

EVA SAAR (Tartu)

TYPES OF CONSONANT ALTERNATION IN THE INFLECTIONAL SYSTEM OF SOIKKOLA INGRIAN

Abstract. From the viewpoint of sound history, the Ingrian language has been considered quite regular. The focus of the present article is on regular consonant alternations in the Soikkola dialect of the Ingrian language. The first part of the article examines the conditions for regular alternations that lead to weakening (in some cases along with assimilation of the weakened segment) and strengthening. In addition to those, a term *assimilation-induced geminate* is invented for a certain type of consonant alternation in inflectional morphology. The second half of the article discusses cases of co-occurrence of consonant strengthening and weakening in different positions in Soikkola Ingrian noun and verb paradigms.

Keywords: Ingrian language, sound history, morphophonology, consonant alternation.

1. Introduction

When studying the inflection system of any language it is essential to identify the underlying causes of the occurrence of stem variants within a paradigm. Traditionally, the study of inflectional systems in Finnic languages has relied, as one of the classification principles, on gradation, the extent of which varies in different languages. In Ingrian, consonant alternation is not restricted to inflection of words within the paradigm solely by gradation of single and double stops at the boundary of the syllable with the primary stress. Alongside with the North Estonian, South Estonian and Livonian languages, Soikkola Ingrian is one of the most complicated and peculiar dialects for its gemination and strengthening phenomena and their co-occurrence within the paradigm.

Ingrian verbs include inflection types that make it necessary to consider at least eight stem variants. For example, in the paradigm of the verb *külpää* 'to wash' two of the three stem groups ending with different vowels contain alternations of three consonants and one of them contains an alternation of two consonants within the same alternation series:

<i>külpilä</i> (INF)	<i>külpõ</i> (3SGPRIND)	<i>külpē nd</i> (SGPFPSPP)
<i>külbi zimmä</i> (1PLCND)	<i>külbõ mä</i> (ILLSUP)	<i>külbe nēD</i> (PLPFPSPP)
<i>külvi mmä</i> (1PLIPF)		<i>külve dä</i> (PRIPS)

Although the background of quality and quantity relations is not relevant in describing the inflectional patterns at final stage and instead it is important to clarify the alternations and their place within the paradigm (what alternates with what and under what conditions), for the sake of better clarity it is important to study the genesis of alternations and links between them in terms of language history.

Most of the linguistic material studied has been derived from the dictionary "Inkeröismurteiden sanakirja" (Nirvi 1971), research papers (Sovijärvi 1944; Лаанест 1966; 1986 etc.), and text collections (Ariste 1956; 1960), whilst the paradigms have been updated by the author of the article during field work on the Soikkola peninsula.

2. Types of consonant alternation in Soikkola Ingrian

The abundance of stem variants in Soikkola dialect stems from a singular attempt to find a balance in the stress system of the language; word alternation within the paradigm follows various rules that are here referred to by the umbrella term *stem-internal consonant alternation* that is divided as follows:

- 1) weakening, including
 - a) radical gradation,
 - b) suffixal gradation;
- 2) strengthening, including
 - a) general gemination,
 - b) special gemination (strengthening after a long syllable),
 - c) gemination of trisyllabic and five-syllable words,
 - d) special gemination (strengthening after a long syllable) of trisyllabic and five-syllable words,
 - e) strengthening after an unstressed syllable;
- 3) assimilation-induced geminates.

2.1. Consonant gradation

Consonant gradation (grade alternation) is represented by the shortening, weakening or loss of the initial consonant of a word-internal (previously) closed syllable or replacement thereof with another consonant either by assimilating with the preceding consonants or marker of the syllable boundary.

2.1.1. Gradation of stops following a stressed syllable

In all Finnic languages featuring gradation, geminate stops and single stops that are intervocalic or follow a voiced consonant undergo gradation (Laanest 1975 : 66). In Soikkola Ingrian, the alternation trends are represented by weakening of a geminate stop into a single stop, loss and replacement of a single stop, weakening of a stop-ending consonant cluster into a geminate, loss and replacement of a stop in a consonant cluster (see Table 1).

Generally, there are few inflection types where the alternates of the stem-internal consonant within the paradigm are due to gradation only, and they include the cases where the alternation concerns a geminate or stop following an unvoiced consonant, e.g. ILL^{SUP} *nukkumä* : 1SG^{PRIND} *nucun*

Table 1

Gradation of stops following a stressed syllable

	Alternation	Strong grade	Weak grade	Gloss
Gradation of geminates	<i>pp</i> : <i>B</i>	1SGPRIND <i>tappelen</i> NSG <i>oppi</i>	INF <i>tabella</i> INSG <i>obiz</i>	to fight; school
	<i>tt</i> : <i>D</i>	1SGPRIND <i>mittelen</i> NSG <i>tüttöi</i>	INF <i>midellä</i> NPL <i>tiidöid</i>	to measure; girl
	<i>kk</i> : <i>G</i>	INF <i>nukkua</i> NSG <i>säkki</i>	SG1PRIND <i>nucun</i> GSG <i>säcin</i>	to sleep; bag
Loss of a single stop	<i>D</i> : \emptyset	ILL ^{SUP} <i>kuDOMā</i> NSG <i>kodi</i>	1SGPRIND <i>kuon</i> GSG <i>koin</i>	to knit; home, house
	<i>G</i> : \emptyset	ILL ^{SUP} <i>luCOMā</i> NSG <i>joci</i>	1SGPRIND <i>luen</i> GSG <i>joen</i>	to read; river
Replacement of a single stop	<i>B</i> : <i>v</i>	ILL ^{SUP} <i>rebimā</i> NSG <i>reboi</i>	1SGPRIND <i>revin</i> GSG <i>revoin</i>	to tear; fox
	<i>D</i> : <i>v</i> (<i>üv w</i>)	ILL ^{SUP} <i>soudamā</i> NSG <i>hauda</i>	1Sg Pr Ind <i>so(u)üvan</i> GSG <i>haüvan</i>	to row; tomb
	<i>D</i> : <i>j</i>	ILL ^{SUP} <i>hoiDāmā</i> NSG <i>paixa</i>	1SGPRIND <i>hoijan</i> GSG <i>paijan</i>	to keep, hold; shirt
	<i>G</i> : <i>v</i> (<i>üv, w</i>)	ILL ^{SUP} <i>liugumā</i> NSG <i>leuga</i>	1SGPRIND <i>liüvun</i> NPL <i>leuvad ~ leüvad</i>	to glide; jaw
	<i>G</i> : <i>j</i>	ILL ^{SUP} <i>oicenommā</i> NSG <i>pīca</i>	INF <i>oi,eda</i> TrSG <i>pījaks</i>	to straighten; girl, young woman
Loss of a stop in a consonant cluster	<i>tk</i> : <i>D</i>	ILL ^{SUP} <i>jatkamā</i> NSG <i>pitkä</i>	1SGPRIND <i>javan</i> NPL <i>piüd</i>	to continue; long
	<i>ht</i> : <i>h</i>	ILL ^{SUP} <i>mahtamā</i> GSG <i>ahtahan</i>	1SGPRIND <i>mahan</i> NSG <i>ahaz</i>	to be able, can; narrow
	<i>hk</i> : <i>h</i>	ILL ^{SUP} <i>ohkamā</i> NSG <i>pehko</i>	1SGPRIND <i>ohan</i> GSG <i>pehon</i>	to sigh; bush
	<i>sk</i> : <i>s</i>	ILL ^{SUP} <i>laskomā</i> NSG <i>poski</i>	1SGPRIND <i>lazen</i> GSG <i>pozen</i>	to let, allow; cheek
	<i>rg</i> : <i>r</i>	ILL ^{SUP} <i>särCömā</i> TrSG <i>varcahaks</i>	1SGPRIND <i>sären</i> NSG <i>varaz</i>	to break, chop; thief
	<i>lg</i> : <i>l</i>	ILL ^{SUP} <i>alcamā</i> NSG <i>sulca</i>	1SGPRIND <i>alan</i> GSG <i>sulan</i>	to start, begin; feather
Replacement of a stop in a consonant cluster	<i>lb</i> : <i>lv</i>	ILL ^{SUP} <i>külbömā</i> NSG <i>külbü</i>	1SGPRIND <i>külven</i> GSG <i>külvün</i>	to wash; sauna
	<i>rb</i> : <i>rv</i>	ILL ^{SUP} <i>särbämā</i> NSG <i>arba</i>	1SGPRIND <i>särvän</i> GSG <i>arvan</i>	to gobble up; lot
Assimilation in a consonant cluster	<i>mb</i> : <i>mm</i>	ILL ^{SUP} <i>ambumā</i> PPL <i>lambahia</i>	1SGPRIND <i>ammun</i> NSG <i>lammaz</i>	to shoot; sheep
	<i>st</i> : <i>ss</i>	ILL ^{SUP} <i>istumā</i> NSG <i>musta</i>	1SGPRIND <i>issun</i> NPL <i>mussad</i>	to sit; black, dirty
	<i>nd</i> : <i>nn</i>	ILL ^{SUP} <i>andamā</i> NSG <i>händä</i>	1SGPRIND <i>annan</i> NPL <i>hännäd</i>	to give; tale
	<i>rd</i> : <i>rr</i>	ILL ^{SUP} <i>hērdämā</i> NSG <i>merda</i>	PElpsPP <i>hērrettü</i> NPL <i>merrad</i>	to rub; basket; fyke
	<i>ld</i> : <i>ll</i>	ILL ^{SUP} <i>kēldämā</i> NSG <i>kēldo</i>	1SGPRIND <i>kēllän</i> GSG <i>kēllon</i>	to forbid, prohibit; prohibition

