

HANDBUCH DER ORIENTALISTIK

ACHTE ABTEILUNG

HANDBOOK OF URALIC STUDIES

EDITED BY DENIS SINOR

VOLUME I

THE URALIC LANGUAGES

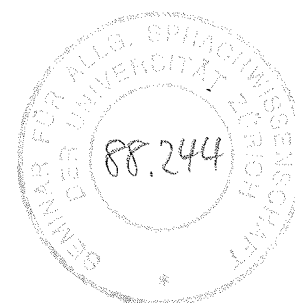


La 23 690
THE URALIC LANGUAGES

DESCRIPTION, HISTORY AND FOREIGN INFLUENCES

EDITED BY

DENIS SINOR



E.J. BRILL

LEIDEN • NEW YORK • KØBENHAVN • KÖLN

1988

Library of Congress Cataloging-in-Publication Data

The Uralic languages.

(Handbuch der Orientalistik. Achte Abteilung;
v. 1)

English, French, and German.

1. Uralic languages. 2. Uralic peoples. I. Sinor,
Denis. II. Series.

PH14.U67 1987 494 87-23884

ISBN 90-04-07741-3 (v. 1)

ISSN 0169-8524
ISBN 90 04 07741 3

© Copyright 1988 by E. J. Brill, Leiden, The Netherlands

All rights reserved. No part of this book may be reproduced or
translated in any form, by print, photoprint, microfilm, microfiche
or any other means without written permission from the publisher

PRINTED IN THE NETHERLANDS BY E. J. BRILL

CONTENTS

Preface	IX
DENIS SINOR	
Introduction	XIII
DENIS SINOR	

PRESENT-DAY LANGUAGES

× Die samojedischen Sprachen	3
PÉTER HAJDÚ	
The Lapp Language.....	41
MIKKO KORHONEN	
The Balto-Finnic Languages	58
AIMO TURUNEN	
Das Tscheremissische	84
ALHO ALHONIEMI	
The Mordvin Language.....	96
ALO RAUN	
Die syrjänische Sprache	111
KÁROLY RÉDEI	
Die wotjakische Sprache.....	131
SÁNDOR CSÚCS	
× Die ob-ugrischen Sprachen	147
I. Die wogulische Sprache.....	147
II. Die ostjakische Sprache.....	172
LÁSZLÓ HONTI	
La langue hongroise.....	197
ISTVÁN SZATHMÁRI	

THE HISTORY OF INDIVIDUAL LANGUAGES

× Geschichte der samojedischen Sprachen	219
TIBOR MIKOLA	
The History of the Lapp Language	264
MIKKO KORHONEN	
Geschichte der ostseefinnischen Sprachen	288
SEPPO SUHONEN	
Geschichte der wolgafinnischen Sprachen	314
GÁBOR BERECHKI	

THE HISTORY OF THE LAPP LANGUAGE

by

MIKKO KORHONEN

1. LAPP AS A MEMBER OF THE FINNO-UGRIC LANGUAGE FAMILY

Lapp belongs to the western branch of the Finno-Ugric language family and is most closely related to the Balto-Finnic languages (Finnish, Estonian, Karelian-Olonets, the Lude and Ingrian dialects, Veps, Votic and Livonian). There are, however, marked cultural and racial differences between the Lapps and the Balto-Finns.

When the contradiction between the linguistic affinity of the Lapps and Balto-Finns and their cultural and racial differences was noticed in an early study, scholars framed the hypothesis of language-switch. They assumed that the Lapps were originally of a different race, culture and language, who came into contact with the Balto-Finns and subsequently adopted their language (Wiklund 1896).¹ The close similarities between Lapp and Balto-Finnic have been understood as a result of the long contacts and exposure of Lapp to strong influence from Balto-Finnic (Setälä 1926, Collinder 1945, 1953, 1954).

The widely accepted view today is based on the studies of Paavo Ravila (1935, 1957) and Erkki Itkonen (1955a, 1961). They argue that Lapp and Balto-Finnic both derive from a common proto-language, Early Proto-Finnic. The speakers of this language, the Early Proto-Finns, are said to have lived to the south and east, perhaps also north, of the Gulf of Finland. Early Proto-Finnic divided into Proto-Lapp and Middle Proto-Finnic c. 1000 B.C. at the latest, or possibly much earlier, and the speakers of Proto-Lapp spread further north into the wilderness of Finland and Karelia. These areas were not uninhabited when the speakers of Proto-Lapp arrived; archeological finds reveal an earlier prehistoric settlement of Finland, Scandinavia and Karelia, but it is not known what language or languages this primitive people—the indigenous Proto-Lapps—spoke. Certainly, the sparsely scattered indigenous Lapps were assimilated by the speakers of Proto-Lapp and possibly a

¹ The language-switch hypothesis was also supported by Konrad Nielsen (1913), who saw the possibility of the Lapps being of Samoyed origin, by E. N. Setälä (1926) and also by Y. H. Toivonen (1950), who tried to find evidence of the original language, indigenous Proto-Lapp, in Lapp.

considerable part of the racial and cultural characteristics of the Lapps can be attributed to this indigenous population.

The prevalent theories about the origin of the Lapp language and people can be summarized as follows:

1) Lapp is a Finno-Ugric language and the closest related language to Balto-Finnic.

2) Anthropologically the Lapps differ from other European peoples and are, to some extent, an internally heterogeneous people. Genetically there are apparent traces of an early Fenno-Scandinavian people, whose language has left no attested trace.

3) Lapp cultural traditions are related to those of both Finno-Ugric and non-Finno-Ugric arctic peoples. The cultural differences between the Lapps and Balto-Finns can be explained primarily by environmental factors.

2. LANGUAGE HISTORY AND CONTACTS

Because written evidence of Lapp is fairly recent, the chronology of the development of Lapp is approximate; important criteria are, however, contacts with neighbouring languages, as determined by loanwords, though even these are not exact. The time from Early Proto-Finnic to modern Lapp can be roughly divided into the following periods:

1) Early Proto-Finnic (c. 1500-1000 B.C.)

2) Proto-Lapp (c. 1000 B.C.-800 A.D.)

3) Old Lapp (c. 800-1619)

4) Modern Lapp (1619-)

It is presumed that the Early Proto-Finnic period ended after the Balt contacts had begun. This is evident from the about twenty words of Balt origin in Lapp whose phonetic structure reveals their Early Proto-Finnic background, e.g. Lp. *duow'le* 'touchwood, tinder' ~ Fin. *taula* 'id.' (< **takla*), cf. Latv. *dagla*; Lp. *guoi'bme* 'mate, partner' ~ Fin. *kaima* 'namesake', cf. Lith. *kāimas* 'village', *kaimynas* 'resident of the same village, neighbour'; Lp. *luossâ* 'salmon' ~ Fin. *lohi* 'id.' (< EPF. **loše*), cf. Lith. *lāšis*; Lp. *suol'dne* 'dew, fog, summer frost' ~ Fin. *halla* 'summer frost' (< EPF. **šalna*), cf. Lith. *šalnà* 'hoarfrost, slight frost'. There are also some Balt loan-words in Mordvin and Cheremis, which possibly indicates that contacts with the Volga-Finnic tribes had not been entirely severed when the Balt contacts began. It is not possible to determine exactly the time of the initial Balt contacts, but in earlier studies the estimates were probably too late: according to Vilhelm Thomsen (1890) they occurred at the beginning of our era or a little before, Jalo Kalima (1936 pp. 31, 195) believes they began in the last centuries B.C., Erkki

Itkonen (1961 pp. 42, 100) estimated at the latest 500 B.C., possibly much earlier. Archeologists think it probable that the arrival of the Corded-Ware or Battle-Axe cultures in the Baltic area late in the third millennium B.C. is connected with the arrival of the Balts (Moora 1956 pp. 56-63, Edgren 1970, Carpelan 1975). Initially the Corded-Ware culture peoples seem to have lived in isolation from the old culture, and it has to be concluded that no linguistic contacts occurred until long after the arrival of the Balts. It has been estimated that the first Balt loan-words into Balto-Volga-Finnic or Early Proto-Finnic date from 1800-1500 B.C. On this basis the Lapp-Balto-Volga-Finnic period drew to a close at the latest 1500 B.C. and Early Proto-Finnic at the latest 1000 B.C. (Korhonen 1976). After the Early Proto-Finnic period Lapp had no direct contacts with the Balts, but the flow of loan-words continued into Middle Proto-Finnic (the proto-language of the Balto-Finnic languages) and some of these were indirectly borrowed into Lapp through Finnish.

Early Proto-Finnic was also exposed to Germanic influence as the following loan-words common to both Lapp and Balto-Finnic show: Lp. *suow* 'de 'jaws' ~ Fin. *hauta* 'grave, pit' (< EPF. **šauta*) < Germ. **saupa* 'pit, hole, spring, jaws'; Lp. *vuor* 'be 'luck, lot' ~ Fin. *arpa* 'lot' < Germ. **arbā*-; Lp. *guos* 'se 'guest' ~ Fin. *kansa* 'people' < Germ. **χansā*-. The earliest Germanic loans are estimated to have entered Early Proto-Finnic no later than the second millennium B.C. This is consistent with archeological evidence, which reveals Germano-Scandinavian influence during the Bronze Age in the Baltic area and Finland. (Koivulehto 1976, 1983.)

After the development of Early Proto-Finnic into Proto-Lapp and Middle Proto-Finnic links remained between the two languages, since numerous loan-words entered Lapp from Balto-Finnic. Phonetic and distributional criteria can be used to identify the Balto-Finnic origin of these words: Lp. *hād* 'de 'price' < BF. *hintā* 'id.'; Lp. *moar* 'se 'bride' < BF. *morsian* 'id.' (< Balt); Lp. *ād* 'det 'to give' < BF. *antaa* 'id.'; Lp. *gir* 'je 'book' < BF. *kirja* 'id.'; Lp. *mui* 'tet 'to remember' < BF. *muistaa* 'id.'; Lp. *hæg* 'gā 'spirit' < BF. *henki* 'id.'; Lp. *loap* 'pā 'end' < BF. *loppu* 'id.'.

