scaup, pochard’).⁶ On the other hand, in substrate names *-mo* (~ *-mV*) may reflect several Saami suffixes. (Note that it is usually not useful to distinguish formants in substrate names on the basis of their vowels, as unstressed vowels have been rather unstably substituted for in loan names.) In names such as *Elimo*, *Elimo-njärvi*, *Elamo-*

⁶ The element *-mo* attached to noun bases in Finnish place names must be analysed as a ‘formant’ and not a ‘derivational suffix’ (cf. HAKULINEN 1979: 169–170) because its role in appellative formation is negligible. Denominal nouns of the type *-mo* are extremely rare and even this group includes topographic nouns (e.g. *ojamo* ‘ditch-side’ ← *oja* ‘ditch’) which may have been influenced by toponyms.



n/järvi, *Elimä/järvi*, etc. the formant *-mV* represents a reduced relic of the Saami superlative suffix. However, *-mV* can also reflect the Saami action noun suffix **-mē* in deverbal names. An example is provided by lake names such as *Kiesimä* (Rautalampi), *Kiesimä/järvi* (Leppävirta), *Kiesimen/järvi* (Pylkönmäki) < PS **keasē-mē(-jāvrē)*, based on **keasē-* ‘to pull, drag (e.g. a fishing net)’ (> SaaN *geassi-*). Another case occurs in the lake name *Kuolimo* (Savitaipale/Suomenniemi), which probably reflects PS **kuolējē-mē*, based on PS **kuolējē-* ‘fish (verb)’ (> SaaN *gulle-*), itself a derivative of **kuolē* ‘fish (noun)’ (> *guolli*); this large lake is known for its rich stock of fish.

Nonetheless, in substrate names the formant *-mo (-mV)* also combines with Saami noun bases: cf. compare *Vuonamo-n/lahti* (Kivijärvi; Keitele), two large and narrow bays (< PS **vuonē* ‘fjord; large, narrow bay’ > SaaN *vuotna*); *Kukkamo* (Keuruu), a longish lake (< PS **kukkē(-s)* ‘long’ > SaaN *guhkki, guhkes*); *Piskamo/järvi* (Kuusamo), a longish and rather narrow lake (< PS **pēsē* ‘narrow’ > SaaN *baski*); *Ilamo-n/vuori* (Hattula), a hill (< PS **ēlē* ‘high [attrib. form]’ > SaaN *alla*); *Pisamo* (Kuusamo), a lake (< PS **pēsē* ‘sacred’ > SaaN *bassi*); *Tuljamo* (Lempäälä), a lake (? < PS **tuoljē* ‘skin, hide’ > SaaN *duollji*); *Siitama* (Orivesi), a village (either < PS **sijtē* ‘Saami village’ > SaaN *siida*, or < PS **siejtē* ‘rock or stone idol’ > SaaN *sieidi*). What is puzzling about these cases is that in present-day Saami there is no suffix of the shape PS **-mV* which forms denominal nouns. It is true, there are a couple of denominal place names formed with a toponymic formant **-mē*, for example, the North Saami lake name *Stuorgoahthin* (Enontekiö) < *stuor(ra)* ‘big’ + *goahhti* ‘tent’ + formant **-mē*, but such cases are very rare. Thus, the extinct Saami languages once spoken in central and southern Finland may have possessed patterns of word or name formation that are only marginally retained in their surviving sister languages in the north. On the other hand, these formants can also reflect secondary processes of suffixation which took place either during the borrowing phase or later in Finnish. In any case, the Saami etymologies of many such names can hardly be doubted, as they often accord well with the nature of the places in question (see 2.4.): the bays called *Vuonamonlahti* are narrow and fjord-like, the lakes *Kukkamo* and *Piskamojärvi* are long and rather narrow, and the hill *Ilamonvuori* is the highest point in the area.

Many formants with labial vowels also lack counterparts in Saami. The formant *-iO* is attested in a number of substrate name types. *Siitiö-n/vuori* (Luumäki Miehikkälä), a hill with a cliff on one side, quite evidently reflects PS **siejtē* ‘rock or stone idol’. The river name *Köyliö-n/joki* might derive from PS **keavlē* ‘bow, curve; circle, halo’ (> SaaN *geavli*), as suggested by SALO (2000: 38) on the basis of JAAKKOLA (1911). The meandering course



of the river would provide a naming motive, and parallels are provided by two similar rivers called *Köyli-n/joki* in southeastern Finland (Orimattila; Artjärvi). The lake names *Ala-Kesiö*, *Ylä-Kesiö* (Heinola) might reflect PS **keasē*- ‘pull, drag’ in one way or the other (cf. *Kiesimä*, etc. above). A formant *-oi* (~ > *-oo*) occurs in, for example, *Siittoi-n/mäki* ~ *Siitoo-n/mäki* (Nummi-Pusula), a rocky hill with cliffs on several sides, and *Siittoi-n/mäki* (Ypäjä), a small rock (< PS **siejtē* ‘rock or stone idol’).

There are several explanations for the occurrence of etymologically opaque formants in Saami substrate toponyms. Firstly, as suggested above, the names can reflect types of derivatives which are not attested in present-day Saami. Secondly, it is likely that various processes of restructuring, secondary suffixation, and phonological reduction that are now beyond reconstruction have altered the shape of many individual names. Thirdly there is also one feature in the Saami place name system itself which has probably contributed to the emergence of obscure toponym formants. In Saami it is not rare for a place name to contain more than two lexical elements. Names including three lexical roots are frequent, and even names containing four or five lexical roots are attested. The following North Saami examples have been taken from the municipality of Utsjoki:

- *Buoiddesguolle/jávri* < *buoiddes* ‘fat (attrib. form)’ + *guolli* ‘fish’ + *jávri* ‘lake’, that is, ‘fat fish lake’
- *Baikabollo/čohkka* < *baika* ‘shit’ + *bolllu* ‘wooden bowl’ + *čohkka* ‘mountain top’, that is, ‘shit-bowl mountain’
- *Ávžegeaš/oaivi* < *ávži* ‘gorge, ravine’ + *geaži* ‘end (GenSg)’ + *oaivi* ‘roundish mountain’, that is, ‘the mountain at the end of a gorge’
- *Leakšagoađ/oaivi* < *leakšá* ‘bogland in the uplands’ + *goađi* ‘tent; peat hut (GenSg)’ + *oaivi* ‘roundish mountain’, that is, ‘the mountain near the peat hut *Leakšagoahti* (‘bogland hut’)’
- *Gaskaniitjohkageaš/oaivi* < *gaska* ‘middle’ + *niitu* ‘meadow’ + *johka* ‘river’ + *geaži* ‘end (GenSg)’ + *oaivi* ‘roundish mountain’, that is, ‘the mountain top near the sources of the river *Gaskaniitjohka* (‘middle meadow river’)’
- *Njállabiedjohkageaš/oaivi* < *njállá* ‘arctic fox’ + *biedju* ‘den’ + *johka* ‘river’ + *geaži* ‘end (GenSg)’ + *oaivi* ‘roundish mountain’, that is, ‘the mountain top near the sources of the river *Njállabiedjohka* (‘arctic fox’s den river’)’

Because Finnish does not permit name structure of this kind, such names tend to become more or less irregularly shortened when they are borrowed into Finnish. What is more, the middle lexemes of long names tend to become phonologically reduced even in Saami, especially in derived names where the middle lexeme is a topographic noun. The following North Saami



place names in the municipality of Utsjoki serve as examples of such reduction:

