

# Morphologically conditioned footing in Inari Saami

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## 1 Introduction

### (1) *Main claims*

- a. Inari Saami has lexically distinctive foot structure (presence vs. absence of word-final monosyllabic foot).
- b. Word-final monosyllabic foot may be required in certain morphological constructions.
- c. Interaction of default footing and lexical/morphological foot structure accounts for recalcitrant duration and quantity alternations which are mysterious on traditional linear approaches to Inari Saami phonology.

### (2) *Landmarks*

- a. Äimä (1918): First phonetic study of Inari Saami. PLIL
- b. Itkonen (1946): Detailed systematic treatment of evolution of quantity systems of Inari, Skolt and Kildin Saami. SEOQ
- c. Itkonen (1986–1991): 4 volume scholarly dictionary of Inari Saami. ILWB 1–4
- d. Sammallahti and Morottaja (1993): First pedagogical dictionary. SSSK
- e. Bye, Sagulin, and Toivonen (2008): First attempt to argue for phonological structure on basis of acoustic evidence.

## 1.1 Background

### 1.1.1 Inventory

#### (3) *Underlying segments*

p	t	ts	tʃ	k	pp	tt	tts	ttʃ	kk	i	u	
p <sup>h</sup>	t <sup>h</sup>	ts <sup>h</sup>	tʃ <sup>h</sup>	k <sup>h</sup>	pp <sup>h</sup>	tt <sup>h</sup>	tts <sup>h</sup>	ttʃ <sup>h</sup>	kk <sup>h</sup>	e	ʌ	o
f		s	ʃ	h			ss	ʃʃ		a	ɑ	
v	ð				vv	ðð						
m	n		ɲ	ŋ	mm	nn		ɲɲ	ŋŋ			
	l					ll						
	r					rr						
			j					jj				

(4) *Surface consonants*

p	t	ts	tʃ	k	pp	tt	tts	ttʃ	kk	p:p	t:t	t:ts	t:tʃ	k:k
p <sup>h</sup>	t <sup>h</sup>	ts <sup>h</sup>	tʃ <sup>h</sup>	k <sup>h</sup>	pp <sup>h</sup>	tt <sup>h</sup>	tts <sup>h</sup>	ttʃ <sup>h</sup>	kk <sup>h</sup>	p:p <sup>h</sup>	t:t <sup>h</sup>	t:ts <sup>h</sup>	t:tʃ <sup>h</sup>	k:k <sup>h</sup>
f		s	ʃ	h			ss	ʃʃ	hh			s:s	ʃ:ʃ	
v	ð	z	ʒ		vv	ðð	zz	ʒʒ		v:v	ð:ð			
m	n		ɲ	ŋ	mm	nn		ɲɲ	ŋŋ	m:m	n:n		ɲ:ɲ	ŋ:ŋ
	l					ll					l:l			
	r					rr					r:r			
			j					jj					j:j	

(5) *Surface vowels*

ɨ		i		u	ii	uu
	e	ɛ	o	ee	oo	
	a		ɑ	aa	ɑɑ	
	ié	ué	uó	ie	ue	uo
	ía		úa	ia		ua
	eá		oá	ea		oa

(6) *Quantity contrast*

- a. Vowel length is not lexically distinctive.
- b. Consonants show a ternary quantity contrast (Bye et al. 2008).

### 1.1.2 Quantity and Consonant Gradation

(7)

	Singleton	Geminate/cluster	Overlong geminate/cluster
/C/			
/CC/			
/C <sub>1</sub> C <sub>2</sub> /			

(8) *Consonant Gradation in singletons*

STRONG <sub>nom.sg</sub>		WEAK <sub>acc.sg</sub>			
(láaηpaá)	<i>lāñá</i>	(láaηpaá)	<i>lāñá</i>	‘scythe’	ILWB 4: 5
(kóvvee)	<i>koũvè</i>	(kóvee)	<i>kovè</i>	‘picture’	ILWB 4: 5
(kiéli)	<i>kuəli</i>	(kiélee)	<i>kũəlē</i>	‘scythe’	ILWB 4: 5
(híavvu)	<hiävu>	(híavu)	<hiävu>	‘horse (?)’	SSSK 149