Proto-Lapp contacts with the Germanic peoples were not entirely severed either. About two-hundred words forming a Proto-Scandinavian stratum are important in determining the end of the Proto-Lapp period. By means of phonetic and distributional criteria it is possible to demonstrate that the Proto-Lapp period ended soon after the end of Proto-Scandinavian, c. 700-800 A.D. Examples of Scandinavian loan-words in Lapp are Lp. *sai* 're, *sar* 'je 'wound' < Proto-Scandinavian **saira*, cf. Old Scandinavian *sár* (> Sw. (Modern Swedish *sår*) 'wound'); Lp. *sai* 'vā, *saw* 'jā 'fresh water, lake or river water; a lake without an outlet'

< PSc. **saiwi*, cf. OSc. *sjár*, *sjór*, *sær* (> Sw. *sjö* 'lake'); Lp. *lawkes* 'flea' < PSc. **flauha*-(z), cf. OSc. *fló*, Engl. *flea*, Ger. *Floh*; Lp. *gussá* 'cow' < PSc. **kūz*, cf. OSc. *kýr* (> Sw. *ko* 'cow'). (Wiklund 1896 p. 28, Sköld 1961.) A precise division between Old Germanic and Proto-Scandinavian loan words in Lapp has not yet been drawn.

During the Proto-Lapp period the Lapps lived over a wide area, which probably stretched from Olonets Karelia through Karelia and Finland as far as the Arctic Ocean. By the end of the Proto-Lapp period some Lapps had also settled on the Kola Peninsula and in the area around Bodö in western Scandinavia. After the Proto-Lapp period they spread even further south into Scandinavia and by the Middle Ages had reached Jämtland. In Finland and Karelia the Lapps were being absorbed into the advancing Balto-Finnic settlements and further north had partly moved out of their way.

Since the end of Proto-Lapp, loan words have been assimilated into Lapp from the Scandinavian languages, Finnish, Karelian and Russian. These words, however, did not reach all Lapp dialects and are usually only found in those that had been in the immediate area of influence of the source language.

The modern Lapp dialect groups took shape during the period of Old Lapp (c. 800-1619). Modern Lapp is reckoned from the date of the first Lapp text, 1619.

3. THE DEVELOPMENT OF LITERARY LAPP

The first known attempts to write Lapp were based on the dialects of Swedish Lapp. The oldest texts are an ABC-book and a Missal published in 1619 by Nicolaus Andreas, a priest in Piteå. In 1648 a churchman from Tornio, Johannes Tornaeus, published a collection of religious texts *Manuale Lapponicum* commissioned by the Swedish Government. The language of the texts is a mixture of the features of the Lapp dialects spoken in Northern Sweden. In the eighteenth century a literary language—that of Southern Lapp—based on the dialects of Umeå and Piteå was developed. Some religious literature was published, a catechism, an ABC-book, a handbook, hymnal, the New Testament (1755) and Bible (1811), some basic schoolbooks, calendars, etc. This literary language was used until the first half of the twentieth century. In the nineteenth century an orthography based on Lule Lapp was developed in which a few dozen items were published.

The first publication in Norwegian Lapp was produced in 1728. The orthography was developed in the eighteenth and nineteenth centuries by two priests, Knud Leem and Niels Stockfleth, but the greatest contribu-

tion was that of Jens Anders Friis, who could be called the creator of the Norwegian Lapp literary language. The orthography devised by Friis is, to some extent, still in use today, although in 1948 the new standard orthography developed by Knut Bergsland and Israel Ruong was officially adopted. This orthography takes as its base the western dialects of Norwegian Lapp and it differs markedly from Friis' orthography based on the eastern dialects of Norwegian Lapp. School-books and a few literary texts have been published in Bergsland's and Ruong's orthography; it was also used in schools.

For all practical purposes little remains of the orthography developed in the first half of this century by Konrad Nielsen, who used Friis' system as his base and made it phonetically and phonologically more precise. However, Nielsen's orthography has proved suitable for linguistic purposes and it is still used by linguists for transcribing Norwegian Lapp. It is also used in this article.

Another orthography based on Friis' system was devised by Paavo Ravila in the 1930s, and revised by Erkki Itkonen in 1950, for use by speakers of the Norwegian Lapp spoken in Finland, Mountain Lapp. It takes into account the special features of Mountain Lapp and was, until recently, used for school-books, etc. Some literature was published in this orthography and it was used in the periodical *Sabmelaš*. In 1978 it was decided to adopt a common orthography for Norwegian Lapp in Norway, Sweden and Finland, which is a compromise between the Bergsland—Ruong and Ravila—Itkonen systems.

Very few items have been published in the Inari Lapp dialect. In the Russian Lapp dialects two translations of the Gospels appeared (1878 and 1884) and an ABC-book (at the end of the nineteenth century), and a few school-books published in the USSR. In the 1970s some teaching materials were published in Finland in Skolt Lapp.

4. HISTORICAL PHONETICS

4.1. The vowel system

4.1.1. In the first syllable

The vowel system of the first syllable in Early Proto-Finnic was:

<i>i</i>	<i>ü</i>	<i>u</i>	<i>ī</i>	<i>ū</i>
<i>e</i>		<i>o</i>	<i>ē</i>	<i>ō</i>
<i>ä</i>		<i>a</i>		

During Proto-Lapp the following qualitative and quantitative changes took place:

Phase I: qualitative changes

1) Opening of short closed vowels and unrounding of *ü*: **i*, **ü* > **ē* (**nime* > **nēme* 'name', **püšä* > **pēsä* 'holy'), **u* > **o* (**tule* > **tolē* 'fire').

2) Opening of short mid vowels if the second syllable contains an open vowel (metaphony): **e* > **ε* (**pesä* > **pesä* 'nest'), **o* > **ɔ* (**kota* > **kɔtā* 'Lapp tent, hut').

3) **e* > **ē* before **ē* in the second syllable (**vere* > **vērē* 'blood').

4) Closing of short open vowels if followed by a half-closed vowel (**ē*) in the second syllable (metaphony): **ä* > **e* (**käte* > **ketē* 'hand'), **a* > **o* (**lakte* > **loktē* 'bay').

5) Neutralization of the opposition of short open vowels when followed by an open vowel in the second syllable: **ä* > **a* (**ājma* > **ajma* 'needle'), also sporadically **ä* > **ε* (**päjvä* > **pejvā* 'day, sun'); **a* > **o* (**kala* > **kolā* 'fish'), also sporadically **a* > **ä* (**vanča-* > *vāncā-* 'to walk').

Phase II: quantitative changes

6) Shortening of long closed vowels: **ī* > **i* (**pūrē* > **pirē* 'circle'), **ū* > **u* (**kūlē-* > **kulē-* 'to hear').

7) Lengthening of the vowels on the three more open levels: **e* > **ē* (**ketē* > **kētē* 'hand'), **o* > **ō* (**loktē* > **lōktē* 'bay'), **ε* > **ē* (**pesā* > **pēsā* 'nest'), **ɔ* > **ō* (**kɔtā* > **kōtā* 'Lapp tent, hut'), **ä* > **ā* (**ājma* > **ājma* 'needle').

After these developments the vowel system of Proto-Lapp was:

<i>i</i>	<i>u</i>
<i>ē</i>	<i>ō</i>
<i>ā</i>	

The quantitative changes were probably the result of marking of the intrinsic duration of vowels destroying the dichotomy of quantity found in Early Proto-Finnic: the more open the vowel the longer it becomes. The most important development in the vowel phonemes was the strengthening of the length of the vowels on the three more open levels, which resulted in the loss of the length opposition between *e-ē* and *o-ō* leaving only *ē* and *ō*. This meant that there were no phoneme pairs with quantity as the sole distinguishing feature. The strengthening of intrinsic duration also resulted in the shortening of the long closed vowels *ī* and *ū*. The quantitative opposition *i-ī* and *u-ū* in Early Proto-Finnic became clearly qualitative *ē-i* and *ō-u*.

In the vowel system of Proto-Lapp it is clear that quantity was not phonologically distinctive, merely a reflection of the degree of openness. It should also be noted that qualitatively there were five degrees of openness, which is very unusual. The quantitative distinctions certainly helped differentiate the varying degrees of openness and reduced any confusing coalescence of phonemes.

The quantitative structure of the vowel system in Proto-Lapp is reflected in the modern Lapp dialects, most regularly in Western Lapp. The Proto-Lapp short vowels (i.e. etymologically short vowels) are usually short, the Proto-Lapp long vowels (i.e. etymologically long vowels) are mostly long. In Eastern Lapp dialects the system of quantity has undergone some changes.

Phase III: velarization

8) The half-closed front vowel $*\epsilon$ velarizes to the central vowel $*\epsilon$ ($*v\epsilon r\epsilon$ > $*v\epsilon r\epsilon$ 'blood').

Phase IV: qualitative changes

9) All long vowels except $*\bar{a}$ diphthongize: $*\bar{e}$ > ie ($*k\bar{e}t\bar{e}$ > $*kiet\bar{e}$ 'hand'), $*\bar{o}$ > uo ($*k\bar{o}l\bar{e}$ > $*kuol\bar{e}$ 'fish'), $*\bar{\epsilon}$ > $e\bar{a}$ ($*p\bar{\epsilon}s\bar{e}$ > $*pe\bar{a}s\bar{e}$ 'nest'), $*\bar{n}$ > oa ($*k\bar{n}t\bar{e}$ > $*koat\bar{e}$ 'Lapp tent, hut').