- *Áhkojár/gielas* < *áhku* ‘grandmother (GenSg)’ + *jávrrri* ‘lake (GenSg)’ + *gielas* ‘longish mountain ridge’, that is, ‘the mountain ridge near lake *Áhkojávri* (‘grandmother’s lake’)’
- *Aškkasjoh/jávri* < *aškkas* ‘sheet ice’ + *joga* ‘river (GenSg)’ + *jávri* ‘lake’, that is, ‘the lake along the river *Aškkasjohka* (‘sheet ice river’)’
- *Goahppelaš/johka* < *goahppil* ‘wood grouse’ + *ávžži* ‘gorge, ravine’ GenSg + *johka* ‘river’, that is, ‘the river that flows through the gorge *Goahppelávži* (‘wood grouse gorge’)’
- *Fiellogah/skáidi* ~ *Fiellodah/skáidi* < *fiellu* ‘board’ + *geađggi* ‘rock, stone’ GenSg + *skáidi* ‘area between two joining rivers’, that is, ‘a *skáidi* where a board-shaped boulder is situated’
- *Beahcell/johka* ~ *Beahcelah/johka* < *beahci* ‘pine’ + *leagi* ‘river valley’ GenSg + *johka* ‘river’, that is, ‘the river that flows in the valley *Beahceleahki* (‘pine valley’)’.

The synchronic status of the reduced components varies from a transparent shortened form (e.g. *jár-* < *jávrrri* ‘lake’, *joh-* < *joga* ‘river’) to complete opacity (e.g. *-l-* << *leagi*, *-dah-* << *geađggi*). The truncation of certain central topographic terms (e.g. *jávri* ‘lake’, *johka* ‘river’, *njárga* ‘headland’, *várri* ‘mountain’) is actually obligatory, but in other cases the process is unsystematic and affects only individual names. Of course, irregular phonological reduction of toponyms is not in itself a particularity of Saami, as lexemes become converted into opaque toponymic formants in much the same way in many other languages, too. However, the details of such processes are language-specific. For instance, in Estonian, generics are highly susceptible to reduction (KALLASMAA 2000: 28–62), but in Saami, generics almost never become reduced—in contrast, reduction and truncation affect almost exclusively the specifics of derived names.

It is evident that when such reduced forms are borrowed into Finnish they produce etymologically opaque forms that can at best only be partially explained, if the Saami name is not attested. For example, the name *Goahppelaš/johka* has been borrowed into Finnish in the form *Kuoppilas/joki*. If an identical toponym was encountered in central or southern Finland, it would be quite reasonable to assume that it contained the PS word **koappēlē* ‘wood grouse’, but it could no longer be deduced that the formant *-(a)s* is a reduced relic of the PS noun **āvčē* ‘gorge, ravine’—it might, in fact, appear more plausible to mistakenly analyse the *-s* as a reflex of the Saami diminutive suffix: cf. compare the homonymous diminutive form *goahppelaš* ‘little wood grouse’. Thus, a southern Finland substrate name such as *Siitoin/mäki* might ultimately reflect, for instance, PS **siejtē-oajvē* (**siejtē* ‘rock or stone



idol' + **oajvē* 'head; roundish mountain'), but there is no way to verify or falsify exact reconstructions of this kind.

Thus, it is necessary to reckon with various processes of suffixation, restructuring and reduction both in the source and the target language when analysing Saami substrate toponyms in Finland. Because of such processes it is a common situation that the Saami origin of a given toponym (or strictly speaking, the Saami origin of one of its lexical components) can be verified, but the inner structure of the original name can no longer be reconstructed. Consequently, the morphological and structural criteria for acceptability cannot be set as strictly as the phonological ones; the 'total accountability principle' of etymological research cannot be strictly applied in the case of substrate toponyms. The approach to the material must be predominantly lexical: the identification of the Saami lexemes that occur in the substrate names is most crucial.

Then again, while it is to be expected that many Saami substrate toponyms contain the kind of obscured morphological material discussed above, this does not mean that one may accept any kind of morphological arbitrariness in the etymologies. At least the segmentation between the root and the suffixes or formants must be based clear on phonotactic arguments. On the basis of Saami root structure a root must contain at least 1) an optional consonant initium, 2) a vowel centre, 3) a consonant or consonant cluster following the vowel (the so-called 'consonant centre'), and 4) a second syllable vowel, unless deleted before a vowel-initial suffix or via syncope. Thus, one can accept such segmentations of place names as *Siita-ma*, *Seittye*, *Siit-iö-n/vuori*, but arbitrary morphological segmentations would easily lead to haphazard root etymologising.

2.4. Denotative and systemic criteria

No semantic correspondence in the true sense of the term can exist between a proper name and its assumed loan original. Because etymologically linked words are normally identified on the basis of both their form and their meaning, this "lack of semantics" produces a methodological problem. It is naturally not sufficient merely to compare place names to formally similar Saami lexical items. This problem can be avoided by applying two substitutive criteria, which can be called the 'denotative' and the 'systemic' criteria.

The denotative criterion means that the lexical content of the reconstructed loan original must be compared with the characteristics of the place the name denotes; in some cases the naming motive can be reliably identified. In an ideal case a mere look at a detailed map, such as The Basic Map of Finland on a scale of 1:20 000, suffices to reveal the motive. A couple of examples can be given. Finnish lake names of the shape *Kukasjärvi*, *Kuk-*



kas/ järvi, Kukkanen, etc. all denote lakes of oblong form and thus match perfectly with PS **kukkē(-s)* ‘long’ (see Illustration 1 for examples). PS **kuotkōj* ‘isthmus; narrow promontory’ is reflected in names connected with promontories (Illustration 2). There are two large and narrow bays called *Vuonamo-n/lahti* in central Finland, which match well with PS **vuonē* ‘fjord; large, narrow bay’ (Illustration 3). Lake names of the shape *El-*, *Il-* discussed above (see 2.3.) typically denote lakes that are the uppermost in their water systems (Illustration 4), which matches perfectly with the semantics of the PS spatial noun root **ēlē-* ‘high, up, above’.

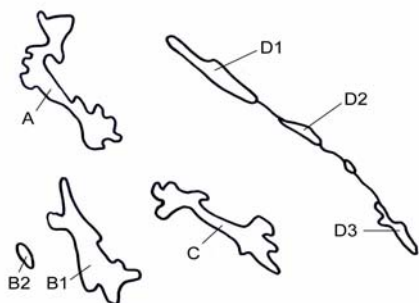


Illustration 1.

Lake names reflecting PS **kukkē(-s)* ‘long’.

- A) Lake *Kukasjärvi* (Mäntyharju).
 B) Lakes *Iso-Kukkamo* (1) and *Vähä-Kukkamo* (2) (Keuruu).
 C) Lake *Kukkasjärvi* (Kuhmoinen).
 D) Lakes *Iso-Kuukka* (1), *Pikku-Kuukka* (2) and *Salmi-Kuukka* (3) (Uurainen).

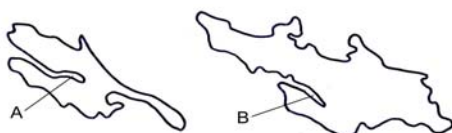


Illustration 2.

Names reflecting PS **kuotkōj* ‘isthmus; promontory’.

- A) *Kotkuunniemi* Headland in the lake *Saarijärvi* (Enonkoski).
 B) *Kotkonniemi* Headland in the lake *Pyhäjärvi* (Hauho).

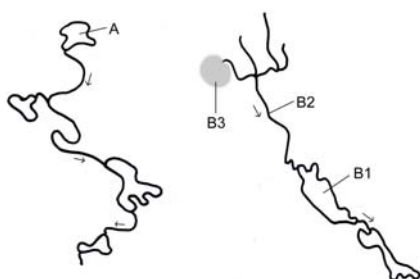


Illustration 3.