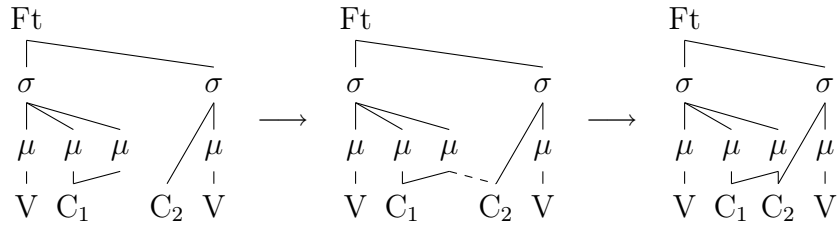
(9) *Consonant Gradation in geminates*

STRONG <sub>nom.sg</sub>		WEAK <sub>acc.sg</sub>			
(lúm:mo)	<i>lummo</i>	(lúm:mo)	<i>luñò</i>	‘pocket’	ILWB 4: 8
(lán:ne)	<i>lanne</i>	(lán:ne)	<i>lanè</i>	‘prison’	SEOQ 89
(kán:nu)	<i>kann<sup>u</sup></i>	(kán:nu)	<i>kānu</i>	‘jug’	ILWB 4: 9
(pír:ra)	<pirrá>	(pír:ra)	<pirá>	‘spinning top’	SSSK 147
(kiál:lu)	<kiäl’lu>	(kiál:lu)	<kiälu>	‘clock’	SSSK 149

(10) *Consonant Gradation in clusters*

STRONG <sub>nom.sg</sub>		WEAK <sub>acc.sg</sub>			
(ál:kke)	<i>āl̄ē</i>	(ál:kee)	<i>al̄ē</i>	‘son’	ILWB 4: 7
(kórttfe)	<i>kor̄, ḍže</i>	(kórtfēe)	<i>kor̄, ḍžè</i>	‘waterfall’	ILWB 1: 372
(pír:ttso)	<i>pir̄ttso</i>	(pír:tsō)	<i>pir̄, tsò</i>	‘spinning top’	ILWB 2: 368
(kúm:pp <sup>hi</sup> )	<i>kuñpp<sup>hi</sup></i>	(kúump <sup>hi</sup> )	<i>kūmp<sup>hi</sup></i>	‘wolf’	ILWB 4: 9
(nuár:vvi)	<i>nuār̄vi</i>	(núarvi)	<i>nuar̄vi</i>	‘transom’	ILWB 2: 238
(ál:ttu)	<i>āl̄<sup>u</sup></i>	(áaltu)	<i>āl̄du</i>	‘reindeer cow’	ILWB 4: 8
(keáj:nnu)	<i>kēäñnu</i>	(kéajnu)	<i>kēäinu</i>	‘route’	ILWB 1: 291
(jóp:ttf̄l̄)	<i>ñōB̄, ḍž<sup>A</sup></i>	(jóoptf̄l̄)	<i>ñōB̄, ḍž<sup>g</sup></i>	‘bear’	ILWB 4: 8
(jór:ηηl̄)	<i>jořr̄<sup>g</sup></i>	(jóorηl̄)	<i>jořr̄η</i>	‘expanse of water’	ILWB 4: 8

- (11) *Coda Maximization* (Bye 2005)  
Coda Maximization of trimoraic (superheavy) syllables.



- (12) CODAMAX (cf. Bye 2005: 199)  
Let  $\alpha$  = head nucleus of foot,  $C_i$  = postnuclear consonant tautosyllabic with  $\alpha$ , and  $S$  = substring of consecutive consonants  $\langle C_j, C_{j+1}, \dots, C_n \rangle$  such that  $C_j$  immediately succeeds  $C_i$ , then every consonant in  $S$  is tautosyllabic with  $\alpha$ .