10) Half-close vowels opened: $*\epsilon$ > $*\epsilon$ ($*n\epsilon m\epsilon$ > $*nem\epsilon$ 'name'), $*\epsilon$ > $*o$ ($*tol\epsilon$ > $*tol\epsilon$ 'fire').

At the end of the fourth and final phase of Proto-Lapp the vowel system was:

i	u	ie	uo	$*\epsilon > \text{LpN } \acute{a}$
ϵ	o	$e\bar{a}$	oa	$*\bar{a} > \text{LpN } a$
\bar{a}				$*e\bar{a} > \text{LpN } \bar{a}$

This is an adequate common proto-system for all the modern dialects. In many dialects it has only been modified slightly since the end of Proto-Lapp. In the central dialects the most marked difference is the opening and velarization of $*\epsilon$ to produce a or α , LpN \acute{a} (PLp. $*nem\epsilon$ > LpN $n\acute{a}m\bar{m}\acute{a}$ 'name'). In Norwegian Lapp an additional development is the monophthongization of diphthongs before an i or u in the second syllable: $ie > i$ (PLp. $*tiedij$ > LpN $didii$ pret. 3. sg. of 'to know'), $uo > u$ (PLp. $*suol\bar{u}n$ > LpN $sul'lu$ gen. sg. of 'island'), $e\bar{a} > e$ (PLp. $*pe\bar{a}sij$ > LpN $b\bar{e}sii$ gen. pl. of 'nest'), $oa > o$ (PLp. $*koar\bar{u}k$ > LpN $g\bar{o}rruk$ pres. 3. pl. of 'to sew').

4.1.2. In the second syllable

In Early Proto-Finnic only the following four vowels were possible in the second syllable:

e	o
\bar{a}	a

During the Proto-Lapp period the system underwent these changes (the phases correspond to those for the first syllable):

Phase I: qualitative changes

1) $*\bar{a}$ and $*a$ coalesced to $*\bar{a}$ ($*silm\bar{a}$ > $*\acute{e}lm\bar{a}$ 'eye', $*ilma$ > $*\acute{e}lm\bar{a}$ 'air, sky').

2) $*o$ opened to $*\bar{o}$ ($ulko$ > $*\acute{o}lk\bar{o}$ 'outer, outdoor').

3) $*e$ closed to $*\epsilon$ ($*v\epsilon r\epsilon$ 'blood').

Phase II: quantitative changes

4) open vowels lengthen: $*\bar{a}$ > $*\bar{a}$ ($*pes\bar{a}$ > $*p\bar{e}s\bar{a}$ 'nest'), $*\bar{o}$ > $*\bar{o}$ ($*\acute{o}lk\bar{o}$ > $*\acute{o}lk\bar{o}$ 'outer, outdoor'), cf. the vowels in the first syllable.

Phase III: qualitative changes

5) velarization: $*\epsilon$ > $*\epsilon$ ($*v\epsilon r\epsilon$ > $*v\epsilon r\epsilon$ 'blood').

6) fronting: $*\bar{a}$ > $*\bar{e}$ > $*\bar{e}$, in disyllabic words or if there was an $*\bar{a}$ in the third syllable ($*k\bar{n}t\bar{e}$ > $*k\bar{n}t\bar{e}$ 'Lapp tent, hut', elat. sg. $*k\bar{n}t\bar{a}st\bar{a}$ > $*k\bar{n}t\bar{e}st\bar{e}$).

Phase IV: qualitative and quantitative changes

7) half-closed $*\epsilon$ opens to $*\epsilon$ ($*v\epsilon r\epsilon$ > $*v\epsilon r\epsilon$ 'blood'), cf. the first syllable.

8) closing and shortening: $*\bar{e}$ > i if followed by a palatalized consonant or $*j$ ($*k\bar{o}nd\bar{e}j$ > $*kuondij$ pret. 3. sg. of 'to carry'), $*\bar{n}$ > u before a closed or half-closed vowel in the following syllable ($*k\bar{n}r\bar{n}m\bar{e}$ > $*koar\bar{u}m\bar{e}$ perf. part. of 'to sew').

In the final of Proto-Lapp the vowel system of the second syllable was the following:

i	u	\bar{e}	\bar{n}
ϵ		\bar{a}	

In Norwegian Lapp following Nielsen's orthography it is now:

i	u	e	o
\acute{a}		a	

4.1.3. Contracted Vowels

Lapp contracted vowels developed in Late Proto-Lapp after the loss of intervocalic $*j$ in a closed syllable after an unstressed syllable and

sometimes possibly after the loss of **d* (**δ*), **g* (**γ*), **s* (**z*), **ń* or **v* which resulted in the contraction of the adjacent vowels, e.g. PLp. **meñejem* > *meñim* > LpN *mánnim* pret. 1. seg. of 'to go', PLp. **tētejen* > **tēten* > **LpN diet'te* gen. sg. of 'seer, someone who knows'. By analogy contraction also occurs when the original conditions are not met. Analogical generalization is realized in various ways in the dialects.

Bibliography: Bergsland 1945, 1946, Collinder 1960 pp. 149-193, 308, E. Itkonen 1939, 1946, 1948, 1950a, 1954, 1961 pp. 61-69, 1968a, 1969, Terho Itkonen 1956, 1973, Korhonen 1969, 1981 pp. 77-125, Sammallahti 1977b, Setälä 1896, Steinitz 1944, Wiklund 1896.

4.2. The consonant system

The consonant system of Early Proto-Finnic as set out below is the basis for this historical examination:

Stops	<i>p</i>	<i>t</i>		<i>k</i>
Affricates		<i>č</i>		<i>ć</i>
Spirants		<i>δ</i>		<i>δ'</i>
Sibilants		<i>s</i>	<i>š</i>	<i>ś</i>
Semi-vowels	<i>v</i>			<i>j</i>
Laterals		<i>l</i>		
Tremulants		<i>r</i>		
Nasals	<i>m</i>	<i>n</i>	<i>ń</i>	<i>η</i>

Word internal geminate consonants could also exist, at least *pp*, *tt*, *kk*, *čč*, and some clusters.

The consonant system above closely resembles, or could even be identical with that of Proto-Finno-Ugric. *l'* may also have occurred in Proto-Finno-Ugric, but there are no attested examples of it in Balto-Finnic or Lapp. Some scholars reconstruct the Proto-Finno-Ugric labial semi-vowel as the bilabial *w* (*β*), as it now appears in Cheremis and the Ob-Ugric languages. In Balto-Finnic and Lapp the present counterpart of *v* can be bilabial or a vowel developed from a bilabial semi-vowel, but only in syllable final position, e.g. Fin. *laut* 'board' ~ LpN *luow'de* 'wooden seine or net float' (< EPF. **lavta*). Thus there is no reason to postulate an independent *w* phoneme in Early Proto-Finnic.

4.2.1. Word initially

All consonants except **η* and **δ* were possible word initially in Early Proto-Finnic. Initial consonant clusters were unknown in both Early Proto-Finnic and Proto-Finno-Ugric. A note should be made of the special treatment of PFU. **v-* > EPF. *ø* before a rounded vowel.

Initial stops are usually voiceless tenues in modern Lapp. In the dialects spoken in Norway and Sweden initial stops can be lax, or

voiceless mediae. This is attributed to the influence of Norwegian and Swedish, where *b*, *d* and *g* are mediae. However, in Balto-Finnic and Lapp the relatively lenis articulation of stops approaches these sounds. The identification of Lapp voiceless stops with Norwegian and Swedish mediae has also caused the orthographic tradition, writing the stops in Lapp with the letters *b-*, *d-* and *g-*. E.g. Lp. *bâl'vâ* 'cloud' ~ Fin. *pilvi* 'id.' (< EPF. **pilve*), Lp. *dollâ* 'fire' ~ Fin. *tuli* 'id.' (< EPF. **tule*), Lp. *giettâ* 'hand' ~ Fin. *käsi* 'id.' (< EPF. **käte*).

Affricates: EPF. **č-* > Lp. *c-* and EPF. **ć* > Lp. *č*, e.g. Lp. *cuo3'zâ* 'membrane, layer of skin on the inner side of a hide', cf. Ost. *čču'ntš* 'a bloody skin, the film inside a skin, the film covering bone or flesh'; Lp. *čuol'bmâ* 'knot' ~ Fin. *solmu*, cf. Hung. *csomó*.

Spirants: EPF. **δ-* > PLp. **θ-* > LpN *d-*, S *h-*, before a rounded vowel *f-*, e.g. LpN *dâbme*, S *hibme* 'glue' ~ Fin. dial. *tymä* 'id.', cf. Cher. *lũmâ*, Zyr. *l'em*, Voty. *l'em* (< **δ'ũmä*); LpN *duobmâ*, S *fuome* 'chokecherry' ~ Fin. *tuomi* 'id.' cf. MordE. *l'om*, M. *lajmë*, Cher. *lo-mbã*, Zyr., Voty. *l'em*, Ost. *jum*, Vog. *l'em* (< **δ'õme*).

Sibilants: EPF. **s-* and **š-* coalesced into Lp. *s*, e.g. Lp. *sállâ* 'lap' ~ Fin. *syli* 'id.' (< EPF. **süle*), Lp. *sârves* 'buck reindeer' ~ Fin. *hirvas* 'id.' (< EPF. **širvas* < Balt.). EPF. **ś-* > Lp. *č-*, e.g. Lp. *čâl'bme* 'eye' ~ Fin. *silmä* 'id.' (< EPF. **śilmä*).