Names reflecting PS **ēlē-* ‘up, above’, **ēlēmūs(s)ē* ‘uppermost’.

- A) Lake *Elimysjärvi* (Kuhmo).
 B) Lake *Ilajanjärvi* (1), the river *Ilajanjoki* (2) and the bog *Ilajansuo* (3) (Ilomantsi).

**Illustration 4.**

A name reflecting PS **vuonē* ‘fjord; large and narrow bay’.
 A) The bay *Vuonamonlahti* in lake Nilakka (Keitele).

Also cliffs, rocks and screens are well indicated on The Basic Map, and this allows the verification of such etymologies as *Kelk/järvi* (a large lake with rocky shores; Luumäki) < PS **keadkē* ‘stone, rock’ (> SaaN *geadgi*), *Päht/saari* (a rocky islet; Haukivuori) < PS **pāktē* ‘cliff, rock’ (> SaaN *bákti*), and *Rappaat/vuori* (a rocky hill surrounded by rough and rocky terrain; Konnevesi) < PS **rāppēs* ‘rough and rocky (of terrain)’ (> SaaN *rāhpis*). Occasionally, useful information on the surrounding terrain can also be retrieved from the Archive of Names. For instance, the connection between the hill name *Vuontee-n/mäki* (Karkkila) and PS **vuontēs* ‘sand’ (> SaaI *vuodās*) is verified, as a file card in the archive happens to state that the soil of the hill is sandy. However, information of this sort has only rarely been registered during the gathering of place names.

It is much more difficult to deduce the soil type from the basic map, but occasionally this can be done. For example, the connection between the name *Mellis/niemi* (a promontory in lake Nilakka; Pielavesi) and PS **miellē* ‘sandbank, steep bank of a river or lake’ (> SaaN *mielli*) can be verified on the basis of the patches of open sand indicated on the shore of the adjacent lake. The etymology is also supported by the nearby Finnish place name *Santal/harju* (‘sand-ridge’), which demonstrates that the soil in the area is sandy.

The Map of Quaternary Deposits (Fi. *Maaperäkartta*, published by The Geological Survey of Finland [Fi. *Maanmittaushallitus*]) occasionally provides useful information on soil type, even though the maps published at present systematically cover only the southernmost part of the country. For instance, the name of the strait *Vuontee-n/salmi* (Laukaa) can be safely derived from PS **vuontēs* ‘sand’ (> SaaI *vuodās*), since according to the map the strait has silty terrain on both sides. However, the information is often not detailed enough to allow the verification (or the rejection) of an etymology, because soil maps naturally provide no description of what the earth’s surface looks like. For example, the place names *Mello-n/mäki* (Imatra) and



Mella-n/niemi (Jyväskylä rural municipality) may well reflect PS **miellē* ‘sandbank, steep bank of a river or lake’, but it is not possible to deduce whether there is any open sand or gravel on the ground in these places. On the Map of Quaternary Deposits the soil in the former place is classified as “ridges and other glacial deposits” and in the latter as “moraine”.

There are also other types of etymologies where concerning which the naming motive could in principle be verified, but maps and other easily accessible sources are of little help. This is often the case when the etymology involves a word pertaining to vegetation; examples include *Supa/vuori* (a hill; Luopioinen) ? < PS **supē* ‘aspen’ (> SaaN *suhpi*), *Visu/lahti* (a bay; Mikkelin) ? < PS **vëšō* ‘thicket’ (> SaaSk *vââšš*), *Listo-n/niemi* (a headland; Konginkangas/Sumiainen) ? < PS **lëstō* ‘grove’ (> SaaSk *lâstt*, SaaN **lastu* in place names), *Suuri-Läänä*, *Pieni-Läänä* (two lakes; Pieksämäki/Virtasalmi) ? < PS **lāñā* ‘young birch; dense forest’ (> SaaN *lātñjā*), *Poska-n/lähteet* (springs; Teuva) ? < PS **pockē* ‘Angelica plant, used as food and medicine by the Saami’ (> SaaN *boska*). Furthermore, one must also take into account that vegetation is liable to change over time, especially due to human activity. In any case, on typological grounds these etymologies are quite promising as they presuppose naming motives which are banal and unmarked. The last example seems likely also because Angelica plants typically grow near springs.

The verification of some etymologies might be possible on the basis of aerial photographs, but this could not be attempted for the purposes of this paper. However, in many cases the only solution may be to examine the place on site. Conducting field work of this sort might turn out to be interesting from other perspectives, too. For instance, rock formations with names reflecting PS **siejtē* ‘rock or stone idol’ (> SaaN *sieidi*) most probably involve ancient Saami sacrificial sites, and it would at least be worthwhile documenting these places in photographs.

The application of the denotative criterion can naturally yield a positive or a negative result only in those cases in which the original naming motive involves a permanent characteristic of the place in question. Because only a minority of place names in any language are of this type, it would be excessive to require this level of exactness from an acceptable substrate etymology. Thus, it is necessary to find another way to sort out the probable cases in the remaining material to which the denotative criterion does not apply.

This sorting out is possible because place names form a model-based system, and a stratum of substrate names can thus be analysed as a set of fragmentary remains of a lost name system. The number of productive patterns of naming in any language is always rather limited, and thus only a small



fraction of a language's vocabulary frequently occurs in toponyms; the nomenclature has a basic vocabulary of its own which is not universal but language-specific. A thorough analysis of a sufficiently wide sample of material can reveal widespread substrate name types which reflect the toponymic basic vocabulary of the source language. Reliable results can be achieved by searching for substrate counterparts for those name types which are both common and archaic in the present-day Saami languages. Thus, the uncertainty caused by lack of semantic constraints on the level of individual etymologies is compensated for by the lexical and typological constraints that apply to the material as a whole.

Of course, it is not necessary to extend this requirement to every single borrowed name type that occurs in the material. All naming patterns are not locationally and temporally stable; the place name system is affected by both internally and externally motivated innovations like every other subsystem of language, and thus "dialectal differences" inevitably emerge through time also in the nomenclature if the language is spread over a sufficiently wide area (see e.g. KIVINIEMI 1977). An example of such a difference is provided by the names of the uppermost lakes of the shape *El-*, *Il-* discussed above. In present-day Saami the spatial noun root **ēlē-* 'up, above' is no longer used to denote the relative position of bodies of water, as it has been replaced in this function by the root **pējē-* 'up, above' (> SaaN *badji-*). However, the former root derives even from Proto-Uralic **ūli-* 'up, above' and is thus clearly an archaism, whereas PS **pējē-* is of unknown origin. The Finnic cognate of PS **ēlē-*, Finnish *ylä-* 'up, above', is still entirely productive in hydronymic formation.

The 'systemic criterion' thus determines that substrate names must be analysed as members of the place name system to which they once belonged. Instead of employing an atomistic approach which concentrates on the explanation of individual names, attention must be paid both to recurring name types and to the overall semantic and lexical coherence of the material. The corpus of loan names should show evidence of systematic naming patterns in the donating language which, in addition to individual name types, also involve wider semantic fields. The demonstration of such typologically natural patterns of naming is a fundamental methodological requirement in research on substrate toponyms.