### 1.1.3 Metrical structure

- (13) *Default foot structure: parasyllabics*
- |                               |                           |            |           |
|-------------------------------|---------------------------|------------|-----------|
| (lífaah)                      | lišàh                     | ‘scythe’   | ILWB 4: 5 |
| (kúuzΛh)                      | kūzq̄h                    | ‘cow’      | ILWB 4: 6 |
| (lóp <sup>h</sup> aa)(tλzΛh)  | lop‘ádvzq̄h               | ‘promise’  | ILWB 4: 6 |
| (káj:mmmλ)(ríkeeh)            | kaĩ̀n̄ <sup>p</sup> riçèh | ‘tapeworm’ | ILWB 4: 8 |
| (jót <sup>h</sup> ee)(lùpooh) | jot‘èluBòh                | ‘faster’   | ILWB 4: 9 |
- (14) *Default foot structure: trisyllabics*
- |   |                          |          |            |
|---|--------------------------|----------|------------|
| (pót)(t <sup>h</sup> àak <sup>h</sup> eh) | pott‘ā̀k‘eh              | ‘potato’ | ILWB 4: 11 |
| (súop)(p <sup>h</sup> λneh)               | suopp‘v̄neh              | ‘lasso’  | ILWB 4: 11 |
| (kuás:k)(kìmeħ)                           | kũã̀sk̄ <sup>i</sup> meh | ‘eagle’  | ILWB 4: 13 |
- (15) *Foot structure: long imparisyllabics*
- |                                    |               |               |         |
|------------------------------------|---------------|---------------|---------|
| (jót <sup>h</sup> ee)(lùm)(mòoseħ) | jot‘èlum̄ōseh | ‘the fastest’ | SEOQ 32 |
|------------------------------------|---------------|---------------|---------|
- (16) *Foot structure: long imparisyllabics*
- |                                   |                        |                   |         |
|-----------------------------------|------------------------|-------------------|---------|
| (móonΛt)(t <sup>h</sup> λΛ)t̄fijj | mo·natt‘ql̄q̄, t̄sí̄ī | ‘he would behave’ | SEOQ 32 |
| (váħΛ)(kλt̄fΛ)t <sup>h</sup> Λm   | vah̄q̄çaz̄at‘qm        | ‘I damage’        | SEOQ 32 |
- (17) \*LAPSE (Elenbaas and Kager 1999)  
A sequence of two or more unstressed syllables is disallowed.
- (18) LICFT<sub>σ</sub>  
If  $(\sigma)_{Ft}$ , then  $(\sigma)_{Ft}Ft]_{\omega}$ .  
A monosyllabic foot must directly precede the word-final foot.
- (19) ALIGN( $\omega$ , L; Ft, L)  
The left edge of the prosodic word must be aligned with the left edge of a foot.
- (20) END RULE LEFT (ERL)  
Main stress is assigned to the leftmost foot in the word.
- (21) FTBIN( $\sigma$ )  
Feet minimally contain two syllables.

(22)

	pot <sup>h</sup> ak <sup>h</sup> +h	*LAPSE	LICFT <sub>σ</sub>	ALIGN(ω, L; Ft, L)	ERL	FTBIN(σ)
a.	(pót <sup>h</sup> aa)k <sup>h</sup> eh	*!				
b.	(pòt <sup>h</sup> aa)(k <sup>h</sup> éh)		*!		*	*
c.	(pót <sup>h</sup> aa)(k <sup>h</sup> èh)		*!			*
d.	po(t <sup>h</sup> áak <sup>h</sup> eh)			*!		
e.	(pòt)(t <sup>h</sup> áak <sup>h</sup> eh)				*!	*
f.	☞ (pót)(t <sup>h</sup> àak <sup>h</sup> eh)					*

(23)

	jot <sup>h</sup> elumos+h	*LAPSE	LICFT <sub>σ</sub>	FTBIN(σ)
a.	(jót <sup>h</sup> ee)(lùmmoo)seh	*!		
b.	(jót)(t <sup>h</sup> èelum)(mòoseh)		*!	*
c.	☞ (jót <sup>h</sup> ee)(lùm)(mòoseh)			*

(24) FTBIN(μ)  
Feet minimally contain two moras.