Other initial consonants are retained, e.g. Lp. *vâccâ* 'light freshly fallen snow' ~ Fin. *viti* 'id.' (< EPF. **viče*), Lp. *jiegñâ* 'ice' ~ Fin. *jää* 'id.' (< EPF. **jãñe*), Lp. *lâs'tâ* 'leaf' ~ Fin. *lehti* 'id.' (< EPF. **lešte*), Lp. *râd'de* 'breast' ~ Fin. *rinta* 'id.', Lp. *muor'je* 'berry' ~ Fin. *marja* 'id.', Lp. *noai'de* 'shaman, wizard' ~ Fin. *noita* 'id.', Lp. *njuollâ* 'arrow' ~ Fin. *nuoli* 'id.' (< EPF. **ńõle*).

During the period of separate development new initial consonants were introduced into Lapp primarily through loanwords, e.g. the aspirated stops *p-*, *t-* and *k-* (e.g. Lp. *pârrâ* 'a couple, pair' < Scand. *par* 'id.', Lp. *tävval* 'board, picture' < Scand. *tavla* 'id.', Lp. *kaf'fi* 'coffee' < Scand. *kaffe* 'id.') and *f-* and *h-* (e.g. Lp. *fättit* 'to grasp, find' < Scand. *fata* 'id.', Lp. *hal'be* 'cheap' < Fin. *halpa* 'id.'). Initial consonant clusters have also entered Lapp under the influence of Scandinavian and Russian loan-words (e.g. Lp. *klässâ* 'class' < Scand. *klass(e)*, Lp. *præn'tâ* 'printed text' < Scand. *pränt, prent*).

4.2.2. Word internally

4.2.2.1. Consonant gradation

Consonant gradation is one of the most characteristic features of Lapp. Three types of gradation can be identified according to the phonetic

environment and the nature of the gradation: radical, suffixal and subradical. In this article only radical gradation is considered.

Radical gradation affects the quantity, and in some cases the quality of the consonant or consonant cluster which follows the vowel of a stressed syllable, e.g. *luossâ* (strong grade): gen., acc. sg. *luosâ* (weak grade) 'salmon', *jokkâ* (strong grade): gen., acc. sg. *jogâ* (weak grade) 'river'. Nearly all consonants and consonant clusters in Lapp are subject to radical consonant gradation.

Originally, radical gradation was an entirely automatic, phonologically irrelevant phenomenon; the strong grade appeared regularly before an open syllable, the weak grade before a closed syllable. This was the situation until the final phase of Proto-Lapp. Consonant gradation is no longer governed by the phonetic environment as a result of contraction during Late-Proto-Lapp and the subsequent developments—apocope and the loss of some final consonants—which changed the relationship between open and closed syllables, cf. e.g.

nom. sg.	PLp. * <i>kuolē</i>	>	LpN <i>guolle</i> 'fish'	(strong grade)
gen. sg.	PLp. * <i>kuolēn</i>	>	LpN <i>guole</i>	(weak grade)
pres. l. sg.	PLp. * <i>męngm</i>	>	LpN <i>mânâm</i> 'to go'	(weak grade)
perf. part.	PLp. * <i>męngmę</i>	>	LpN <i>mânnâm</i>	(strong grade)
pret. l. sg.	PLp. * <i>męngjem</i>	>	LpN <i>mânnim</i>	(strong grade)

In the gen. sg. form *guole* the weak grade survives despite the open syllable, because in Proto-Lapp the second syllable was closed (**kuolēn*). In the perf. part. form *mânnâm* and the pret. l. sg. *mânnim* the closed syllable is preceded by the strong grade. In the first example the closed syllable is a result of apocope, in the second example through the loss of *j* because of contraction.

Consonant gradation is also a feature of the Balto-Finnic languages where it only affects the stops: *p*, *t*, *k*, *pp*, *tt*, *kk*. A form of consonant gradation similar to that found in Lapp and Balto-Finnic also exists in some Samoyed languages: Forest Yurak, Tavgi and the southern dialects of Selkup. E. N. Setälä concluded that consonant gradation was an ancient feature dating from Proto-Uralic and that the phenomenon in Lapp, Balto-Finnic and Samoyed was its direct descendant (Setälä 1896, 1912a, 1912b). According to Setälä gradation once affected all consonants, consonant clusters and vowels too. Relating gradation to Uralic or even Finno-Ugric has been criticised because it is only a feature of the languages mentioned above and is not found in any other Uralic language. Scholars have therefore seen gradation in Balto-Finnic and Lapp as the result of parallel, but separate development to the gradation in Samoyed. The common origin of the gradation of stops in Balto-

Finnic and Lapp is generally accepted (Ravila 1941 p. 6, 1951, 1960, Posti 1953 p 74ff., Hajdú 1962). Some scholars want to keep open the possibility of the Proto-Finno-Ugric or Proto-Uralic origin of gradation (Collinder 1960 p. 218, E. Itkonen 1961 pp. 60-61, Hakulinen 1968 p. 51).

Radical gradation has always been caused by the need for greater articulatory energy in the closed syllable after the syllable with the main stress than in the open syllable. This brought about a corresponding drop in intensity at the preceding syllable juncture and a weakening of the consonant. Phonetically gradation is not an unusual phenomenon, it can be compared to Verner's law, which describes a sound change in Proto-Germanic by which the voiceless fricatives *χ*, *f*, *þ* and *s* became voiced between voiced sounds, except immediately after a syllable with the main stress (Eliot 1890 p. XVI, Wiklund 1891 p. 22, Posti 1953 pp. 76-79).

In the first phase of consonant gradation during Early Proto-Finnic the stops after stressed syllables weakened intervocally and after a voiced consonant in a closed syllable, producing the following relations:

<i>kk</i> : <i>ķk</i>	<i>k</i> : <i>ķ</i>
<i>lkk</i> : <i>lķk</i> etc.	<i>lk</i> : <i>lķ</i> etc.

It is not certain whether the gradation also spread to affricates and sibilants at this time (*čč* : *čč̣*, *šš* : *šṣ̌*, etc.).

Some scholars believe that the weak grade short consonant was a medial stop in the early phases of Proto-Lapp (e.g. Ravila 1960), others assume it was a voiced fricative (e.g. E. Itkonen 1977):

Early Proto-Finnic (Ravila)	Early Proto-Lapp (Ravila)	(Itkonen)
<i>p</i> : <i>ḫ</i>	<i>p</i> : <i>b</i>	<i>p</i> : <i>β</i>
<i>t</i> : <i>ṭ</i>	<i>t</i> : <i>d</i>	<i>t</i> : <i>ḍ</i>
<i>k</i> : <i>ķ</i>	<i>k</i> : <i>g</i>	<i>k</i> : <i>γ</i>

Possibly sibilants and affricates underwent voicing as well:

EPF.		EPlp.
<i>č</i> : <i>č̣</i>	>	<i>c</i> : <i>ʒ</i>
<i>č̣</i> : <i>č̣̣</i>		<i>č̣</i> : <i>ʒ̣</i>
<i>š</i> : <i>ṣ̌</i>		
<i>ṣ̌</i> : <i>ṣ̣̌</i>		<i>s</i> : <i>z</i>
<i>ṣ̣̌</i> : <i>ṣ̣̣̌</i>		

Subsequently, quantitative gradation in geminate stops and affricates (*kk* : *ķk*, etc. or *kk* : *kḳ*, etc.) caused analogical gradation in other geminate consonants (*ll* : *ḷl* or *ll* : *lḷ*, etc.) and short consonants (*ḳ* : *g* or *ḳ* : *γ*, *ḷ* : *l*, etc.), as Wiklund (1896 p. 110) showed. A corresponding

development took place in the first element of consonant clusters (*lm* : *lm* etc.). In clusters with a voiced consonant plus a stop or affricate the shift of the centre of gradation to the first element caused a levelling of the contrasts in the final element towards the weak grade:

EPF.	EPLp.	LPLp.
<i>lk</i> : <i>lĳ</i>	> <i>lk</i> : <i>lg</i> or <i>lk</i> : <i>lɣ</i>	> <i>lg</i> : <i>lg</i>
<i>lkk</i> : <i>lĳk</i>	> <i>lkk</i> : <i>lĳk</i> > <i>lĳk</i> : <i>lĳk</i> > <i>lhk</i> : <i>lk</i>	etc.

From the evidence of dialects it appears that the first element of the weak grade in the clusters *k* + obstruent and *tk* weakened to a fricative during this period:

LPLp. <i>k̇t</i> : <i>kt</i>	>	<i>k̇t</i> : <i>ɣt</i> (LpN <i>k't</i> : <i>vt</i>), etc.
<i>ik</i> : <i>tk</i>	>	<i>ik</i> : <i>θk</i> (LpI <i>tk</i> : <i>δh</i>)

The increase in the intensity of articulation, brought about with the lengthening of the consonant or consonant cluster in the strong grade, caused preaspiration in the strong grade of geminate stops and affricates, which require a greater exertion of the muscles.

LPLp. <i>pp</i> : <i>pp</i>	>	<i>hpp</i> : <i>pp</i>
<i>cc</i> : <i>cc</i>	>	<i>hcc</i> : <i>cc</i> etc.

It can be presumed that this was the development of consonant gradation in Proto-Lapp. Since then, the development has differed slightly in each dialect. In Norwegian Lapp the following changes have taken place:

LPLp. <i>k̇</i> : <i>g</i> or <i>k̇</i> : <i>ɣ</i>	>	LpN <i>kk</i> : <i>g</i> [<i>hk</i> : <i>ɣ</i> or <i>G</i>]
<i>l̇</i> : <i>l</i>	>	<i>ll</i> : <i>l</i>
<i>lg</i> : <i>lg</i>	>	<i>l'g</i> : <i>lg</i> [<i>lg</i> or <i>l'g</i> : <i>lG</i>]
<i>lhk</i> : <i>lk</i>	>	<i>l'k</i> : <i>lk</i> [<i>lhk</i> or <i>l'gk</i> : <i>lLk</i>]
<i>k̇t</i> : <i>ɣt</i>	>	<i>k't</i> : <i>vt</i>
<i>ik</i> : <i>θk</i>	>	<i>t'k</i> : <i>tk</i> or <i>t'k</i> : <i>tk</i>
<i>hkk</i> : <i>kk</i>	>	<i>k'k</i> : <i>kk</i> [<i>hk</i> : <i>hk</i>]

The most striking change is the generalization of preaspiration in the weak grade of geminate stops and affricates, and in the strong grade of short stops and affricates. This development occurred in all the Lapp dialects which have gradation, except Inari and Kola Lapp.