The most fruitful results can probably be obtained via a two-way approach to the material. On the one hand, widespread Finnish name types of unclear origin are compared to the vocabulary and place name systems of the living Saami languages; on the other, substrate counterparts for name types that are widespread in Saami are sought for in the Finnish nomenclature. Once systematic correspondences between Finnish place name elements and the



Saami ‘toponymic basic vocabulary’ are established, it is possible to add also etymologies involving rarer name types, if they accord with the general patterns of naming that manifest themselves in the substrate nomenclature. A good example of such a general-level semantic pattern in Saami substrate toponyms is the frequent occurrence of terminology connected with wild reindeer. It is well-established that hunting wild reindeer was formerly an important means of livelihood for the Saami, and this correlation between the results of linguistics, ethnography and history thus lends support to the etymologies in question. Some examples from southern Finland can be given; this list is far from exhaustive.

- PS **kontē* ‘wild reindeer’ (SaaN *goddi*) > *Konta-n/kallio* (Hollola), *Kontan/järvi* (Pihtipudas), *Konne/vesi* (Konnevesi/Rautalampi/Vesanto), *Konni/vesi* (Heinola), *Konni-n/mäki* (Leppävirta); der. **kont-ējē-* ‘to hunt wild reindeer’ ? > *Konttima/lakso* (Isojoki).
- PS **livē-* ‘rest of (wild) reindeer’ (SaaN *livva-*) > *Liva-n/niemi* (Korpilahti), *Liives/järvi* (Längelmäki), *Livo-n/saari* (Askainen), *Livu-n/niemi* (Puumala).
- PS **toalvē* ‘trot of wild reindeer’ (SaaN *doalvi*) > *Tolva-n/selkä* (Puumala), *Tolvas/lahti, -niemi* (Joutsa), *Tolva-n/niemi* (Savonlinna).
- PS **muojdē* ‘hunting of wild reindeer in winter’ (SaaI *myejdi*) > *Moi-tus/maa* (Vammala), *Mojas/järvi* (Keuruu), *Moit/järvi* (Luumäki), *Moit-an/oja* (Kuusjoki).
- PS **āḡkēs* ‘hunting fence with nooses or pit traps placed in the gaps (for trapping wild reindeer)’ (SaaN *ákkis*) > *Ānkäs/vuori* (Hattula), *Angas/lahti, -niemi* (Ruoholahti), *Ānkää* (Nummi-Pusula), *Anges/selkä* (Hartola).
- PS **čuolō* ‘hunting fence which leads wild reindeer into a trap or to hunters in wait; barrier which leads salmon into the a weir’ (SaaN *čuollu*) > *Juolunka/järvi* (Kuhmo), *Juolu* (Ullava), *Juolu/harju* (Kälviä), *Juolu/mäki* (Sulkava) (see RÄISÄNEN 1995: 538–539).
- PS **pearttō-* ‘stalk game (especially wild reindeer?; verb)’ (SaaS *bearh-toe-* ‘hunt’, SaaI *perttu-* ‘stalk game’, SaaN [der.] *bearttuš* ‘a trap between two trees [for trapping a wild reindeer]’) > *Pertoma/niemi* (Luumäki).
- PS **orēkkē* ‘reindeer bull in its second year’ (SaaL *årek*, SaaN *varit*) > *Urika-n/järvi* (Hyvinkää).
- PS **ronō* ‘female reindeer which has not calved’ (SaaN *rotnu*) > *Runo/vuori* (Jämsä).
- PS **kolkōkkē* ‘exhausted male reindeer after the rutting season’ (SaaN *golggot*) > *Kolkut/niemi* (Uukuniemi).
- PS **kērēkkē* ‘male wild reindeer?’ (SaaS *gírrehke* ‘three or four-year-old male reindeer’, SaaI *kaareeh* ‘male wild reindeer with long hair on the neck’) > *Kiraka-n/järvi* (Perniö).



Many potential substrate toponyms are not as easily analysed from the systemic point of view, because also rare and semantically extraordinary types of place names exist in all languages. When such names have been borrowed into a new language during language shift the methods of etymological research are usually too limited to analyze them reliably for reliable analysis. To take an example, place names with verbal specifics are quite a productive category in Saami. Such names are typically based on unique or extraordinary events, and because of this they may contain action forms (with the SaaN suffix *-(a)n*) of a very diverse array of verbs. Compare, for example, the following North Saami place names:

- *Deavkkih-an/johka* < *deavkkihit* ‘appear dimly for a brief moment’ + *johka* ‘river’
- *Gávnastadda-n/cahca* < *gávnastaddat* ‘keep on laughing’ + *cahca* ‘narrow pass (e.g. between fjells)’.
- *Hoigad-an/oaivi* < *hoigadit* ‘push, shove (once or suddenly)’ + *oaivi* ‘roundish mountain’
- *Nollá-n/savu* < *nollát* ‘squat with one’s clothes hanging down’ + *savu* ‘smooth waters in a river’
- *Oadaš-an/jávrrri-t* < *oadašit* ‘keep on sleeping’ + *jávrrri-t* ‘lakes (NomPl)’
- *Vanad-an/maras* < *vanadit* ‘laze, idle’ + *maras* ‘birch forest surrounded by bogs’.

A subject or an object can also be incorporated into a deverbal name:

- *Bisso-čuolla-n/várri* < *bissu* ‘gun’ + *čuollat* ‘chop, hew to pieces’ + *várri* ‘mountain’
- *Gádjá-riegád-an/jávri* < *Gádjá* ‘a woman’s name (GenSg)’ + *riegád* ‘be born’ + *jávri* ‘lake’
- *Hearge-dušša-n/láttu* < *heargi* ‘reindeer bull’ + *duššat* ‘drown’ + *láttu* ‘pond’
- *Hiitta-luhčče-n/várri* < *hiitta* ‘hind of trousers’ + *luhččet* ‘shit (verb) (when one has a loose stomach), mess up with diarrhoea’ + *várri* ‘mountain’
- *Likse-biđđi-n/várri* < *liksi* ‘fish oil’ + *biđđit* ‘to fry’ + *várri* ‘mountain’
- *Olmmoš-čuohppa-n/johka* < *olmmoš* ‘human’ + *čuohppat* ‘cut (up)’ + *johka* ‘river’
- *Ruito-cuvke-n/čopma* < *ruitu* ‘cauldron’ + *cuvket* ‘break (transitive verb)’ + *čopma* ‘hill’
- *Váibmo-bávččag-an/jávri* < *váibmu* ‘heart’ + *bávččag* ‘hurt’ + *jávri* ‘lake’.

Evidently, when place names of this kind are borrowed into Finnish they become rather difficult to reliably etymologise, because there are hardly any semantic constraints on what verb roots the name can be compared to. Thus,



one can only speculate that such opaque Finnish place names as, for example, *Kieruma-n/lahti* (Hämeenkyrö) and *Viesimo-n/joki* (Kiihtelysvaara) might originally be Saami deverbal names based on PS *čierō- ‘cry’ (> SaaN *čierrut*) and *viesē- ‘become tired, exhausted’ (> SaaN *viessat*), respectively. However, there should be no obstacle to accepting substrate etymologies involving deverbal names in those cases in which the motive perfectly accords with the broader-level semantic patterns that are attested in the material, such as the abundance of names based on hunting and fishing. Thus, etymologies such as *Pertoma/niemi* (< PS *pearttö- ‘hunt, stalk game’ > SaaI *perttu-*, SaaS *bearhtoe-*), *Konttima/lakso* (< PS *konti-j- ‘hunt wild reindeer’ > SaaN *godde-*), *Naakkima* (< PS *nākē- ‘sneak, approach covertly [e.g. game]’ > SaaN *njáhka-*), *Kuolimo* (< PS *kuol-ējē- ‘fish (verb)’ > SaaN *gulle-*) and *Kiesimä* (< PS *keasē- ‘pull, drag [e.g. a fishing net]’ > SaaN *geassi-*) appear quite plausible.