'to sleep'; ILL^{SUP} *tappamā* : IPF^{IPS} *tabettī* 'to kill'; NSG *katto* : GSG *kaDon* 'roof'; NSG *mädaz* : GPL *mättähän* 'turf, hillock'; NSG *lehti* : GSG *lehen* 'leaf'; INF *ehitiä* : 1SGPR^{IND} / 1SGIPF^{IND} *ehin* 'to arrive, to manage'; NSG *kävüD* : PPL *kätkühiiä* 'cradle'; NSG *pitkä* : NPL *piväv* 'long'; ILL^{SUP} *kitkömä* : PR^{IPS} *keideä* 'to weed, to pluck'; NSG *säski* : GSG *säzen* 'gnat'; INF *istua* : 1SGPR^{IND} *issun* 'to sit'.

Like in Estonian, Votic and Karelian, gradation of the stops following a voiceless consonant is known in Ingrian, too. Hence, Sovijärvi (1944 : 42) writes: "Alternations *st* : *ss* and *tk* : *D* are remarkable in the Soikkola dialect (as in Ingrian dialects in general) particularly for their status as the only clear features of Ingrian dialects, aside from the type *ozra*, *kezrä*¹ referring to the Karelian language."

2.1.2. Suffixal gradation

Gradation is not limited to the boundary of the first and second syllable. In Ingrian (like in South Estonian, Votic, Finnish and Karelian) an extension of radical gradation can also be found in farther parts of the word regardless of whether the preceding syllable is stressed or unstressed. True, in non-initial syllables gradation does not cause as many variants as at the boundary of the first and second syllables. The entities that undergo gradation when following a syllable with no primary stress are:

1) Geminate stops: *pp* : *B*: INF *kanappia* : 1SGPR^{IND} *kanabin* 'to stick, to tuck'; *tt* : *D*: INF *painuttā* : 1SGPR^{IND} *painudan* 'to bend, to crook'; *kk* : *G*: NSG *jamakka* : TRSG *jamacakse* 'sour milk'; INF *nibikkoja* : 1SGPR^{IND} *nibigoin* 'to tie fast'.

2) Consonant clusters where (a) a stop disappears according to gradation rules, e.g. *ht* : *h*: INF *ilvehtiä* : 1SGPR^{IND} *ilvehin* 'to grin'; (b) a stop assimilates with the preceding consonant, e.g. *st* : *ss*: INF *ahistä* : 1SGPR^{IND} *ahissan* 'to stress, to squeeze'; *nd* : *nn*: NSG *avando* : ELSG *avannōst* : PPL *avantoja* 'ice hole'; INF *palendua* : 1SGPR^{IND} *palennun* 'to catch a cold'; *ld* : *ll*: INF *humaldua* : 1SGPR^{IND} *humallun* 'to get drunk'; *rd* : *rr*: INF *häiberdüü* : 1SGPR^{IND} *häiberrüin* 'to get lost; to disappear'; INF *kummardā* : 1SGPR^{IND} *kummarran* 'to bow'.

2.1.3. Gradation of the affricate *ts*

An interesting phenomenon in Soikkola Ingrian is the gradation of the affricate *ts*. In the strong grade, i.e. in front of an open syllable, the first component of the affricate is longer, whereas in the weak grade it is shorter, as, e.g., in *kuṣua* : *kuṣun* 'to invite : I invite' (see Sovijärvi 1944 : 15–16; Ariste 1960 : 52; Laanest 1986 : 36). However, nowadays the quantitative alternation in the dialect of Soikkola is not as consistent under the conditions described above. Laanest regards the gradual disappearance of the quantitative alternation of the affricate *ts* as understandable: "... given the fact that this is — beside the opposition of original full-length geminates and late shorter geminates that is likewise disappearing — the only opposition related to stops that has to do with quantity difference only" (Laanest 1986 : 37).

¹ The Lower Luga and Hevaha dialects, spoken in neighbouring areas, use *odra*, *kedrä*.

The description of affricate alternation can be illustrated by excerpts from the dictionary by Nirvi: NSG *ȯtsa* 'end': GSG *otsan* : PSG *ȯtsā* 'end' (IMS 367); NSG *mėtsä* 'forest': GSG *metsän* : GPL *mėtṡin* 'forest' (IMS 307).