4.2.2.2. Other developments

Developments after the vowel of a stressed syllable are:

Affricates: EPF. **č* > Lp. *cc* : *ɟ* and EPF. **č* > Lp. *čč* : *ʃ*, e.g. Lp. *vâccâ* : gen., acc. sg. *vâzâ* 'light, freshly fallen snow' ~ Fin. *viti* 'id.' (< EPF. **viče*), Lp. *æčče* : *æže* 'father' ~ EstS. *esä*, *edsä* 'id.' (< EPF. **ecä*).

Spirants: EPF. **ð* and **ð'* coalesced, > Lp. *dd* : *d*, e.g. Lp.

buoddô : gen., acc. sg. *buodo* 'dam' ~ Fin. *pato* 'id.' (< EPF. **paðo*), Lp. *čâddâ* : *čâdâ* 'carbon, coal, soot, grime' ~ Fin. *sysi* : *syden* : *sytenä* 'id.' (< EPF. **šüð'e*).

Sibilants: EPF. **s* and **š* coalesced to *s*, e.g. Lp. *bässe* : gen., acc. sg. *bäse* 'nest' ~ Fin. *pesä* 'id.', Lp. *bässe* 'holy' ~ Fin. *pyhä* 'id.' (< EPF. **püşä*). EPF. **š* > Lp. *čč* : *ʃ* intervocalically, e.g. Lp. *gáččât* : pres. 1. sg. *gáččâm* 'to ask' ~ Fin. *kysyä* 'id.' (< EPF. **küše*). Before *k* and *t* in Western Lapp *š* has changed to *i*, in Eastern Lapp to *š*, e.g. LpN *guoi'ká*, I *kuoška* 'rapids' ~ Fin. *koski* 'id.' (EPF. **koške*).

In central dialects the semi-vowel **j* has become a stop *ggj* in the strong grade, e.g. LpN *saggje* : gen., acc. sg. *sâje* 'place, site' ~ Fin. *sija* 'id.'. The geminate *jj* has also undergone this change, e.g. LpN *ag'gja* : gen., acc. sg. *aggja* 'grandfather, old man' ~ Fin. *äijä* 'id.'.

In Western Lapp a homorganic stop has developed before a non-short nasal, unless the word begins with a nasal, e.g. LpN *liebma* : gen., acc. sg. *liemâ* 'broth' ~ Fin. *liemi* 'id.' (< EPF. **lême*), LpN *suodná* : *suonâ* 'vein, sinew' ~ Fin. *suoni* 'id.' (< EPF. **sōne*), LpN gen., acc. sg. *gâdnjâl(â)* : nom. sg. *gânjâl* 'tear' ~ Fin. *kyynel* 'id.' (< EPF. **künel*), LpN *jięgnâ* : *jięnâ* 'ice' ~ Fin. *jää* 'id.' (< EPF. **jäņe*).

Clusters of nasal plus stop or affricate have denasalized in all dialects except Kola Lapp: EPF. **mp* > LpN *b'b* : *bb*, EPF. **nt* > LpN *d'd* : *dd*, EPF. **nč* > LpN *ɟ'ɟ* : *ɟɟ*, EPF. **mt* > LpN *w'd* : *wd* etc. E.g. LpN *soab'be* : gen., acc. sg. *soabbe* 'staff, pole' ~ Fin. *sompa* 'ring on ski pole', LpN *guod'det* : pres. 1. sg. *guoddam* 'to carry' ~ Fin. *kantaa* 'id.', LpN *vuog'gâ* : *vuoggâ* 'fish hook' ~ Fin. *onki* 'id.' (< EPF. **orŋke*), LpN *gâz'zâ* : *gâzâ* 'nail' ~ Fin. *kynsi* 'id.' (< EPF. **künče*), LpN *dow'dât* : *dowdâm* 'to know, feel' ~ fin. *tuntea* 'id.' (< EPF. **tumte*).

In other syllable positions simplifications have taken place, so that the consonant or consonant cluster following an unstressed syllable is always in the shortest grade of quantity possible.

4.2.3. Word finally

In Early Proto-Finnic the following consonants were possible in word final position: *t*, *k*, *s*, *š*, *j*, *l*, *r*, *m* and *n*. It is unclear whether *č* and *š* occurred word finally in Early Proto-Finnic. During Proto-Lapp only two changes took place: EPF. **-t* > PLp. **-k*, and EPF. **-š* > PLp. **-s*, e.g. pres. 2. sg. Lp. *mânâk* 'you go' ~ Fin. *menet* 'id.' (< EPF. **menet*), Lp. *fânâs*, *vânâs* 'boat' ~ Fin. *vene(h)* 'id.' (< EPF. **venes*).

During the separate development of the Lapp dialects PLp. **-k*, **-j*, **-m* and **-n* have been lost in some dialects. Southern Lapp has preserved most final consonants, and the number of losses increase the further

north the dialect, to the maximum in Kola Lapp. The losses are linked to the function of the consonant, and consonants are preserved primarily when they have an important morphological function.

Bibliography: Äimä 1906a, 1906b, 1919, 1922, Bergsland 1945, Collinder 1929, 1960 pp. 215-218, Eliot 1890 p. XVI, Hajdú 1962, Hakulinen 1968 pp. 51-57, E. Itkonen 1941, 1946, 1961 pp. 60-61, 1977, Toivo Itkonen 1916, Korhonen 1981 pp. 125-200, Nielsen 1926 pp. 30-41, Posti 1953, Ravila 1932, 1941, 1951, 1960, Sammallahiti 1977b, Setälä 1896, 1912a, 1912b, Steinitz 1952, Toivonen 1950, Wiklund 1896, 1906, 1914, 1915, 1919.

5. HISTORICAL MORPHOLOGY

5.1. *The development of Lapp morphological structure*

Basic stems in Early Proto-Finnic were of two types:

1) disyllabic stems ending in a vowel (VCV, CVCV, VCCV, CVCCV), most stems were of this type;

2) monosyllabic stems ending in a vowel (V and CV), pronoun or auxiliary verb stems.

The morphological elements, formed with a short consonant, or with a consonant or consonant cluster plus vowel (C, CV and CCV), were suffixed to the stem. Suffixes could be derivatives or inflections.

The dichotomy of monosyllabic and disyllabic nominal and verb stems has been preserved in modern Lapp. Monosyllabic stems include the old pronoun stems (*mū*- 'I', *dū*- 'you 2. sg.', *mī*- 'we', *dī*- 'you 2. pl.', *sī*- 'they', *dā*- 'this', *dā*- 'it', *gī*- *gæ*- 'who', *mī*- *mā*- 'what', etc.), the auxiliary *læ*- 'to be' and the negative auxiliary *i*- : *æ*- : *â*-. Other old basic stems are disyllabic (e.g. *lās'tā* 'leaf', *guok'tē* 'two', *buorre* 'good', *bosso*- 'to blow' etc.). In Lapp disyllabic stems are preserved even in those words which became monosyllabic in Balto-Finnic during the period of separate development, cf. e.g. LpN *jiēgnā* 'ice' ~ Fin. *jää* 'id.' (< EPF. **jāne*), LpN *jukkā*- 'to drink' ~ Fin. *juo*- 'id.' (< EPF. **jūke*-), LpN *vuoggjā* 'butter, fat' ~ Fin. *voi* 'id.' (< EPF. **vōje*). The number of syllables in the stem is such an important structural principle of Lapp that monosyllabic loan-words are adapted to fit into the disyllabic system, e.g. Lp. *suggjā*, *sivvā* 'reason' < Fin. *syy* 'id.', Lp. *gussā* 'cow' < PSc. **kūz*.

Typologically Early Proto-Finnic was agglutinating. Morphemes could be combined mechanically and there were few morphophonemic alternations. Most modern Finno-Ugric languages are agglutinating to some degree, Lapp, however, is a distinct exception. Lapp is strongly flectional—in Sapir's terminology—a fusional-symbolic language. Morphological relationships are not only expressed by suffixes but to a large extent by internal alternations in the stem, the most important of these

being consonant gradation. There are also some other quantitative alternations and in some dialects metaphonic alternations. E.g. nom. sg. *guolle* : gen., acc. *guole* 'fish', verbal adv. *boso* : pres. 3. sg. *bosso* : pres. part. *bos'so* 'to blow', perf. part. *dōrrum* : action form *doarrom* 'to fight'.

It is apparent from the last example that sometimes when a suffix is added to the stem (in this example *-m*), the suffix is not always sufficient indication of the word form. In addition to the suffix, information is carried by internal morphophonemic relations. All the stem internal morphologically conditioned functions are a result of phonetic changes, which only became morphologically conditioned when the suffix was lost completely or when it had changed to such an extent that the original suffix resembled another. The morphological information then passed from the suffix to be included in the stem of the word, e.g.

gradation *-n > ∅*

EPF. **kala* : **kala-n* > PLp. **kōlē* : **kōlēn* > LpN *guolle* : *guole* 'fish' (nom. sg.: gen.) (Korhonen 1969.)