Special caution should also be exercised in comparing place name elements with other proper names. In general, comparisons with an element that is only attested as a component of Saami place names should be discarded. In such a case the comparison would be restricted by no semantic constraints on either the receiving or the donating side and the number of possible etymological combinations would accordingly rise exponentially. For the same reason, one should treat with suspicion comparisons between Finnish place names and Saami pre-Christian personal names which are unattested as appellatives (see section 1). Such etymologies can be considered plausible only if it can be demonstrated that the personal name in question is very old and has been widely used among the Saami.⁷ Moreover, there regrettably exists no detailed study of old Saami personal names, which makes research in this direction all the more difficult.

2.5. Criteria of age

At least in southern Finland, where Saami habitation has in many areas receded quite early, postulating loan originals that may themselves be of quite recent origin in Saami should be avoided. The Saami loan original should

⁷ This methodological criticism applies *mutatis mutandis* to comparisons with other languages, too. For instance, it is well-established that many old settlement names in Finland are based on Germanic personal names. However, during recent decades this line of research has been taken to excesses by freely comparing Finnish place names to any vaguely similar Germanic personal name (VAHTOLA 1983 serves as an example of such a study). It is evident, though, that a method which recognises hardly any typological and phonological constraints will produce a large number of erroneous etymologies.



preferably have a wide distribution in the present-day Saami languages so that the etymon can be assigned at least a Proto-Saami status. If the word has a restricted distribution, there should be no signs of late origin: it should not be sound symbolic or show the kind of irregular sound correspondences that may point to inter-dialectal borrowing. If possible, some additional evidence showing the great age of the word should be presented. This may include etymological cognates outside Saami.

In some cases the word can also be traced in Saami place names even though it has disappeared from use in many areas. For example, the Saami words **kuomčē* ‘bear’ (> SaaN *guovža*), **muojdē* ‘hunting of wild reindeer in winter’ (> SaaI *myejđi*) and **vuontēs* ‘sand’ (> SaaI *vuodās*) have not qualified for LEHTIRANTA’s common Saami vocabulary (1989) due to their restricted attestation in dictionaries, but they nevertheless occur in place names over a wide area in both western and eastern Saami and can thus be safely assigned Proto-Saami status. Sometimes the word may have disappeared almost completely before attestation. The Saami cognate of Finnish *taival* ‘isthmus; journey’ has been only rudimentarily recorded as an appellative in Skolt and Akkala Saami: obsolete Skolt Saami *tuibal* (? = **tuuibâl*) ‘area between lakes, etc.’ (T. I. ITKONEN 1958: 612). Nevertheless, the word has been preserved in many place names over a wider area: compare, for example, *Duoibal* and *Duoibala-t* (NomPl), two ranges of fells surrounded by lakes on the border of northern Sweden and Norway, and *Duoibbelljohka*, a river in the municipality of Karasjok, Norway. (The cognation of Finnish *taival* and Saami **tuojpēlē* was tentatively suggested by T. I. ITKONEN [1958: 1023], but this suggestion has mostly gone unnoticed; cf. SSA s.v. *taival*.)

If the assumed loan original itself is a Germanic or Scandinavian borrowing in Saami, the loanword should display a wide or uniform distribution in Saami. Proto-Scandinavian borrowings were also adopted by the Saami languages once spoken further south in Finland and Karelia, as shown by the fact that some of them have been further borrowed via Saami into the Finnish dialects. Examples of such words include for example the southeastern dialect words *sunta* ‘mild weather in spring, etc.’ < PS **suntē* ‘unfrozen; opening in ice; sound’ (> SaaN *suddi*) < Proto-Scand. **sunda-* ‘sound’; *ume* ‘mist’, *umea* ‘misty, murky’ < PS **(h)umV-* ~ **(h)omV-* (> SaaI *omo* ‘mist’, SaaS *hovme* ‘snowfall with poor visibility’) < Proto-Scand. **hūma-* (cf. Old Norse *húm* ‘dusky, half-dark’); *äimä* ‘fool’, *äimistyä* ‘be stunned, amazed’ < PS **eajmē* ‘fool’, *eajmēskēs* ‘foolish, stupid; one who likes to keep him/herself’ (> SaaN *eaibmi*, *eaimmaskas*) < Proto-Scand. **haimiskaz* ‘stupid, foolish’. In these cases Saami mediation is proved by a shared semantic innovation (‘sound’ > ‘opening in ice’ > ‘unfrozen’) or by the absence of a



substitute for the Scandinavian *h*; because Proto-Saami had no phoneme *h*, this foreign sound was dropped in borrowings.

Thus, one can assume that the extinct Saami languages in southern Finland and Karelia possessed a number of Proto-Scandinavian loanwords. One can accept such Saami loan etymologies for place names similar to *Raasa-n/suo* (a bog; Harjavalta) < PS **rāsē* ‘grass’ (> SaaN *rássi*) < Proto-Scand. **grasa-* id., and *Mella-n/niemi* (a promontory; Jyväskylä) < PS **miellē* ‘steep bank, sandbank’ (> SaaN *mielli*) < Proto-Scand. **melha-* ‘sandbank, heap of sand’. The words in question show a wide distribution in present-day Saami (LEHTIRANTA 1989 no. 668, 1025), and thus appear to have been adopted before the breaking up of Proto-Saami. However, it would be hazardous to include Scandinavian borrowings which are only attested in western Saami in the comparative material.

2.6. Alternative etymologies

It is not rare that one synchronic name type is heterogeneous in origin. The plausibility of the alternative etymologies should be determined in each individual case separately, and the denotative criterion often helps in choosing between alternatives. An example is provided by the numerous place names in Finland with the form *Soin-* and *Suin-*, which can be compared at least both to PS **suojnē* ‘grass, hay’ (> SaaN *suoidni*) and to the obsolete personal name *Soini* ~ *Suini* (cf. RÄISÄNEN 2003: 127–128), formerly possibly also an appellative meaning ‘squire’, which is of Germanic origin (SKES s.v. *soini*). If the primary name denotes a topographic object which accords with the putative ‘grass’ motive, Saami origin is probable (it is in principle possible to examine the vegetation in every place, even though in practice this may be difficult). On the other hand, as regards habitative names, comparison to a personal name is in general more likely. An example of the former kind of etymology is the bay *Suina-n/lahti* in lake Iso-Jälä (Siilinjärvi), which on The Basic Map is indicated as having paludifying, rushy shores. Examples of the latter are the village names *Soini* (Soini) and *Suinula* (Kangasala and Kuorevesi). It goes without saying that in some individual cases it is difficult to choose between possible alternatives.

Sound substitutions occasionally lead to situations in which a borrowed name element either by chance coincides with a Finnish word or is adopted in such a close form that it becomes folk-etymologically contaminated. While it is in some cases difficult to make a decision between the various alternative etymologies, the folk-etymologically distorted cases can usually be sorted out on the basis of denotative and typological criteria. A well-known example is provided by the numerous lake names reflecting PS **kukkē(-s)* ‘long’ (> SaaN *guhkki*, *guhkes*), which were already discussed above. Such



names as *Kukkasjärvi*, *Kukkanen* are formally identical with Finnish *kukkanen*, (casus componens) *kukkas-* ‘flower (deminutive)’, but this kind of etymology could not be accepted on semantic grounds, as concluded by RÖNNBERG (1980) in her thorough analysis of this substrate name type. Firstly, a word meaning ‘flower’ (not to even mention a diminutive of such a word) provides no natural naming motive for any larger body of water. As expected, the non-diminutive form *kukka* is almost unattested in Finnish lake names; the only existing case, *Kukka järvi* (Heinola), is a mere folk-etymologically contaminated name of identical Saami origin. Secondly, it would remain a mystery why an appellative for ‘flower’ had been used exclusively in names of lakes of oblong form. On similar grounds it is likely that *Iso Kukkojärvi* (Längelmäki), the name of a long and narrow lake, is also of Saami origin and has secondarily become contaminated by the Finnish *kukko* ‘rooster’. It appears most unlikely that the name of a lake over two kilometers in length could have been motivated by ‘roosters’; this hypothesis is supported by the typological observation that there are no other lake names of the shape *Kukkojärvi* ‘rooster-lake’ in Finland.