2.1.4. *l-* and *n-*losing forms

Another interesting phenomenon is the loss of *n* and *l* in the so-called weak-grade vocalic-stem form of five verbs: *sȧnnō̇a* 'to say', *männä* 'to go', *panna* 'to put', *olla* 'to be', *tulla* 'to come' (see also Sovijärvi 1944 : 73, 77; Laanest 1986 : 47, 54; Saar 2008 : 39). Those verbs do not have, respectively, a nasal or liquid in the 1st and 2nd person singular and plural in the present tense forms of the indicative mood, in the 2nd person singular of the imperative mood and the negative present form, identical to it. In addition, the paradigm of the verb *sȧnnō̇a* has also weak-grade forms of the 1st and 2nd person singular and plural of the imperfect tense of the indicative mood. As a result, the alteration of the verb *sȧnnō̇a* does not differ in any respect from the alteration of the gradational verb *ku̇ttō̇a* in Soikkola dialect, cf.:

ILLSUP	1SGPRIND	2SGIMP	PRIPS	INF
<i>sanomā</i>	<i>saon</i>	<i>sao</i>	<i>saodā</i>	<i>sȧnnō̇a</i>
<i>kudomā</i>	<i>kuon</i>	<i>kuo</i>	<i>kuodā</i>	<i>ku̇ttō̇a</i>

Classification of the verbs *olla* 'to be', *tulla* 'to come', *panna* 'to put' and *männä* 'to go' based on consonant gradation assigns them to subtypes similar to those of the gradational verbs *nähhä* 'to see' and *tehhä* 'to do':

ILLSUP	1SGPRIND	2SGIMP	PRIPS	INF
<i>panomā</i>	<i>pān</i>	<i>pā</i>	<i>pannā</i>	<i>panna</i>
<i>tecömā</i>	<i>tēn</i>	<i>tē</i>	<i>tehhā</i>	<i>tehhä</i>

2.2. Gemination

2.2.1. General gemination (GG)

General gemination is defined as the gemination of the consonant following the primary- or secondary-stressed syllable if a weak-grade counterpart of a stop or *h* has been lost from between the following syllables leading to the formation of a long vowel or a diphthong. In addition, in most Finnic dialects gemination used to require a short syllable preceding the geminating consonant (Laanest 1975 : 75).

General gemination occurs in all Ingrian dialects; the geminates resulting from general gemination are either full-length or short-initial. Soikkola Ingrian is characterized by short-initial geminates, especially on the core territory of the dialect (Laanest 1986 : 57). At present, two-syllable words show that if **t* or **h* was lost from between the same vowels at the beginning of a former third syllable, a short initial or full-length geminate corresponds to the former single consonant at the boundary of the first and second syllable: e.g. after the primary-stressed syllable PSG **kalaṭā* > *kȧllā* (Re, Vi) ~ *kallā* (Taa) 'fish', PSG **soṭāṭā* > *sȯttā* (Vi) ~ *sottā* (Ksk) 'war', ILLSG **vetehen* > *vettē* (Vol, Re) ~ *vettē* (Har) 'water', INF **palāṭā* > *pȧllā* 'to burn'. The geminate arisen in a similar position is definitely short-initial if **ṗ* or **k̇* has disappeared from between same or different vowels: 3SGPRIND **tuleṗi* >

tullō 'comes', 3SGPRIND **lesipi* > *lešši* 'is lying down', 3SGPRIND **palaŋi* > *pallā* 'burns'; GSG **siteken* > **sitēn* > *sittin* 'of the tie/bond'. Here it is important to note the difference in duration between the original geminate in the same position (e.g. **rikkopi* > *rikkō* 'breaks') and the short-initial geminate resulting from general gemination; this phenomenon has been confirmed by Markus (2010) using instrumental measuring.

Since gemination occurs not only in the stem but also in the word form as a whole, they have a role in the generation of formative variants. For example, following a secondarily stressed syllable ILL^{SUP} **asetta* | *mahen* > **asetta* | *mahan* > *asetta* | *mān* > *a s e t t a* | *ṁ m ā* 'to put, to place' (cf. *küzü* | *mā* 'to ask'); 2PLIMP **korjahu* | *kahen* >> *k o r j a h u* | *k̄ k ā* 'come together!' (cf. *kudo* | *cā* 'knit!'); PLPFPSPP **avitta* | *nutet* >> *a v i t t a* | *ñ n ē D* 'has/have helped' (cf. *itke* | *nēD* 'has/have wept'); PPL *k a n d e l i* | *l̄ l ō j a* 'zithers' (cf. *kili* | *lōjä* 'goat').

The spread of general gemination in Finnic dialects has been described by Laanest (1975 : 74–75; 1986 : 57–59) and in more detail by Nahkola (1987).

2.2.2. Special gemination (SG) — strengthening after a long syllable

Besides general gemination, the Ingrian language is noted for its extension called special gemination (Sovijärvi 1944 : 80–82; Palander 1987; Laanest 1986 : 60–61) that regularly concerns the consonants *B*, *D*, *G*, *Z*, following the primary or secondary stressed syllable if that syllable ends in a long vowel, diphthong or sonorant. Laanest (1986 : 60) writes about the conditions for the occurrence of special gemination: "If the syllable preceding the said sounds is long (ends with a long vowel or a voiced consonant), but all the other conditions for general gemination are present, the said consonants are not always geminated, but have often turned into half-long consonants. A geminate and single consonant may easily alternate for the same person."²

In fact, the term *gemination* as used here is misleading; already Sovijärvi points to that fact (1944 : 81–82) and Ariste wrote (1956 : 49): "In consonant clusters and following a long vowel, the stops and sibilants have lengthened and strengthened without gemination [---]". Thus, in the written records of Soikkola dialect, obstruents, strengthened due to the aforementioned conditions, have in most cases been marked as fortis consonants (as a fortis stop or voiceless sibilant), a half-long consonant or (less frequently) a short geminate that alternate within the paradigm either with a (partly) voiced lenis stop or (partly) voiced sibilant, e.g. NSG *leibä* 'bread' : PSG *leipā* ~ *leip̄pā* (IMS 258), NSG *sibi* 'wing' : PPL *sip̄iä* (IMS 531), In SUP *ambumaz* 'shooting' : 3SGIPFIND *ambui* : 3SGPRIND *ampū* (IMS 15), NSG *hundu* 'mähe; kerchief' : ILLSG *huntuū* (IMS 74), INF *lanġeda* : 3SGIPFIND *lanġe is* 'fell' (Ariste 1960 : 18), ELPL *herzist* : PPL *hersiä* ~ *heršsiä* (IMS 59),

² Studies of gemination in Finnish dialects use the term *erikoisgeminatio* ('secondary gemination') (Palander 1987; Nahkola 1987 : 59) for all the cases of lengthening of consonants preceding long vowel matter and that cannot be defined as general gemination, i.e. in different and broader terms than in discussions of the Ingrian language (Porkka 1885 : 38, 39; Sovijärvi 1944 : 81; Laanest 1986 : 60–61). Palander (1987 : 21–27) discusses the consonant that precedes long vowel matter after a long stressed or long or short unstressed syllable as a case of special gemination.

ILLSUP *pāzōmā* : 3SGPRIND *pā s ō* 'escapes' (Ariste 1960 : 21), ILLSUP *seizomā* 'to stand' : 3PLIPFIND *seiso id* (IMS 516), GSG *abilaizen* 'of a helper, helper's' : GPL *abilaiš in* 'of helpers, helpers' (genitive)', PPL *abilaiš ia* 'helpers (partitive)' (IMS 2).