5.2. *Nominal inflection*

In the absolute declension nominals are declined for two numbers, singular and plural. Possessive suffixes can also show the dual. Besides Lapp, other Uralic languages with a dual are the Ob-Ugric and Samoyed languages. It is believed that relics of the dual also exist in Balto-Finnic and Hungarian. Possibly there were three numbers in Proto-Uralic, although the dual may have always had a restricted use.

In the absolute declension there are two plural markers: in the nom. pl. Lp. *-k* (~ BF. *-t* < EPF. **-t*), in the other cases Lp. *-i*- (~ BF. *-i*- ~ *-j*- < EPF. **-j*-), e.g. Lp. nom. pl. *goadek* 'Lapp tent, hut' ~ Fin. *kodat* 'id.' (< EPF. **kota + t*), Lp. loc. pl. *gōdiin* 'Lapp tent, hut' (< EPF. **kota + j + na*). Both markers go back to Proto-Uralic.

Most of the case forms are direct developments from Early Proto-Finnic. The genitive singular marker PU (= Proto-Uralic) **-n* is preserved in Southern Lapp, but lost elsewhere, e.g. LpN *goade* gen. sg. of 'Lapp tent, hut', LpS *goätien* ~ Fin. *kodan* (< EPF. **kota + n*). The genitive plural is merely the plural stem, which can be traced back at least to Early Proto-Finnic, e.g. LpN *gōdii* gen. pl. of 'Lapp tent, hut' (< EPF. **kota + j*).

The accusative singular marker PU **-m* is also preserved only in some dialects of Southern Lapp, e.g. LpN *goade*, LpS *goätiem* 'Lapp tent, hut' ~ Fin. *kodan* (< EPF. **kota + m*). The accusative plural marker in Lapp

-d is related historically to the Fin. partitive marker *-ta/tä* ~ *-a/ä* and goes back to the PU ablative marker **-ta/tä*, e.g. LpN *gōdiid* 'Lapp tent, hut' ~ Fin. *kotia* (< EPF. **kota + j + ta*). During Early Proto-Finnic the PU ablative developed into the partial object marker, its present function in Balto-Finnic. In Lapp it has been generalized in the plural as the only object marker.

The illative singular is an internal creation from the period of separate development of Lapp. In Proto-Lapp the illative marker was **-jen* (PU lative **-j* + combinatory vowel + PU lative **-n*), e.g. LpN *goattai* 'Lapp tent, hut' (< PLp. **koatājen*), cf. Old Sea Lapp *sannajen* ill. sg. of 'word' (= LpN *sadnai*). The *-sā* marker affixed to pronoun stems is historically related to the BF. illative marker, e.g. LpN *māsā* ill. sg. of 'what' ~ Fin. *mihin* 'whither' (< EPF. **mi + sen*). It is derived from the lative marker **-s* plus combinatory vowel plus the PU lative marker **-n*. The illative *-s* component is also found in possessive declination. The illative plural is formed by adding the lative **-k* (< PU) to the accusative plural form, e.g. LpN *gōdiidi* 'Lapp tent, hut' (< PLp. **koadij + dē + k*).

The locative singular marker in Norwegian and Eastern Lapp is used to mark two case forms, the inessive and elative, after the markers coalesced phonetically: PLp. iness. **-snē* > LpN *-st*, PLp. elat. **-stē* > LpN *-st*. Historically this ending corresponds to the BF. inessive marker *-ssa/ssä* (< **sna/snä*) and elative marker *-sta/stä* (< lat. **-s* + PU loc. **-na/nä* and PU abl. **-ta/tä*). E.g. LpN *goadest* 'Lapp tent, hut' ~ Fin. *kodassa*, *kodasta* (< EPF. **kota + sna*, **kota + sta*). The locative plural marker *-n* is derived from the PU locative **-na/nä*, e.g. LpN *gōdiin* 'Lapp tent, hut' ~ Fin. *kotina* (< EPF. **kota + j + na*). In Swedish Lapp the inessive and elative have retained a formal distinction.

The comitative singular marker is Lp. *-in* ~ BF. *-ine* (< EPF. **jnV* < possessive adjective derivative **-j* + ? ess. **-na/nä*), e.g. Lp. *nieidāin* com. sg. of 'girl', cf. Fin. *tyttöineen*. The comitative plural marker is Lp. *-guim* which was formed during the separate development of Lapp from a postposition **kuojmēn* (= gen., instr. sg. of *guoi'bme* 'mate, companion, partner' ~ Fin. *kaima* 'namesake' < Balt), e.g. *nieidāiguim* com. pl. of 'girl'.

The abessive marker *-tāgā* (in both singular and plural) is formed from the caritive suffix **-pta/ptā* plus the lative *-k* (> Lp. *-g-*) and a further pleonastic *-k* (> LpN *ø*), e.g. *goadetāgā* abess. sg. of 'Lapp tent, hut', *gōdiitāgā* abess. pl., cf. Fin. *kodatta*, *koditta*.

The essive marker *-n* is historically related to the BF. essive marker *-na/nä* (< PU loc.), e.g. *goatten* ess. sg. of 'Lapp tent, hut' ~ Fin. *kotana*.

The possessive suffixes go back to the old personal pronoun forms. Originally they probably had the following forms:

	sg.	du.	pl.
1.	<i>-mV</i>	<i>-mVn</i>	<i>-mVk</i>
2.	<i>-tV</i>	<i>-tVn</i>	<i>-tVk</i>
3.	<i>-sV</i>	<i>-sVn</i>	<i>-sVk</i>

The possessive suffix forms in all the dialects are based directly on these forms, except the du. 3px. in Western Lapp which is *-skā(n)* as a result of contamination of the pl. 3px. *-sek* + combinatory vowel *ā* + du. *-n*.

5.3. The inflection of the verb

Formally the indicative is unmarked. The potential and conditional go back to Early Proto-Finnic. The potential markers in Lapp are *-š*, *-ž*, *-ž'ž* : *-žž* (e.g. pot. 1. sg. *gulāžām*, 3. sg. *gulāš* 'to hear', 1. sg. *mui'tālēžžām*, 3. sg. *mui'tālēž'ža* 'to tell, relate') and correspond historically to the Finnish conditional marker *-is* (e.g. cond. 3. sg. *kuulisi* 'to hear') (< EPF. **hš* or **hč*). The Lapp conditional marker *-š*, *-vč* (< Plp. **-kč*) (e.g. cond. 1. sg. *gulāšim* 'to hear', *mui'tālivčim* 'to tell, relate') however, is related to the Estonian and Livonian conditional marker *-ks* (e.g. Est. *saaksin*, Liv. *sāks* cond. 1. sg. of 'to get, receive' (< EPF. **ks*). Both markers are developments of diminutive-frequentative verbal derivatives.

In Proto-Lapp the imperative marker seems to have already had several allomorphs. The 2. sg. ended in **-k* as in many other Uralic languages, e.g. Lp. *gulā* imp. 2. sg. of 'to hear' ~ Fin. *kuule* 'id.' (< EPF. **külek*). The 2. du. and pl. were unmarked on stems with even syllables, the person marker was added directly onto the stem, e.g. imp. 2. du. *vuog'gje* 'to drive' (< PLp. **vuojē + dēn*, contraction, **-d* > *ø*), 2. pl. *vuog'gjet*, *vüggjit* (< PLp. **vuojē + dēk*), cf. Mord. imp. 2. pl. *palado* 'to kiss'. In the 2. du. and pl. of stems with odd syllables the marker was **-kē* which corresponds historically to the BF. imp. *-ka/kä* marker, e.g. imp. 2. du. *læk'ke*, *mui'tālæk'ke*, 2. pl. *lēkkit* 'to be', *mui'tālēkkit* 'to tell, relate', cf. Fin. *olkaa* 'to be', *kertokaa* 'to tell'. In the first and third persons there was a corresponding relationship between the markers **ñ* and **kñ*, cf. e.g. imp. 1. sg. *mānn-u-m*, 3. *mānnu-u-s*, 1. du. *mān'n-o*, 3. *mānn-u-skā*, 1. pl. *mānn-u-p*, *mān'n-o-p*, 3. *mānn-u-sek* 'to go'; 1. sg. *buorranē-kku-m*, 3. *buorranē-kku-s*, 3. du. *buorranē-kku-skā*, 1. pl. *buorranē-kku-p*, 3. *buorranē-kku-sek* 'to get better'. The PLp. marker **kñ* was probably borrowed from BF., cf. e.g. Fin. imp. 3. sg. *anta-ko-on* 'to give', *men-kö-ön* 'to go', **ñ* is an analogical development following the pattern of the 2. du. and pl. **kē* ~ *ø* alternation.

There are two simple tenses in Lapp, present and preterite. The present is unmarked. The preterite marker in Proto-Lapp was **j*, which is usually lost intervocalically, but preserved in syllable final position, e.g. pret. 1. sg. *gullim* (< PLp. **kulejēm*), 3. *gulâi* (< PLp. **kulej*), 1. pl. *gulâimek* (< Plp. **kulejmēk*). This marker goes back to Proto-Finno-Ugric and corresponds to the BF. imperfect marker *-i-*, *-j-*, cf. Fin. *kuuli*, *antoi* imperf. 3. sg. 'to hear', 'to give'.

The person markers in the preterite correspond to the normal Finno-Ugric base. The first and second persons are derived from pronoun elements: 1. sg. *-m* < PU **-m*, 2. *-k* < PU **-t*, 1. du. *-me* < PU **-mVn*, 2. *-de* < PFU **-tVn*, 1. pl. *-mek* < PU **-mVk*, 2. *-dek* < PFU **-tVk*. In the third person forms there is no component specifically referring to the person, the pret. 3. sg. is merely the preterite stem, e.g. *gulâi* 'to hear'. The third person dual marker *-gâ* (*gulâigâ*) is based on analogy with the imp. 3. du. and the du. 3px. *-skâ* and the 3. pl. marker has lost the pl. marker *-n*, e.g. *gulli* (< PLp. **kulejēn*).