Another example is provided by PS **kontē* ‘wild reindeer’ (SaaN *goddi*). It is highly probable that this word is reflected in place names of the shape *Kontta-*, *Konta-n-*, such as *Konta-n/räme* (Kälviä), *Konta-n/järvi*, *-joki*, *-neva* (Pihlajavesi), *Konta-n/kallio* (Hollola), and *Kontta/neva* (Ylivieska). There exists, though, a Finnish verb *kontata* : *konttaa-* ‘crawl on all fours’ and a noun **kontta* showing a defective paradigm (cf. e.g. *konta-lla-an* ‘on all [his/her] fours’, AdessSg + 3SgPx). It would be semantically most unnatural to assume that these words occurred in place names. By contrast, the Saami word for ‘wild reindeer’ provides a typologically unmarked motive for the names, as the hunting of wild reindeer was an important means of livelihood for the medieval Saami of southern Finland. On the other hand, there are numerous Finnish place names containing the words *kontti* ‘birch bark knapsack’ or ‘bone; shin, shinbone’, *kontu* ‘farm, dwelling, homestead’, *konto* ‘sphagnum bog’, and *kontio* ‘bear’ as their qualifier. These name types presumably also include folk-etymologically reinterpreted reflexes of PS **kontē* ‘wild reindeer’, but this can probably never be proved.

An example of a rather tangled etymological skein is provided by names of the shape *Lump-* ~ *Lumm-* and their relation to both the Finnish *lumme* : *lumpee-* ‘water lily’ and PS **luompē* ‘pond, small lake’. In present-day Saami this word has only been preserved in the derivative **luompēl* ‘small lake along a river’ (> SaaN *luoppal*), but it has an underived cognate in Finnish (*lampi* ‘pond, small lake’), and the substrate toponyms in southern Finland apparently also reflect this basic root and various parallel derivatives. However, in many individual cases it is difficult to determine whether



the name in question is a substrate item or an autochthonous formation. There are unambiguous examples of both Saami substrate names (e.g. the lake names *Lumperoinen* (Saarijärvi) and *Lummene* (Kuhmoinen) discussed by T. ITKONEN, 1993b) and of Finnish formations (e.g. the numerous pond names of the shape *Lumme/lampi* ‘water lily pond’).

Nevertheless, there remain a number of borderline cases, and it seems evident that substrate names of Saami origin have become folk-etymologically mixed with names based on the Finnish word *lumme* ‘water lily’. For instance, one can surmise the former existence of a Saami diminutive derivative **luompē-kkē(-s)* ‘pond, small lake’ on the basis of such names as *Lummukas ~ Lumpukka* (a small lake; Vihti), *Lummakko* (a field name, formerly a paludified pond; Lieto), *Lum(m)ukas/suo ~ Lumpukas/suo* (a bog with two ponds in it; Suomensjärvi), *Lummukka* (a lake; Konnevesi), and *Iso, Vähä Lummukka/järvi* (two now paludified small lakes; Kauhava). However, some of these names may be based on the Finnish appellative *lumme* ‘water lily’ (dialectally also *lumpukka*, etc.). Nevertheless, water lilies do not typically grow in swampy lakes. Lake *Lummukka* in Konnevesi, on the other hand, is over two kilometres long and thus too large to accord with the ‘water lily’ motive. This case is probably best interpreted as a substrate name with an ironical motive: the lake has been named PS **luompēkkē* in contrast to the adjacent major lake Konnevesi, which is over 20 km long.

In addition to the type *Lummukka* there are also a number of ponds and small lakes with names such as *Lumpunen, Lumpeinen*, etc. Formally, there would be no obstacle to analysing these as substrate names consisting of PS **luompē* ‘pond’ and the Finnish diminutive suffix *-nen*. However, the file cards on some of these names in the Archive of Names explicitly state that water lilies grow in the lake in question. Thus, in many cases an autochthonous etymology provides a more likely alternative. However, it is impossible to conclusively solve the origin of each individual name of this name type. What can be said, though, is that the lake and pond names of the shape *Lump- ~ Lumm-* are heterogeneous in origin, containing both autochthonous Finnish formations and Saami substrate names. This overall opacity should, nevertheless, not obscure the fact that in many individual cases it is possible to quite reliably determine the origin of a name of this type.

Finally, one must take into account a special kind of folk etymology, the *ad hoc* coinage of appellatives to account for place names. During the gathering of place names, field workers often ask whether there is any information on the meaning or the origin of an opaque place name. In such situations it can occur that the informant, possibly subconsciously, makes up an appellative that “explains” the name in question. Thus, in the data gathered in the Archive of Names, one occasionally encounters hapax legomena, the existence



of which receives no support from the over eight million file cards in the Lexical Archive of the Finnish Dialects. A couple of examples can be given.

The name of a bay *Livu-n/lahti* in lake Lake Päijänne (Korpilahti) can be compared to PS **livē* ‘rest of (wild) reindeer’ (> SaaN *livva-*), on which also many other names of similar shape in Finland appear to be based. According to the file card in AN, in Korpilahti the word *livu* denotes ‘shallows in a lake’ (“tarkoittaa paikkakunnalla matalaa kohtaa, matalikkoo järnessä”), but this information receives no support from LAFD, so its reliability can be reasonably suspected. A somewhat similar case is involved in the name *Paahta-n/kallio* (Äetsä), a cliff, and *Paahta*, a field or meadow located under the cliff, which evidently reflect PS **pāktē* ‘cliff, rock’ (> SaaN *bākti*); the latter name is clearly a retrograde formation typical of field names. According to one file card in AN, this unique name element is also known as an appellative with the meaning ‘a field situated in a forest’ (Finnish “pelto, joka sijaitsee metsässä [metsämoisio]”). However, no such word is attested in LAFD. The word was probably invented by the informant to explain the name; another possibility is that the informant’s description of the place was mistakenly interpreted as the meaning of an appellative by the field worker. The non-existence of this appellative is also suggested by another file card on the same name by a different gatherer. In this case there is no mention of an appellative *paahta*; instead, the informant suggested a connection with Finnish dialectal *paahtain* ‘buckthorn (*Rhamnus catharticus*)’, which corresponds to the literary language *paatsama*. This is evidently a folk etymology, as the cited form actually belongs to an entirely different dialect area.