The strengthening also affects the variation of formatives: the initial stop of a formative is strengthened after a long stressed syllable ending in a long vowel or a voiced consonant: IPFIPS *oltī* 'people were' (Ariste 1960 : 12), *tūtī* 'was brought' (Ariste 1960 : 27), *lūtī* 'was struck' (Jaahect 1966 : 112), *māntī* 'was gone' (Jaahect 1966 : 113), IPFIPS *manidel tī* 'was flattered' (IMS 296) (cf. after a voiced consonant in an unstressed syllable IPFIPS *ommel dī* (IMS 363) and vowel of an unstressed syllable IPFIPS *annettī* (IMS 16)); 2PLIMP *sōk ā* 'Eat!' (IMS 564), *tulk ā* 'Come!' (Ariste 1960 : 12) (cf. after an unstressed syllable *maistac ā* 'Have a taste!', *kūnnelc ā* 'Listen!' (Laanest 1986 : 134) and after a secondarily stressed syllable *avittak k ā* 'Help!' that follows general gemination).

Palander, who has studied special gemination (*erikoisgemmaatio*) in eastern dialects of Finnish has concluded that it must be a relatively young phenomenon since the dialect-speaking representatives of younger generations have a stronger special gemination (Palander 1987 : 194–206). Such subtypes of gemination have been viewed as a recent extension of general gemination (Nahkola 1987 : 59), since the conditions for its occurrence cover the conditions required for general gemination but are broader than the latter, i.e. lengthening may also occur after a long syllable of a certain type. While describing gemination in Finnish dialects, Nahkola (1987 : 59–60) points out that the geographical territory of special gemination is always within the geographical territory of general gemination and that special gemination is almost always weaker than general gemination: "In terms of its birth, special gemination is a clear example of a predictable evolution of diffusion theory: spread to a new territory involves a change under the same conditions as in the birth territory, yet the conditions may lead to an extension" (Nahkola 1987 : 59–60). Among other things, Nahkola supposes that special gemination may be nothing else than a result of the fallacy that vowel matter must be preceded by a geminate.

2.2.3. Gemination of trisyllabic and five-syllable words (3G)

During a certain period of evolution, the quantity of three-syllable words with two initial short syllables (as well as similar five-syllable words with the short third and fourth syllable) has undergone a change, i.e. the vowel of the second syllable (or of the fourth syllable in five-syllable words) has lengthened and the consonant preceding the resultant long vowel has geminated (a). The change has occurred also in case the second open syllable ends with an i-ending diphthong (b):

(a) (C)VCVCV(C) > (C)VČCVVCV(C)

GSG **putelin* >> *pu tt ē lin* 'bottle' (cf. ILLSG **putelihen* >> *puvel i*);
 GSG **terävän* >> *te ř r ā v ä n* 'sharp' (cf. TRSG **teräväkse* > *teräväks*);
 1SGPRIND **kävelen* >> *k ä v v ē len* 'I walk' (cf. ILLSUP *kävelömmä*);
 1SCND **näpisteleisin* >> *n ä b i s t e l l i z in* 'I would pinch, I would steal' (cf. 1SGPRIND *näbistelen*);

(b) (C)VCViCV(C) > (C)VČCViCV(C)

NPL *hepoiset >> h e p̃ p o i s t 'horses' (cf. PPL heboizia ~ heboisia);
 1SGIPFIND *makaiĭn >> m a k̃ k a i z i n 'I slept' (cf. 1PLIPFIND magai-
 zimma);
 2SGCND *küsiisit >> k ü š s ü i s t 'You would ask' (cf. 2PLCND küzüi-
 zimmä).

Arvo Laanest (1986 : 61–64) has drawn attention to the circumstance that "[---] the long vowel as one of the preconditions for gemination has often shortened; in many cases the number of syllables has also changed, hence, the gemination in question is not a purely phonetic phenomenon."

Here it is important to mention a condition for the (non-)occurrence of the gemination in trisyllabic words: the lengthening of the vowel in the second syllable and the gemination do not occur if the boundary of the second and third syllable of the word exhibits a weak-grade equivalent of a geminate (the second syllable has once been closed). This has to be juxtaposed to the knowledge that gemination has taken place in the cases of the loss of a stop from a gradational consonant cluster in non-initial syllables. Cf. for example INF *avittä* : 1SGPRIND **apittan* > **aĭttan* > **aviĭtan* > **avitan* > *a v i d a n* 'to help' versus INF *köhähtä* : 1SGPRIND **köhähtän* > **köhähtän* > **köhähän* > **köhähän* > *k ö ħ h ä h ä n* 'I cough'; NSG *harakka* : GSG **harakkan* > *harakkan* > *harakan* > *h a r a c a n* 'magpie' versus AD SG (**haravalla* >) *haraval* : GSG **haravan* > **harāvan* > *h a ř r ā v a n* 'rake'. This means that the closeness of the syllable due to a geminate is rather persistent in linguistic memory, or as Sovijärvi has concluded when describing the chronology of quality and quantity changes of sounds (Sovijärvi 1944 : 85–86): gradation of geminate stops after an unstressed syllable is a later phenomenon than the gemination of trisyllabic words.

Such inflection patterns where gemination of trisyllabic words occurs as the only type of consonant alternation are clearly distinctive. The geminated forms occur, for example:

(a) in nominative and genitive singular and nominative plural forms of single-stem trisyllabic stem and trisyllabic s-stem nouns, e.g. NSG *hařrāva* 'rake' : GSG *hařrāvan* (cf. SGP *haravā*); NPL *puñnaist* 'red (in plural)' (cf. GPL *punaizĭn*);

(b) biradical nouns with trisyllabic vocalic stems such as *lühüd* 'short' and *pere* 'family' in the genitive singular and nominative plural forms, e.g. NSG *lühüd* : GSG *lühhü, en*; NSG *pere* : NPL *pěřrēhed*;

(c) trisyllabic single-stem verbs in the 1st and 2nd person singular present forms of the indicative mood, 1st, 2nd and 3rd person singular past forms of the indicative mood and 2nd person singular of the imperative mood, e.g. ILLSUP *erahuġmā* 'to separate' : 1SGPRIND *eřrāhun* : 3SGIPFIND *eřrāhui*.

2.2.4. Special gemination of trisyllabic and five-syllable words (3S)

Similarly to the extension of general gemination (special gemination), special gemination of trisyllabic and five-syllable words emerges in Soikkola Ingrian. If the first syllable (resp. third) syllable is long (ends in a long vowel or voiced consonant), yet other conditions for the occurrence of gemination in trisyllabic and five-syllable words are there, *B*, *D*, *C* and *Z* have strengthened into half-long voiceless single consonants or geminates (Laanest 1986 : 62).

Cf., e.g., strengthening in the following (formerly) trisyllabic words: ILLSG *karbolā* : NSG *karpola* ~ *kar̥pola* 'cranberry'; NSG *kannel* : GPL *kandelilloin* : NPL *kanteled* 'zither'; NSG *härçin* : GSG *härkkimen* 'twirling strick'; PPL *kerdaizia* : NSG *kertain* ~ *ker̥tain* 'layered; -storey'; 3SGPRIND *kündelō* : 1SGPRIND *küntelen* 'I listen'; INSG *karzināz* (Me) ~ *karzināz* (Vi) : NSG *karsina* ~ *kar̥sina* (Vi) ~ *kar̥šina* (Sa) 'enclosure'.