In the present tense only the singular forms of the person markers are related to the general Finno-Ugric type, e.g. pres. 1. sg. *gulâm* (< EPF. **küle-m*), 2. *gulâk* (< EPF. **küle-t*), 3. *gulla* (unmarked, perhaps an earlier nomen agentis type **küle + ja*). However, all dual and plural forms were originally verbal noun forms, more precisely nomen agentis derivatives, e.g. pres. 1. du. *gud'di* 'to carry' (< EPF. **kanta + ja + n* lit. 'carrier-two'), 2. du. *guod'debæt'te* (*-bæ-* ~ BF. *-pa/pä*, *-va/vä* nomen agentis and present participle marker, cf. Fin. *kantava* 'carrying'; *-t'te* is an element referring to the second person), 3. du. *guod'debâ* (< EPF. **kanta + pa + n* lit. 'carrying-two'), 1. pl. *guod'dep* (< EPF. **kanta + pa* lit. Fin. *kantava* 'carrying', singular form used collectively), 2. pl. *guod'debëttit* (*-bë-* ~ BF. *-pa/pä*, *-va/vä*; *-ttit* an element referring to the person), 3. pl. *gud'dik* (< EPF. **kanta + ja + t* lit. 'carrier-s').

The infinitive marker LpN *-t* corresponds historically to the BF. infinitive marker Fin. *-ta/tä*, *-da/dä*, *-a/ä* (< EPF. verbal nominal derivative *-ta/tä* + lat. marker **-k*), e.g. Lp. *guod'det* 'to carry' ~ Fin. *kantaa* (< EPF. **kanta-ta-k*).

The action form of the verb is marked by *-m*, e.g. Lp. *guod'dem* ~ Fin. *kantama* (< EPF. **kanta-ma*).

The present participle form is derived from the EPF. derivative **-jal/jä* denoting the agent of the action. There are parallels in other Uralic languages, e.g. Lp. *guod'de* 'to carry' ~ Fin. *kantaja* (< EPF. **kanta-ja*).

The perfect participle marker *-m* goes back to EPF. **-me* and has parallels in many Uralic languages, e.g. Lp. *guod'dam* 'to carry' (< EPF. **kanta + me*), cf. Zyr. *munēm*, Vot. *minēm*, Ost. *mənəm*, Vog. *mənəm* perf. part. of 'to go'.

The other verbal nominal forms in Lapp were developed from the case forms of basic deverbal nominal derivatives: I gerund is marked by the *-d* (< **nta/ntä*) nominal derivative in the loc. pl. form, e.g. *mânâdëddiin* 'to go'; the II gerund is the essive form of the action nominal, e.g. *männâmin*; the abessive form of the verbal nominal is the lative of the caritive derivative, e.g. *mânâkæt'ta(i)*.

Bibliography: Bergsland 1946, 1960, Beronka 1937, 1940, Collinder 1960 pp. 282-310, E. Itkonen 1950b, 1955b, 1968b, 1972, 1973, Korhonen 1967, 1969, 1973, 1974, 1981 pp. 201-312, Nesheim 1942, 1945, Ravila 1948, Wickman 1955, Wiklund 1928.

6. HISTORICAL SYNTAX

Lapp, like Balto-Finnic, differs in many fundamental aspects of syntax from other Finno-Ugric languages, which are based on developments during and subsequent to the Early Proto-Finnic period. These are the most important innovations:

1) In a simple unmarked sentence in Proto-Finno-Ugric the subject occupied first position, the predicate came last preceded by its qualifiers. SOV was prevalent and is still common in many Finno-Ugric languages. In Lapp, however, the predicate precedes its qualifier, preferring the order SVO, e.g. *ac'čë äddii guos'sai mūrjiid* 'father gave the guest some berries', *An'ti bōdii duod'dârist ruok'töt* 'Antti came back from the hills'.

2) In all Uralic languages except Lapp and Balto-Finnic the nominal predicate is related to the subject without the verb 'to be' as copula, if there is no need to indicate tense or mood. This is held to be a feature of Proto-Uralic, cf. e.g. Hung. *a ház új* 'the house (is) new'. Only the Southern and Ter Lapp dialects have preserved this feature, e.g. LpS *dihtâ boâries* 'he/she (is) old'. In other dialects the person forms of the verb *læ-* 'to be' are used as copula, e.g. LpN *dallo læ odäs* 'the house is new'. The use of a copula may have been a borrowing from Balto-Finnic, where it seems to be a result of the contacts with Germanic.

The person forms of the verb derived from the verbal nominals are a relic in Lapp of the Uralic nominal predicate. Cf. 5.3.

3) Originally, adjectives in the Uralic languages did not show congruence with the head, cf. e.g. Hung. *új ház* 'new house' : *új házban* 'in a new house'. Total congruence is only found in Balto-Finnic, cf. e.g. Fin. *uusi talo* 'a new house' : *uudessa talossa* 'in a new house'. With some exceptions adjectives do not show congruence in Lapp and the adjective attribute is usually in a special attributive form. Exceptions are: the adjective *buorre* 'good' (in some combinations also *bâha* 'bad, evil'), cardinal numerals, the ordinal numeral *nub'be* 'second' and most pronouns, which show partial congruence. It is possible that even in

Early Proto-Finnic there were certain positions where partial congruence was shown, from which total congruence was developed in Balto-Finnic. The introduction and generalization of congruence were probably influenced by Baltic or Germanic models.

4) Conjunctions do not seem to have existed in Proto-Uralic. Co-ordination was asyndetic, subordination was shown by constructions based on verbal nominal forms, cf. e.g. Fin. *poika nukahti kirjaa lukiessaan* (= *poika nukahti, kun hän luki kirjaa*) 'the boy fell asleep while reading a book' (~ 'the boy fell asleep when he was reading a book'). The former construction is still preferred in most Uralic languages. In Lapp, in addition to asyndetic co-ordination and subordination based on verbal nominal forms, conjunctions are used for co-ordination and subordination. Most of the conjunctions are direct loans or calques from Finnish, e.g. Lp. *ja* 'and' < Fin. *ja* 'id.' (< Germ.), Lp. *-ge* 'conjunction added to negative auxiliary' < Fin. *-kälkä*, Lp. *dáhjē* 'or' < Fin. *tahi* 'id.', Lp. *muttō* 'but' < Fin. *mutta* 'id.', Lp. *ättē* 'that' < Fin. *että* 'id.', Lp. *jōs* 'if' < Fin. *jōs* 'id.', Lp. *vaikō*, *vaikē* 'although' < Fin. *vaikka* 'id.'. The formation of compound sentences by means of conjunctions is also based on comparatively late influence on Lapp.

Bibliography: Bartens 1971, Collinder 1960 pp. 247-251, Hakulinen 1968 pp. 401-488, E. Itkonen 1966 pp. 299-331, 1968b, Klemm 1928, Nielsen 1926, Ravila 1941, 1944, 1948, Wickman 1955.

SELECT BIBLIOGRAPHY

- Äimä, Frans. 1906a. Eräs lappalainen astevaihtelutapa. JSFOu. 23, 25.
 —. 1906b. Die Hypothese von einem postkonsonantischen Wechsel $k \sim \gamma$, $t \sim \delta$, $p \sim \beta$ im Urlappischen. — FUF. 6.
 —. 1919. Astevaihtelututkimia. Ensimmäinen osa. Lapin murteiden välisiä konsonanttivaihteluita. — MSFOu. 45. Helsinki.
 —. 1922. Prof. Wiklundin viimeisten astevaihtelututkimusten johdosta. — Virittäjä.
 Bartens, Raija. 1971. Zur Kongruenz des lappischen Adjektivattributs. — FUF. 39.
 Bergsland, Knut. 1945. L'alternance consonantique date-t-elle du lapon commun? — *Studia Septentrionalia* 2. Oslo.
 —. 1946. Røros-lappisk grammatikk. Oslo.
 —. 1960. Lapin kieltoverbin taivutuksesta. — Virittäjä.
 —. 1968. The Grouping of the Lapp Dialects as a Problem of Historical Linguistics. — *Congressus Secundus Internationalis Fenno-ugristarum*. Pars I. Helsinki.
 Beronka, Johan. 1937. Lappische Kasusstudien. I. — *Sonderabdruck aus den Oslo Etnografiske Museums skrifter*, Bd. II. Oslo.
 —. 1940. Lappische Kasusstudien. II. — *Sonderabdruck aus den Oslo Etnografiske Museums skrifter*, Bd. II. Oslo.
 Carpelan, Christian. 1975. Saamelaisen ja saamelaiskulttuurin alkuperä arkeologin näkökulmasta. *Lapin Tutkimusseuran Vuosikirja*. 16. Kemi.
 Castrén, M. A. 1957. Nordiska resor och forskningar. 4. Helsingfors.
 Collinder, Björn. 1929. Über den finnisch-lappischen Quantitätswechsel. I. — *Uppsala Universitets Årsskrift* 1929.
 —. 1945. The affinities of Lapp. — *Uppsala Universitets Årsskrift* 1945.