While the actual existence of *hapax legomena* can often be doubted, this sort of information should not be categorically dismissed. The substrate lexicon often contains both semantically and distributionally marginal dialectal words, which in an extreme case may have been attested only once. T. ITKONEN (1993b) discusses an illuminating example, the word *vuolanne* ‘low-lying land’, attested solely from one informant in the municipality of Jämsänkoski in central southern Finland. The word is a borrowing from PS **vuolā(n)tēk* ‘low-lying land’ (> SaaN *vuolládat*). A similar case is involved in the word *ripeikkö* ‘damp, boggy terrain’ (Kesälahti), which is only attested in one file card in AN. This word is apparently a borrowing from PS **ripēkkē* ‘boghole, mudhole’ (> SaaN *rivot* ~ dial. *ribat*, SaaL *ribák*); compare also Karelian (northern dialects) *riivikkö* ‘wet, boggy terrain’, which due to the irregular sound correspondence is best analysed as separately borrowed.⁸ Distributional criteria can also be employed in the evaluation of

⁸ PS **ripēkkē* is originally a derivative of PS **ripē* ‘litter; mud’ (> SaaN *rihpa*). Note also Finnish (Far-Northern dialects) *riipi* ‘boghole’ and Karel. *riivi* ‘id.’,



etymologies. For instance, in an earlier paper (A. AIKIO 2003: 104–105), I compared the river name *Pöyli/joki* (Pöytyä) in southwestern Finland to PS **pievlē* ‘snowless patch of ground (in spring)’ (> SaaN *bievla*). However, the name more likely derives from the Finnish dialectal word *pyöli* ~ (rarely also) *pöyli* ‘detached land’, which is a borrowing from Swedish *böle* (I am obliged to ALPO RÄISÄNEN for this remark). Nevertheless, formally similar names are also attested in other parts of Finland, for example, *Pöylä-n/mäki* (Joutsa), and there is even a surname *Pöyliö* in Finnish Lapland. These names can more plausibly be compared to PS **pievlē*; the appellative *pyöli* ~ *pöyli* ‘detached land’ is only attested in a narrow area in the southwestern coastal dialects, and it can thus on distributional grounds hardly account for any place names in central inland Finland. In any case, the connection between Swedish *böle* and the surname *Pöyliö* in Lapland is certainly illusory, even though the etymological dictionary of Finnish surnames (MIKKONEN—PAIKKALA 2000 s.v. *Pöyliö*) maintains the opposite.

It is also necessary to distinguish carefully between true substrate names that are direct borrowings from Saami and place names based on a Saami loanword. For example, there are a couple of names with the element *Julku-* in Finland, for example, lake *Julku/järvi* (Ylöjärvi) and *Julku/lampi, -mäki* (Keuruu). These names contain the dialectal word *julku* ‘long pole, rod’ attested in the areas of Satakunta and central Ostrobothnia, which is a borrowing from PS **čuolkōj* ‘long pole or rod, used, for example as a lever or for pushing nets under the ice’ (> SaaN *čuolggu*); the sound substitution PS **č* > Finnish *j-* before back vowels is well-established in Saami loanwords. On the other hand, some names of this type, especially those showing the genitive form *Jul(k)u-n-*, are no doubt based on the eastern Finnish surname *Julku* ~ *Julkunen*, which is probably of different origin. None of these names need to be direct borrowings from Saami, as they may have been independently formed in Finnish. A similar case is involved in the name of the rather high and wide hill *Alkkia-n/vuori* (Karvia). The name contains the dialectal word *alkkia* ‘easy; open, wide’, which is a borrowing from PS **ālkkejē* ‘easy’ (> SaaN *ālki*, ÄIMÄ 1908: 8). In the present-day Saami languages, the word is only attested in the meaning ‘easy’ and it hardly occurs in place names, but the semantics of the Finnish loan item suggests that in the now extinct Saami languages of Ostrobothnia and Satakunta it may also have had the meaning ‘wide; open’.

which are loans from the underived noun root. SSA (s.v. *rimpi*) suggests that Finnish *riipi* may be related to Finnish *rimpi* ‘quagmire, etc.’, but this suggestion must be rejected on phonological grounds. Compare also SKES (s.v. *riipi*), where the connection with the primary root **ripē* is not acknowledged; instead, SaaN *rivot* is erroneously analysed as a Finnic loanword.



In cases of this kind one must carefully examine the dialect distribution of the relevant words. Because hundreds of recent Saami loanwords have been adopted into the Far-Northern dialects of Finnish, it is not rare for a Saami lexeme that is reflected in a substrate place name in southern Finland to be also attested as a borrowing in the northernmost dialects. For instance, *Aut/joki* (Hollola), a small river that flows through a gorge, would formally compare very well to the northern dialect word *autti* ‘gorge’. However, the appellative itself is a very recent loan from Saami (cf. PS **āvčē* ‘gorge’ > SaaN *ávži*) and hence it cannot account for any place names in southern Finland; thus, the name *Aut/joki* must be a direct borrowing from Saami. On similar grounds one may analyse, for example, the lake name *Moit/järvi* (Luumäki) as a substrate name (cf. PS **muojdē* ‘hunting of wild reindeer in winter’ > SaaI *myejđi*) even though a Saami loanword *moita* ‘id.’ is also attested in northernmost Finland.

Then again, merely looking at present-day dialectal distributions may occasionally lead one astray. In some cases it appears that a word has formerly been widely known even though the dialect attestations gathered in the 20th century reveal a restricted distribution. This is the case when a name element occurs widely uniformly, and the assumption of direct borrowing consequently becomes uncertain because of an excess of parallel cases. Place names of the shape *Tunturi(-n)-* may be taken as an example. The word *tunturi* ‘mountain, fell (used especially of the fells in Lapland)’, a borrowing from PS **tuontēr* ‘highlands, uplands, tundra’ (> SaaN *duottar*), is now a part of the standard Finnish lexicon (note also the internationalism *tundra*, which derives from the same Saami word via Russian). However, the word has spread to standard Finnish quite recently via the literary language, and reliable dialect attestations in LAFD are confined to the Far-Northern dialects. Nevertheless, the word occurs as a specific in over 50 place names in central and southern Finland, which typically denote either hills or other topographical formations located on higher ground. Thus, the word must have been widely known earlier. It would not be natural to assume that all these names were direct borrowings from Saami, especially as the name element in question occurs in a phonologically stable form. On the other hand, there is a single occurrence of the form *tontere* in south-western Finland (*Tontere-n/mäki*, Pöytyä) which, due to its deviant form, is best analysed as a direct toponymic loan.

There is another word, too, the history of which may have been similar to that of the word *tunturi*. The appellative *pieska* ‘heath between bogs or hills; shallows that dry up during a dry season’, a loan from PS **peackē* ‘shallows (in a strait); depression, hollow; precipice’ (> SaaN *beaski*), is attested in the Far-Northern dialects. In addition to this, it occurs in a dozen place names in the regions of Ostrobothnia and Satakunta. Thus, the word must once have



been known over a wider area. This is also confirmed by the fact that in two Ostrobothnian names it occurs as a generic: compare *Hieta/pieska* (< *hieta* ‘sand’, Veteli) and *Linta/pieska* (< **linta* ‘?’, Merijärvi).

Phonological instability thus emerges as an important criterion in the identification of true substrate toponyms. If an opaque name element occurs widely in a stable form, there is reason to suspect that the names are based on a lost appellative that was once productive in place name formation. An unstable and varying form of the same name element is, in contrast, an indicator of separate borrowings. An example is provided by names based on PS **jeanjē* ‘bog, swamp’ (> SaaN *jeaggi*) in southern Finland, such as *Jänkkä/lampi* (Sysmä), *Suuri, Pieni Jänkä/salo* (Taipalsaari), *Jänky* (a lake; Savitai-pale), *Jänge-n/salmi* (Parikkala). Even though there is a Saami loanword *jänkä* ~ *jänkkä* ‘swamp, bog’ in the Far-Northern dialects, which is highly productive in toponym formation, similar names in southern Finland are best analysed as direct borrowings due to their slight phonological variation. A similar example is involved in names such as *Seit/niemi* (Padasjoki), *Seitto/kallio* (Loppi), *Siittoi-n/mäki* (Nummi-Pusula; Ypäjä), *Siitiö-n/vuori* (Mie-hikkälä), *Siiti-n/vaha* (Kisko), *Siitti/kivi* (Suomussalmi), which reflect PS **siejtē* ‘rock or stone idol’ (> SaaN *sieidi*). While there is a Saami loanword *seita* ‘Saami rock idol’ in the Far-Northern dialects, this appellative does not account for the varying forms in which the Saami word is reflected in the place names of southern Finland.