Examples of strengthening in five-syllable words are: Inf *nagraksennelä* : 3SGPRIND *nagraksendelō* : 1SGPRIND *nagraksentelen* 'to chuckle to oneself'; INF *mörnäksennellä* : ILLSUP *mörnäksendelömmä* : 3SGIPFIND *mörnäksenteli* 'to give a cry, to yell out'.³

2.2.5. Geminate following an unstressed syllable

The precondition for strengthening or gemination of the consonant following an unstressed syllable is its location in front of a long vowel arising from contraction. There is a tendency for sibilants of the plural genitive and partitive forms of *s*-stem nouns to strengthen after an unstressed syllable, and there are also two examples of nouns with a consonant ending second syllable strengthening in the illative singular, and a single example of strengthening occurring in the plural partitive form of an *n*-stem noun. Strengthening after an unstressed syllable is not consistent, forms with a strengthened consonant often occur side by side with forms with an unstrengthened consonant. Nirvi's (1971) written records mention strengthening after an unstressed syllable, manifested either as a single consonant, half-long consonant or short geminate, e.g. cf. GSG *heppoizen* 'horse' : GPL *heboiz̥in* ~ *hebois̥in* : PPL *heboizia* ~ *heboisia* (IMS 57); GSG *sūmizen* 'of food/food's': PPL *sūmisiä* 'foods/dishes' (IMS 564); GSG *inmizen* : PPL *inmisiä* ~ *inm̥isiä* (IMS 94); GSG *hiljaizen* 'of a silent/low-voiced' : PPL *hiljaissä* 'silent/low-voiced' (IMS 61); NSG *allain* : PPL *alais̥ia* (Vi) ~ *alais̥sia* (Sa) 'mitten' (IMS 13, 168); NSG *hoikkain* : PPL *hoikkaissä* 'slim, thin' (IMS 65); NSG *hajjuin* : PPL *hajjuisia* 'smelling, fragrant' (IMS 41); NSG *paremb* 'better, superior' : ILLSG *parembā* ~ *parempā* (IMS 384–385); NSG *avando* 'ice hole' : PPL *avantoja* : ILLSG *avandō* ~ *avantō* (IMS 23–24); PPL *ahvenia* (Vi) ~ *ahveñnia* (Re) 'perch' (IMS 4).

2.3. Assimilation-induced geminates (AG)

When identifying inflection types, it is reasonable to divide a word entity into the stem (semantically invariable part) and the formative (semantically variable part). In its evolution, Soikkola dialect — like many Finnic dialects — has entered a phase where in many cases the boundary between the stem and formative has become fuzzy. This means that when dividing a word entity into its stem and formative, it is not always reasonable to follow the historical boundary that would cause many formative variants when describing the inflection system, e.g. in verbs INF **tul|t̥ak* > *tul|la* 'to come', INF **pur|t̥ak* > *pur|ra* 'to bite', INF **män|t̥äk* > *män|nä* 'to go', GER **näk|t̥essä* > *näh|hēs* 'when seeing', PRINDIPS **las|t̥aksen* > *las|sā* 'is/are let/allowed', PRINDIPS **ompel|t̥aksen* >

³ This and the previously mentioned gemination type occur consistently in the Soikkola and Hevaha dialects of the Ingrian language, less consistently in the Oredež dialect and are fully absent in the Lower Luga dialect (Laanest 1986 : 62).

ommel|lā 'is sewn', SGPFPsPP **kūl|nut* > *kūl|lut* 'heard', SGPFPsPP **nois|nut* > *nois|sud* 'got up', PLPFsPP **pes|nehed* > *pes|sēD* 'washed', **lan̄ket|nehed* > *lan̄cen|nēD* 'toppled/fallen over', **avat|nehed* > *avan|nēD* 'opened'. In view of the facts mentioned above, it is reasonable to view the geminate on the boundary of the stem and historical formative as part of the stem in the infinitive, gerund and impersonal present forms of *l*-, *n*-, *r*-, *s*- and *h*-stem verbs, and in the singular (as a parallel form) and plural forms of the past participle of *l*-, *n*-, *r*- and *s*-stem verbs. This makes it possible to speak of assimilation-induced geminates when describing the inflectional system. In terms of linguistic history, these phenomena are of three different origins.

2.3.1. Assimilation-induced geminate caused by gradation

The geminates occurring at the boundary between the stem and the formative in the infinitive, gerund and impersonal forms stem from grade alternation according to the phonetic law where the phonetic law supersedes the boundary of the morphological division of a word: the cluster of a stem-final consonant and an initial stop of the formative in a closed syllable has undergone gradation and the weak-grade equivalent of **t* of the formative of the corresponding forms has assimilated with the preceding consonant, e.g. INF **tul|tak* > *tulla*, PRIPs *tullā* 'to come' etc).

The geminates in the corresponding forms of monosyllable vocalic stem verbs are of a similar origin, e.g. INF **tōtak* >> *tōvva* 'to bring', **sātak* >> *sāvva* 'to get'; PRIPs *kävvä* 'to go, walk', *vējjä* 'is/are taken/carried', where the single stop at the boundary of the syllable has disappeared according to the gradation rules and the boundary line of the syllable is marked by the glides *v* or *j* (see also Sovijärvi 1944 : 55; Laanest 1986 : 141–142).

2.3.2. Assimilation-induced geminate as a result of progressive assimilation

The geminates in the singular and plural past participle forms of *l*-, *n*-, *r*- and *s*-stem verbs, however, are of a different origin: they can be called pure (purer) assimilation-induced geminates since they are not caused by gradation, but represent cases of progressive assimilation where the initial component of the formative has assimilated with the stem consonant, e.g. PLPFsPP **pes|nehed* > *pe₁sēD* 'washed', **murjahus|nehed* > *murjahussēD* 'wrinkled'.

2.3.3. Assimilation-induced geminate due to regressive assimilation

The third type of assimilation-induced geminate generation is represented by the past participle plural form of *t*-stem verbs that have undergone regressive assimilation, i.e. the stem consonant has assimilated with the initial component of the formative, e.g. PLPFsPP **pa₁ket|nehed* > *pa₁ennehed* 'fled, escaped', **kelvat|nehed* > *kelvannēD* 'been suitable'. In the case of nouns, the singular partitive of *k*-stem nouns can be viewed as an assimilation-induced geminate: PSG **kas₁tek|ta* >> *kassetta* 'dew', **päre₁k|tä* : *pärettä* 'spalt; splinter'.

Assimilation-induced geminates in Soikkola dialect tend to be full-length, being distinct from the formative with an initial short geminate, which is

a result of general gemination, following the secondarily stressed syllable, e.g. PLPFPPSPP **aṗittanehed* > *avittaṅnēd* 'helped', **korjahunehed* > *korjahunnēd* 'collected, gathered', **paistettunehed* > *paissettuṅnēd* 'swollen'.

3. Co-occurrence of the types of consonant alternation in inflectional paradigms

In the first stage of studying the inflection system of verbs in Soikkola dialect, some attempts were made to describe the consonant alternation in the inflection system by forming source classifications both for gradation and gemination. Since the phenomena under consideration are closely inter-related and changes of consonants of individual types co-occur in the same word form, and it is neither reasonable nor possible to consider them separately the method was not applied (see Saar 2008). Here, one can follow the example of the discussion of the Võru literary language that views all consonant alterations (stem alternations and non-initial syllable alternations) within a source classification of gradation (Iva 2007 : 59–69).

Based on stem-internal consonant alternation, it is possible to divide the nouns and verbs of the Soikkola language into three groups according to whether the consonant alternation in the word paradigm is caused by a) weakening only, b) strengthening only, c) weakening as well as strengthening. The words with invariant stems fall into the fourth group.