- . 1953. Lapparna. Stockholm.
 —. 1954. Proto-Lappish and Samoyed. — *Språkvetenskapliga Sällskapet i Uppsala Föreläsningar* 1952-1954. Uppsala.
 —. 1960. Comparative Grammar of the Uralic Languages. Uppsala.
 Edgren, Torsten. 1970. Studier över den snörkeramiska kulturens keramik i Finland. — *Suomen Muinaismuistoyhdistyksen Aikakauskirja* 72.
 Eliot, C. N. E. 1890. A Finnish Grammar. Oxford.
 Hajdú, Péter. 1962. Die Frage des Stufenwechsels in den samojedischen Sprachen. — *UJb*. 34.
 Hakulinen, Lauri. 1968. Suomen kielen rakenne ja kehitys. Kolmas, korjattu ja lisätty painos. Keuruu.
 Itkonen, Erkki. 1939. Der ostlappische Vokalismus vom qualitativen Standpunkt aus. — *MSFOu*. 79. Helsinki.
 —. 1941. Über den Charakter des ostlappischen Stufenwechselsystems. — *FUF*. 27.
 —. 1946. Struktur und Entwicklung der ostlappischen Quantitätssysteme. — *MSFOu*. 88. Helsinki.
 —. 1948. Vokaalikombinaatiot ja vartalo-tyypit. — *Virittäjä*.
 —. 1950a. Varhaiskantasuomen a:n ja ä:n kehitys lapiissa. — *Virittäjä*.
 —. 1950b. Das Perfekt des Partizips im Lappischen. — *Commentationes Fenno-Ugricae in Honorem Y. H. Toivonen*. MSFOu. 98. Helsinki.
 —. 1951. Suomen tunturilapin kirjakielen kehitysvaiheet. — *Virittäjä*.
 —. 1954. Über die suffixalen Labialvokale im Lappischen und Ostseefinnischen. — *Scandinavica et Fenno-Ugrica*. Studier tillägnade Björn Collinder den 22 juli 1954. Uppsala.
 —. 1955a. Die Herkunft und Vorgeschichte der Lappen im Lichte der Sprachwissenschaft. — *UJb*. 27.
 —. 1955b. Onko itämerensuomessa jälkiä duaalista? — *Virittäjä*.
 —. 1961. Suomalais-ugrilaisen kielen- ja historian tutkimuksen alalta. — *Tietolipas* 20. Helsinki.
 —. 1966. Kieli ja sen tutkimus. Helsinki.
 —. 1968a. Ääntenmuutoksen luonteesta. — *Suomen Akatemia puhuu*. Porvoo.
 —. 1968b. Zur Frühgeschichte der lappischen und finnischen Lokalkasus. — *Congressus Secundus Internationalis Fenno-ugristarum*. Pars I. Helsinki.
 —. 1969. Zur Wertung der finnisch-ugrischen Lautforschung. — *UJb*. 41.
 —. 1972. Über das Objekt in den finnisch-wolgaischen Sprachen. — *FUF*. 39.
 —. 1973. Zur Geschichte des Partitivs. — *FUF*. 40.
 —. 1977. Betrachtungen zum lappischen Stufenwechsel. — *JSFOu*. 75.
 Itkonen, Terho. 1956. Outakosken lapinmurteen vokaalisto. — *JSFOu*. 58.
 —. 1973. Lisiä eräaseen lapin vokaaliston ongelmaan. — *Commentationes Fenno-Ugricae in Honorem Erkki Itkonen*. MSFOu. 150. Helsinki.
 Itkonen, Toivo. 1916. Venäjänlapin konsonanttien astevaihtelu Koltan, Kildinin ja Turjan murteiden mukaan. — *MSFOu*. 39. Helsinki.
 Kalima, Jalo. 1936. Itämerensuomalaisten kielten balttilaiset lainasanat. Helsinki.
 Klemm, Antal. 1928. Magyar történeti mondattan. — *A magyar nyelvtudomány kézikönyve*. II kötet. 6. füzet. Budapest.
 Koivulehto, Jorma. 1976. Vanhimmista germaanisista lainakosketuksista ja niiden ikäämisestä. — *Virittäjä*.
 —. 1983. Seit wann leben die Urfinnen im Ostseeraum? Zur relativen und absoluten Chronologie der alten idg. Lehnwortschichten im Ostseefinnischen. — *Symposium Saeculare Societatis Fenno-Ugricae*. — *MSFOu*. 185. Helsinki.
 Korhonen, Mikko. 1964. Lapin murteiden keskinäisistä suhteista. — *Lapin tutkimusseuran vuosikirja*. 5. Kemi.
 —. 1967. Die Konjugation im Lappischen. I. — *MSFOu*. 143. Helsinki.
 —. 1969. Die Entwicklung der morphologischen Methode im Lappischen. — *FUF*. 37.
 —. 1973. Zur Geschichte des negativen Präteritums und Perfekts im Ostseefinnischen

- und Lappischen. — *Commentationes Fenno-Ugricae in Honorem Erkki Itkonen*. MSFOu. 150. Helsinki.
- . 1974. Die Konjugation im Lappischen. II. MSFOu. 155.
- . 1976. Suomen kantakielten kronologiaa. — *Virittäjä*.
- . 1979. Lapin kielen varhaisvaiheista. — *Suomalaisen Tiedeakatemian esitelmät ja pöytäkirjat* 1977. Helsinki.
- . 1981. Johdatus lapin kielen historiaan. Helsinki.
- Moora, Harri. 1956. Eesti rahva ja naaberrahvaste kujunemisest arheoloogia andmeil. — *Eesti rahva etnilisest ajaloost*. Tallinn.
- Nesheim, Asbjørn. 1942. Der lappische Dualis mit Berücksichtigung finnisch-ugrischer und indo-europäischer Verhältnisse. Oslo.
- . 1945. "Koaffixet" *n* i den lappiske possessive deklinasjon. — *Studia Septentrionalia* 2. Oslo.
- Nielsen, Konrad. 1913. Die wissenschaftliche Bedeutung des lappischen. FUF. 13.
- . 1926. Lærebok i lappisk. I. Grammatikk. Oslo.
- Posti, Lauri. 1953. From Pre-Finnic to Late Proto-Finnic. — FUF. 31.
- Qvigstad, J. - Wiklund, K. B. 1899. Bibliographie der lappischen Litteratur. — MSFOu. 13. Helsingfors.
- Ravila, Paavo. 1932. Das Quantitätssystem des seelappischen Dialektes von Maattivuono. — MSFOu. 62. Helsinki.
- . 1935. Die Stellung des Lappischen innerhalb der finnisch-ugrischen Sprachfamilie. — FUF. 23.
- . 1941. Über die Verwendung der Numeruszeichen in den uralischen Sprachen. — FUF. 27.
- . 1944. Lauseopin periaatekysymyksiä. — *Virittäjä*.
- . 1948. Om konjugationens uppkomst i de uraliska språken. — *Kungl. Humanistiska Vetenskaps-Samfundet i Uppsala. Årsbok*.
- . 1951. Astevaihtelun arvoitus. — *Virittäjä*.
- . 1957. Lappalaisten ja lapin kielen ongelma. — *Suomalainen Suomi*.
- . 1960. Probleme des Stufenwechsels im Lappischen. — FUF. 33.
- Sammallahti, Pekka. 1977a. Suomalaisten esihistorian kysymyksiä. — *Virittäjä*.
- . 1977b. Norjansaamen Itä-Enontekiön murteen äänneoppi. — MSFOu. 160. Helsinki.
- Sebestyén, Irene N. 1953. Beiträge zum Problem des protolappischen Sprache. — *Acta Linguistica Hungarica* 3.
- Setälä, E. N. 1886. Zur Geschichte der Tempus- und Modusstamm-bildung in den finnisch-ugrischen Sprachen. Helsingfors.
- . 1896. Über Quantitätswechsel im Finnisch-ugrischen. — JSFOu. 14.
- . 1912a. Zu dem Alter des Stufenwechsels. — FUF. 11 Anz.
- . 1912b. Über Art, Umfang und Alter des Stufenwechsels im Finnisch-ugrischen und Samojedischen. — FUF. 12 Anz.
- . 1926. Suomensukuisten kansojen esihistoria. — *Suomen suku* I. Helsinki.
- Sköld, Tryggve. 1961. Die Kriterien der urnordischen Lehnwörter im Lappischen. I. Uppsala.
- Steinitz, Wolfgang. 1944. Geschichte des finnisch-ugrischen Vokalismus. Stockholm.
- . 1952. Geschichte des finnisch-ugrischen Konsonantismus. Stockholm.
- Suomen väestön esihistorialliset juuret. 1984. Bidrag till kännedom av Finlands natur och folk. Utgivna av Finska Vetenskaps-Societeten. — H. 131. Helsinki.
- Thomsen, Vilhelm. 1890. Berøringer mellem de finske og de baltiske (litauisk-lettiske) Sprog. København.
- Toivonen, Y. H. 1950. Protolapin ongelmasta. — *Suomalaisen Tiedeakatemian esitelmät ja pöytäkirjat* 1949. Helsinki.
- Wickman, Bo. 1955. The Form of the Object in the Uralic Languages. Uppsala.
- Wiklund, K. B. 1891. Laut- und Formenlehre der Lule-Lappischen Dialekte. — *Göteborgs Kongl. Vetenskaps och Vitterhets Samhälles Handlingar. Ny Tidsföljd*. 25. Stockholm.

- . 1896. Entwurf einer urlappischen Lautlehre. I. — MSFOu. 10, 1. Helsinki.
- . 1906. Zur Lehre vom Stufenwechsel im Lappischen. — FUF. 6.
- . 1914. Stufenwechselstudien. — *Le Monde Oriental* 7.
- . 1915. Stufenwechselstudien. — *Le Monde Oriental* 9.
- . 1919. Stufenwechselstudien. — *Le Monde Oriental* 13.
- . 1922. De första lappska böckerna. — *Nordisk tidskrift för bok- och biblioteksväsen*. Årg. IX.
- . 1928. Das lappische Verbaladverbium und einige andere Kasus der Verbalstammes. — *Festschrift til rektor J. Qvigstad 1853 4 april 1928*. Tromsø Museums Skrifter. Vol. 2. Oslo.