3. Present results and future perspectives

The methods outlined above will leave the majority of Saami substratum toponyms in Finland unetymologised, as the criteria set for an acceptable etymology are rather strict. However, the presented framework has been designed to yield reliable evidence of the former distribution of the Saami languages, not to serve as a tool for etymologising individual place names. But regardless of what the ultimate aims of the research are, the application of strict methods to large sets of data is in any case the only fruitful approach in substratum toponymy. The study of loan names involves so many methodological limitations that the prospects of reliably explaining the origins of individual opaque names are on average quite bleak. Thus, the primary aim of etymological onomastics must be to distinguish the signal from the noise, not try to explain every piece of data.

From this point of view one may take a critical look at the results obtained by previous research. Even according to the revised criteria presented in this paper it can be considered conclusively proven that a stratum of Saami substratum toponyms covers most of inland Finland. However, the material pre-



sented by previous research (see esp. T. I. ITKONEN 1948 I, 99–107) does not contain many substrate names on the southern and south-western coast and in the immediately adjacent inland areas, and nearly all of the few previously suggested Saami etymologies for place names in this region can be considered uncertain or doubtful. Thus, it might seem that a significant ethno-linguistic boundary in prehistoric southern Finland has been located.

Notably, though, under closer onomastic scrutiny this result turns out to be only apparent. It is not difficult to point out plausible cases of Saami substrate toponyms in areas that were almost blank on T. I. ITKONEN's map, such as western Uusimaa and even Finland Proper. While no detailed analysis can be presented here, the following rather evident examples can be given (some of these names were already mentioned earlier in this paper):

- *Elijärvi*, a lake (Yläne); *Elimo/träsk-et*, a lake (a Swedish name; Pohja); *Iloittu*, a lake (Nummi–Pusula) < PS **ēlē*- ‘up, above (spatial noun)’ (> SaaN *alli*-). The lakes are the uppermost in their water systems. The last name has clearly been folk-etymologically influenced, compare Finnish *iloittu*, past participle passive of *iloitse*- ‘rejoice’.
- *Elimäki*, a hill (Vihti) < PS **ēlē* ‘high (attrib. form)’ (> SaaN *alla*). The hill is the highest in the region.
- *Kuukkaa-n/mäki*, a hill (Lohja) < PS **kukkē-s* ‘long (attrib. form)’ (> SaaN *guhkes*). This hill is situated on the shore of a long lake called Lehmijärvi (‘cow-lake’).
- *Moita-n/oja*, a small river (Kuusjoki) < PS **muojdē* ‘hunt of wild reindeer in the winter’ (> SaaN *myejdi*).
- *Outamo*, a lake (Lohja) < PS **ēvtē*- ~ **ovtē*- ‘place in front of’ (> SaaN *ovda*-). The etymology is treated in detail in NÄRHI 2002.
- *Siitoin/mäki*, a rocky hill (Nummi–Pusula), *Siitoin-n/mäki*, a small rock which according to the information in AN has “peculiar holes” (Yläne), *Siiti-n/vaha*, a large boulder (Kisko) < PS **siejtē* ‘rock or stone idol’ (> SaaN *sieidi*).
- *Tonteree-n/mäki*, a hill (Pöytyä) < PS **tuontēr* ‘highlands, uplands’ (> SaaN *duottar*).
- *Vuontee-n/mäki*, a hill with sandy soil (Karkkila) < PS **vuontēs* ‘sand’ (> SaaN *vuodās*).
- *Änkää*, a forest area (Nummi–Pusula) < PS **āṅkēs* ‘a fence and trap structure for trapping wild reindeer’ (> SaaN *ākkis*, I *äägis*).

The cases listed above are merely meant to serve as examples of the fact that there are place names of Saami origin in southwestern Finland which correspond exactly to the substrate name types attested further north. The systematic analysis and classification of this stratum of loan names remains a task for future research. There is a need to thoroughly re-examine the distribution



of Saami substrate toponyms on the basis of both more critical methods and more comprehensive materials. The distribution of the most plausible Saami elements in the Finnish nomenclature should be mapped, in addition to which the perspective should also turn to outside Finland. Various criteria suggest that the ultimate origin of the Saami language branch lies somewhere in present-day western Russia (see e.g. SAARIKIVI, 2004), and in order to clarify the prehistory of the Saami, it would be important to establish also consequences the southern Finland substrate toponymy has for uncovering the speaking areas of now extinct languages. When conducted in a critical framework, this line of study provides historical linguistics with a possibility for placing prehistoric languages on the map. Place names provide a rich source of evidence of ethnic history which has nevertheless remained largely unused in Finnish research, and etymological onomastics may thus yet have much to contribute to the ongoing discussion on the origin of the Saami and the Finns.


4. Appendix

Finnish and Saami generics that occur in place names discussed in this paper.

Finnish

<i>harju</i> ‘ridge’	<i>niemi</i> ‘promontory; headland’
<i>joki</i> ‘river’	<i>pudas</i> ‘side channel of a river’
<i>järvi</i> ‘lake’	<i>räme</i> ‘pine swamp’
<i>kallio</i> ‘rock, cliff’	<i>saari</i> ‘island’
<i>kivi</i> ‘stone, rock’	<i>salo</i> ‘woodland; (dial.) large island’
<i>lahti</i> ‘bay’	<i>selkä</i> ‘back (= Rücken); open water in a lake’
<i>lakso</i> , dialectal form of <i>laakso</i> ‘valley’	<i>suo</i> ‘bog, swamp’
<i>lampi</i> ‘pond, small lake’	<i>vaha</i> (dial.) ‘boulder’
<i>lähteet</i> , pl. of <i>lähde</i> ‘spring’	<i>vesi</i> ‘water; (in place names) major lake’
<i>maa</i> ‘land’	<i>vuori</i> ‘hill (often larger than <i>mäki</i>)’
<i>mäki</i> ‘hill’	
<i>neva</i> ‘open, treeless bog’	

Saami (North Saami unindicated)

<i>cahca</i> ‘narrow pass’	<i>oaivi</i> ‘head; roundish mountain’
<i>jávri</i> ‘lake’	<i>roavvi</i> ‘place in which a forest fire has occurred’
<i>johka</i> ‘river’	<i>skáidi</i> ‘area between two adjoining rivers’
SaaI <i>juuhâ</i> ‘river’	
 <i>láttu</i> ‘pond, small lake’	

njárga ‘promontory, point of land’ *várri* ‘mountain’

5. Abbreviations

PS = Proto-Saami
SaaI = Inari Saami
SaaL = Lule Saami
SaaN = North Saami
SaaS = South Saami
SaaSk = Skolt Saami

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Maps

Maps of Quaternary Deposits on scale 1:100 000. Geological Survey of Finland.
The Basic Map of Finland on scale 1:20 000. The National Land Survey of Finland.

Archives

AN = *Archive of Names*. The Research Institute for the Languages of Finland, Helsinki.
LAFD = *The Lexical Archive of Finnish Dialects*. The Research Institute for the Languages of Finland, Helsinki.

Databases

The NLS Topographic Database. The National Land Survey of Finland.

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