Generally, there are few inflection types whose composition and behaviour in the alteration system enables speaking of just one or another type of consonant alternation. There are relatively more inflection types with various forms, the formation of which within the paradigm depends on more than one type of consonant alternation. Assimilation-induced geminates as a type of consonant alternation are invariably represented in the paradigm for consonant-stem verbs. Below we will discuss various possibilities for the co-occurrence of various types of consonant alternation within the paradigm, giving examples of stem types of both nouns and verbs. As long as the consistence of verb forms is more diverse than that of nouns, there are more possibilities for combining alternations by verbs. First we will examine possibilities for combining types of consonant alternation within the paradigm in the inflection types of gradational nouns and verbs (section 3.1.–3.5.), and next in the inflection types of non-gradational nouns and verbs (3.6.–3.9).

3.1. The combination of gradation and 3G

1) The combination of gradation and 3G occurs in the inflection types of nouns such as *heppoin* 'horse', where the partitive singular (*hevoist*) is in the weak grade and among strong-grade forms, the nominative and genitive singular forms (GSG *heṗpoizen*) and the nominative plural (NPL *heṗpoist*) will geminate (e.g. EsSG *heboizēn*). Within the same inflection type, a strengthened consonant may follow an unstressed syllable, e.g. GPL *heboizīn* ~ *heboisīn* : PLP *heboizia* ~ *heboisia*.

2) The combination of gradation and 3G also occurs in *köhähtä*-type 'to cough (once)' verbs with a trisyllabic stem among which weak-grade forms that are subjected to 3G are the present and past 1st and 2nd person singular forms of the indicative mood and the 2nd person singular of the impera-

tive mood, e.g. 1SGPRIND *köhhähän* 'I cough (once)', 1SGIPFIND *köhhähin* 'I coughed (once)'. In a trisyllabic word with the open and short 1st and 2nd syllable gemination occurs only if there is a weak-grade equivalent of a consonant cluster at the boundary of the 2nd and 3rd syllable. Geminate memory is more persistent in the language: if there is a weak-grade equivalent of a geminate at the boundary of the 2nd and 3rd syllable, no gemination takes place at the boundary of an open 1st and 2nd syllable (e.g. INF *avittä* 'to help' : 1SGPRIND *avidan*).

3) The combination of gradation and 3G also occurs in two-stem verbs such as *paeda* 'to flee', among which strong-grade forms geminate in the 1st and 2nd person of the present and past forms of the indicative mood, in the 3rd person of the past tense and in the 2nd person of the imperative mood, e.g. cf. INF *paeda* : ILLSUP *pagenoimmä* : 3SGIPFIND *päkkēni* (3G).

3.2. The combination of gradation, GG and 3G

1) The co-occurrence of gradation, GG and 3G are exemplified by nouns such as *kaba* 'dried fish', *kodi* 'farmstead, house', *noci* 'soot' where GG concerns partitive and illative forms of the singular and genitive, partitive and illative forms of the plural in *kaba*-type nouns; in *kodi*-type nouns, GG has an effect on the partitive and illative forms of the singular only, whereas plural forms are formed by means of a *loi-*, *löi*-marker, where no preceding geminated forms are possible. In *kaba*-type 3G occurs in the singular and plural essive forms and in *kodi*- and *noci*-type nouns in the essive singular forms only, e.g. NSG *kaba* : GSG *kavan* : PSG *kaŕpā*, PPL *kaŕpōja* (IMS 118), EsSG *kaŕpān*; NSG *kodi* : GSG *koin* : PSG *kottia* (cf. PPL *koviloja*, *nociloja*).

2) The co-occurrence of gradation, GG and 3G are exemplified by contracted verbs such as *lädä* 'to talk, to speak', *harcada* 'to step', where in the Soikkola dialect GG concerns supine (*läkkämä*), the 2nd person singular of the imperative mood, present participle and negative forms, 1st and 2nd person singular of the present forms of the indicative mood as well as in the corresponding plural forms formed after it, e.g. 1SGPRIND *läkkän*, 1PLPRIND *läkkämmä*, 2PLPRIND *läkkättä* (cf. 3PLPRIND *läcäjäd*); in the Hevaha dialect gemination occurs in the respective singular forms only (the corresponding plural forms are 1PLPRIND *läcä,emän* and 2PLPRIND *läcä,että*) — in terms of consonant alternation, this is one of the most readily perceived differences between the two dialects. The impact of 3G is obvious in the past singular forms of the indicative mood, e.g. 1SGIPFIND *läkkäizin* : 2SGIPFIND *läkkäist* : 3SGIPFIND *läkkäiz*.

3.3. The combination of gradation, SG and 3S

A combination of those three occurs:

1) In noun types such as *jalca* 'leg, foot', *leivä* 'bread' etc., e.g. NSG *leivä* 'bread' : GSG *leivän* : PSG *leipä* (SG) : EsSG *leipän* (3SG).

2) In verbs such as *antä* 'to give', *ampua* 'to shoot, to fire', *leipoja* 'to bake' etc, where SG has had an effect on the infinitive, 3rd person singular and plural of the present forms of the indicative mood and the 3rd person plural of the past forms, cf. 3SGIPFIND *ambui* : 1SGPRIND *ammun* : 3SGPRIND *ampü*. In these inflection types, 3S occurs in (a) singular forms of the conditional

mood, e.g. 1SGCND *antaizin* (cf. 1PLCND *andaizimma*), (b) in the singular form of the past participle, e.g. *antānd* (cf. PLPFsPP *andanēd*), (c) in the nominative form of the present participle (*antāva*).

3.4. The combination of gradation, 3S and AG

An association of such consonant alternation types as gradation, 3S and AG is represented in *ele*-verbs with trisyllabic and five-syllable stems such as *ommella* 'to sew', *nagraksennella* 'to chuckle to oneself', where 3S occurs in the present 1st and 2nd person singular of the indicative mood, the past 1st, 2nd and 3rd person of the indicative mood (e.g. 3SGIPFIND *ompeli*, cf. ABSUP *ombelomada*), in the affirmative and negative speech in the 2nd person singular forms and in negative present forms. AG occurs in the following forms: INF *ommella*, GER *ommellēz*, PRIPs *ommellā*, SGPFsPP *ommellud* (~ *ommeld*), PLPFsPP *ommellēd*.

3.5. The combination of gradation, GG, 3G and AG

An example of the co-occurrence of gradation, GG, 3G and AG are verbs of the type *nāhhä* 'to see' and *ele*--verbs with a four-syllable stem, containing a gradational derivational suffix (-*sta*- + *-ele*-), such as for example *nābissellä* 'to pinch, to steal', where

(a) GG occurs in the 3rd person singular of the indicative mood, e.g. 3SGPRIND *nākkō*, *nābistellō*, which serves as an analogy for forming 3rd person plural forms in the present and past (3PLIPFIND *nākkid*, *nābistellid*);

(b) 3G occurs in the 1st, 2nd and 3rd person singular of the conditional mood in 1SGCND *nākkizin*, *nābistellizin*, 2SGCND *nākkist* and 3SGCND *nākkiz*, respectively, and in the present participle form (PRPP) *nākkōva*;

(c) AG occurs in the infinitive, gerund and present impersonal forms: INF *nāhhä*, GER *nāhhēz*, PRIPs *nāhhä*, *nābissellā*, in *ele*-verbs also in the plural of the past participle, and, depending on the form constituent, also in the singular form of the past participle: PLPFsPP *nābissellēd*, SGPFsPP *nābissellud* (~ *nābisseld*).

The same *ele*-suffixed verbs highlight yet another noteworthy phenomenon. In words of up to three syllables and of five syllables, consonants with an alternating quantity occur as strong-grade consonants either in one or another part of the stem in different forms, but never simultaneously in the same form, for example, if in a trisyllabic word with a short 1st and 2nd syllable the consonant at the boundary of the 2nd and 3rd syllable is in the strong grade or features AG (e.g. 1SGPRIND *kōhhähän* : 3SGPRIND *kōhähti* 'to cough (once); 1SGPRIND *kävvelen* : INF *kävellä* 'to walk'), no strengthening of the consonant at the boundary of the 1st and 2nd syllable occurs. Four-syllable *ele*-verbs may contain a gradational strong-grade consonant and a gemination-caused strengthened consonant in adjacent syllables within the same word form. For example, 3SGPRIND *nābistellō*, 1SGCND *nābistellizin* 'to pinch, to steal' (cf. INF *nābissellä*: 1SGPRIND *nābistelen*) (IMS 353); 3SGPRIND *mūcähtellō* 'to low plaintively' (INF *mūcähellä*) (IMS 324).

3.6. The combination of GG and 3G

GG and 3G can be found in the paradigm simultaneously in non-gradational inflection types such as:

1) Disyllabic and four-syllable nouns such as, for example *kala* 'fish', *emoi* 'mother', where GG occurs in the partitive and illative forms of the singular and the genitive, partitive and illative forms of the plural of *kala*-type nouns, while in *emoi*-type nouns GG affects only the partitive and illative singular forms. 3G occurs in the essive singular and plural forms in *kala*-type words, for example EsSg *kallān* 'as a fish', EsPl *kallōin*. Since the plural forms of *emoi*-type nouns are formed using a *loi-*, *lōi-*marker, no gemination occurs in the essive plural of this type, cf. for example EsSg *eṃmoin*, EsPl *emoloin*.

2) In *kekkēle*-type nouns 3G occurs in the first half of an inflectional form in the nominative singular *kekkēle* 'firebrand' and after a secondarily stressed syllable in the essive *keceleḥhēn*; GG occurs in the genitive and partitive plural: GPL *keceleḥhīn* : PPL *keceleḥhiä* (cf. GSg *kecelehen*).

3) Verbs with a disyllabic stem such as *küšsü,ä* 'to ask', *iṃmi,ä* 'to suck', *ellä* 'to live', where GG occurs in the infinitive (though the two first mentioned verbs can be qualified also as gemination type of 3G), 3rd person singular of the indicative mood and the forms formed after its pattern (3rd person plural of the present and 3rd person plural of the past): INF *küšsü,ä*, 3SGPRIND *küšsü*, 3PLPRIND *küšsüd*, 3PLPFIND *küšsüid*. 3G occurs in the singular 1st, 2nd and 3rd person forms of the conditional mood: *küšsüizin*, *küšsüist*, *küšsüiz* (cf. in the plural *küzüzimmä*, *küzüzittä*, *küzüisid*); in the nominative form of the present participle: *küšsüvä* (cf. in the partitive *küzüvä*) and in the singular form of the past participle: *küšsünd* (cf. PLPFPP *küzünēd*).

3.7. The combination of 3G and AG

The simultaneous occurrence of 3G and AG within a paradigm can be found in trisyllabic biradical verbs such as *kävellä* 'to walk', where 3G occurs in the 1st and 2nd person of the present and past singular of the indicative mood (e.g. 1SGPRIND *kävvelen*, 2SGIPFIND *kävvelid*) and 3rd person singular in the past (*kävveli*) and AG in the infinitive, gerund (*kävvelēz*), present form of the impersonal (*kävellä*) and plural form of the past participle (*kävellēd*), and as a parallel form in the singular (*kävellud* ~ *käveld*).

3.8. The combination of GG + 3G + AG

The combination GG + 3G + AG occurs in *l-*, *n-*, *r-*stem verbs such as *tulla* 'to come' (IMS 607), *panna* 'to put' (IMS 382) etc, where

(a) GG occurs in the 3rd person singular of the indicative mood, e.g. 3SGPRIND *tullō* (the present and past forms of the 3rd person plural are also formed by this analogy);

(b) 3G occurs in the 1st, 2nd and 3rd person singular forms of the conditional mood such as 1SGCND *tullīzin*, 2SGCND *tullīst* and 3SGCND *tullīz*, respectively (cf. 1PLCND *tulizimma*) and in the nominative and genitive form of the present participle (PRPP) *tullōva(n)*;

(c) AG occurs in the following forms: INF *tulla*, GER *tullēz*, PRIPs *tullā*, SGPFsPP *tullud* (~ *tuld*), PLPFsPP *tullēd*. In the written records of Soikkola dialect, the assimilation-induced geminates of the infinitive, impersonal and the past participle plural forms of the aforementioned verbs have been marked as full-length ones, e.g. PRIPs *tullā* and *pannā* (Laanest 1986 : 136).

3.9. The combination of SG + 3S + AG

SG + 3S + AG occur in verb types such as *noissa* 'to get up, to rise' (IMS 344–345), *seissa* 'to stand' (IMS 516):

(a) due to SG, the consonant has strengthened into a half-long consonant (but has been marked also as a short geminate) in the 3rd person singular of the indicative mood, e.g. cf. 1SGPRIND *noizen* : 3SGPRIND *noisō* ~ *noiššō* (IMS 344) ~ *noišō* (Laanest 1986 : 125), this form serves as the analogy for 3rd person plural forms of the past and present tenses;

(b) 3S occurs in the 1st, 2nd and 3rd person singular of the conditional mood and in the nominative form of the present participle (PRPP *noiššōva*);

(c) AG occurs in the infinitive, gerund and impersonal present form, in the plural form of the past participle, and depending on the form constituent, also in the singular form of the past participle: INF *noissa*, PRIPs *noissā*, PLPFsPP *noissēd*, SGPFsPP *noissud* (~ *noist*).

4. Summary

This article focuses on regular consonant alternations in Soikkola Ingrian and the possibilities for the co-occurrence of different types of consonant alternation within various noun and verb paradigms. The main trends in consonant alternation are:

1) Weakening that includes radical gradation (e.g. NSG *katto* : GSG *kadon* 'a roof') and suffixal gradation (e.g. INF *kummardā* : 1SGPRIND *kummarran* 'to bow').

2) Strengthening that includes — besides the general gemination widely distributed in the Finnic linguistic area — subtypes of consonant gradation specific for the Ingrian language: special gemination, i.e. strengthening after a long syllable (e.g. INF *lanġeda* : 3SGIPFIND *lanġeis* 'fell'); gemination of trisyllabic and five-syllable words (e.g. GSG **terävän* >> *teřrävän* 'sharp'); special gemination of trisyllabic and five-syllable words, i.e. strengthening after a long syllable (e.g. 3SGPRIND *kündelō* : 1SGPRIND *küntelen* 'to listen; to hear'); strengthening following an unstressed syllable in front of a long vowel resulting from contraction (cf. NSG *allain* : PPL *alaišsia* ~ *alaiššia* 'a mitten'; PPL *ahvenia* ~ *ahveñnia* 'a perch'). However, strengthening after an unstressed syllable is not consistent, forms with a strengthened consonant often occur side by side with forms with an unstrengthened consonant.

Investigation of general gemination shows that in Soikkola Ingrian the quantity of the geminates at the boundary of the first and second syllable as a result of the loss of **t* and **h* at the beginning of the third syllable is different from that of the geminates in the same position as a result of the loss of **p̥* and **k̥*: the geminates resulting from the loss of **t* and **h* may be short-initial or full-length (PSC **kalata* > *källā* ~ *kallā* 'fish', ILLSG **vete-hen* > *vettē* ~ *vettē* 'water'), whereas any geminate resulting from the loss

of **p̥* or **k̥* is definitely short initial (3SGPRIND **tulepi* > *tullō* 'he/she comes', GSG *siteken* > *sittin* 'bond'). Since gemination occurs not only in the stem but in the entire word form, they play a role in the genesis of formative variants.

Besides weakening and strengthening, assimilation-induced geminates are highlighted as a distinct type of consonant alternation — these are geminates resulting from a compounding of the stem and historical formative in the consonant-stem forms of words and they likewise are involved in the alteration of words as allophones of consonants. In terms of linguistic history, assimilation-induced geminates may result from three different processes: 1) gradation (e.g. INF **tul|tak* > *tulla* 'to come'); 2) progressive assimilation (e.g. PLPFPSPP **pes|nehed* > *pessēd* 'washed'); 3) regressive assimilation (e.g. PLPFPSPP **pāket|nehed* > *pa,ennehed* 'flee, escaped'; PSG **pārektä* : *pārettä* 'a chip; a splinter').

The assimilation-induced geminates of the Soikkola dialect tend to be full-length, being distinct, for example, upon the formation of plural past participle forms from the formative with an initial component that has geminated due to general gemination, following the secondarily stressed syllable of a trisyllabic vowel stem (e.g. PLPFPSPP **avittanehed* >> *avittañēd* 'helped').

The analysis of the possibilities for co-occurrence of different types of consonant alternation shows that there are generally few inflectional types with a structure and behaviour that allows to classify them as clearly belonging to only one or another type of consonant alternation. There are more of inflectional types in which the formation of different forms within a paradigm depends on more than one type of consonant gradation. Since the verb paradigm is more complex than the noun paradigm, there are also more possibilities for the co-occurrence of different types of consonant alternation in verb types.

Address

Eva Saar
Universty of Tartu
E-mail: eva.saar@ut.ee

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Abbreviations

1PL — 1st person plural, 2PL — 2nd person plural, 3PL — 3rd person plural, 1SG — 1st person singular, 2SG — 2nd person singular, 3SG — 3rd person singular, AB — abessive, CND — conditional, EL — elative, ES — essive, G — genitive, GER — gerund, ILL — illative, IMP — imperative, IN — inessive, IND — indicative, INF — infinitive, INSTR — instructive, IPF — imperfect, IPS — impersonal, N — nominative, P — partitive, PF — perfect, PL — plural, PP — participle, PR — present tense, PS — personal, SG — singular, SUP — supine, TR — translative.

AG — assimilated geminate, GG — general gemination, SG — special gemination, i.e. strengthening after a long syllable, 3G — gemination of trisyllabic (five-syllable) words, 3S — special gemination (strengthening after a long syllable) of trisyllabic (five-syllable) words.

Abbreviations of villages' names: **Har** — Harkola; **Ksk** — Koskisenkylä, **Me** — Metsäkylä; **Re** — Reppoila; **Sa** — Saarove; **Taa** — Taatsoi; **Vi** — Viistina; **Vol** — Voloitsa.

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ЭВА СААР (Тарту)

ТИПЫ ЧЕРЕДОВАНИЯ СОГЛАСНЫХ В СЛОВОИЗМЕНИТЕЛЬНОЙ СИСТЕМЕ СОЙКИНСКОГО ДИАЛЕКТА ИЖОРСКОГО ЯЗЫКА

Ижорский язык в фонетическом плане считается очень регулярным языком. В данной статье рассматриваются закономерные чередования согласных в сойкинском диалекте ижорского языка и возможные совместные проявления типов этих чередований в парадигмах разных имен и глаголов.

Основные направления чередования согласных — это ослабление, или чередование степеней, (например, NSG *katto* : GSG *kaxon* 'крыша') и усиление, которое наряду с широко распространенной в пространстве прибалтийско-финских языков общей геминацией включает и присущие только ижорскому языку подтипы чередования согласных: а) особая геминация, или усиление после долгого слога (например, INF *lanceda* : 3SGIPFIND *lanheis* 'упал'); б) геминация в трех- и пятисложных словах (например, GSG **terävän* >> *teŗŗävän* 'остро-'); в) особая геминация в трех- и пятисложных словах, или усиление после долгого слога (например, SC3PRIND *kūnbelō* : 1SGPRIND *kūntelen* 'слушать, слышать'); г) усиление после безударного слога, если он находится перед долгим гласным, возникшим в результате стяжения (ср. NSG *allain* : PPL *alaišia* ~ *alaišsia* 'варежка'; PPL *ahvenia* ~ *ahveñnia* 'окунь').

При ближайшем рассмотрении общей геминации выясняется, что в сойкинском диалекте ижорского языка качество геминат, возникших на границе первого и второго слогов в результате утраты **t* и **h* в начале третьего слога,

отличается от качества геминат, появившихся в той же позиции в результате утраты **ř* и **ḳ*: возникшие в результате утраты **t* и **h* геминаты могут иметь или краткое начало или полную долготу (PSG **kalatā* > *kallā* ~ *kallā* 'рыба', ILLSG **vetehen* > *vettē* ~ *vettē* 'вода'); возникшая в результате утраты **ř* или **ḳ* гемината обязательно имеет краткое начало (3SGPRIND **tulepi* > *tullō* 'он придет', GSG *sitēken* > *sittin* 'повязка').

Поскольку геминация проявляется не только в корне слова, но и в словоформе целиком, она играет свою роль и в возникновении формативных вариантов.

Кроме ослабления и усиления, в качестве вида геминации рассматриваются ассимилятивные геминаты — в словоформах с согласной основой возникшие при присоединении корня и исторического форматива геминаты тоже участвуют в словоизменении как аллофоны согласных. В историческом плане здесь просматриваются три явления: 1) обусловленные чередованием степеней ассимилятивные геминаты (например, INF **tul/tak* > *tulla* 'приходить'); 2) ассимилятивная гемината как результат прогрессивной ассимиляции (например, PLPFsPp **pes/nehed* > *pessēd* 'мывший'); 3) ассимилятивная гемината как результат регрессивной ассимиляции (например, PLPFsPp **pāket/nehed* > *pa,ennehed* 'бежавший'; PSG **pārektā* : *pārettā* 'щепка, дранка'). Ассимилятивные геминаты в рассматриваемом диалекте в основном имеют полную долготу.

Анализ встречаемости видов чередования согласных показал, что таких типов словоизменений, структура и поведение которых в словоизменительной системе позволяли бы говорить только об одном виде чередования согласных, вообще мало. Гораздо больше типов, образование разных форм которых зависит более чем от одного вида чередования согласных.