(25) \*λ<sup>2</sup>  
Adjacent foot heads with the reduced vowel /Λ/ are disallowed.

(26)

	monat <sup>h</sup> ΛΛ+tfijj	FTBIN(μ)	*λ <sup>2</sup>	*LAPSE	FTBIN(σ)	HDFTBIN(σ)
a.	☞ (móonat)(t <sup>h</sup> λΛ)tfijj			*		
b.	(móo)(nλt)(t <sup>h</sup> λΛ)tfijj		*!	*	**	*
c.	(móo)(nλt <sup>h</sup> Λ)(lλtfijj)		*!		*	*
d.	(móonat)(t <sup>h</sup> λ)(lλtfijj)	*!	*		*	
e.	(móonat)(t <sup>h</sup> λΛ)(lλtfijj)		*!		*	

(27) *Morphological foot structure: parasyllabics* (locative singular forms)  
 (líf)(f̥aast)      liššāst      ‘scythe’      ILWB 4: 5  
 (kúuz)(zλst)      kūzzvst      ‘cow’      ILWB 4: 6  
 (káj:mm̩)(rik)(kèest)      kaĩm̩<sup>v</sup>riġġēst      ‘tapeworm’      ILWB 4: 8  
 (jót<sup>h</sup>ee)(lùp)(pòost)      jot<sup>h</sup>èluĔĔōst      ‘faster’      ILWB 4: 9

(28) *Morphological foot structure: imparisyllabics* (locative singular forms)  
 (pót<sup>h</sup>aak)(k<sup>h</sup>ist)      pot<sup>h</sup>āk<sup>h</sup>ist      ‘potato’      ILWB 4: 10  
 (suóp<sup>h</sup>Λ)(ɲist)      sūōp<sup>h</sup>v̥nist      ‘lasso’      ILWB 4: 11  
 (kuás:kki)(m̩st)      kũāsk̩<sup>h</sup>m̩st      ‘eagle’      ILWB 4: 13

## 2 Lexical word-final monosyllabic feet

### 2.1 Diachrony: Metrical Shift and Apocope

(29) Proto-Saami      Early IS  
 [(σσ)σ]      >      [(σ)(σσ)]

$$(30) \quad \begin{array}{l} [(\sigma\sigma)(\sigma\sigma)\sigma] > [(\sigma\sigma)(\sigma)(\sigma\sigma)] \\ [(\sigma\sigma)(\sigma\sigma)(\sigma\sigma)\sigma] > [(\sigma\sigma)(\sigma\sigma)(\sigma)(\sigma\sigma)] \end{array}$$

(31) Early IS	Post-Apocope IS	(32) Non-apocopated legacy forms
$[(\sigma)(\sigma\sigma_V)] >$	$[(\sigma)(\sigma_C)]$	$[(\sigma\sigma_V)], [(\sigma\sigma_C)]$
$[(\sigma\sigma)(\sigma\sigma_V)] >$	$[(\sigma\sigma)(\sigma_C)]$	$[(\sigma)(\sigma\sigma_C)]$
$[(\sigma\sigma)(\sigma)(\sigma\sigma_V)] >$	$[(\sigma\sigma)(\sigma)(\sigma_C)]$	$[(\sigma\sigma)(\sigma\sigma_C)]$
$[(\sigma\sigma)(\sigma\sigma)(\sigma\sigma_V)] >$	$[(\sigma\sigma)(\sigma\sigma)(\sigma_C)]$	$[(\sigma\sigma)(\sigma)(\sigma\sigma_C)]$
$[(\sigma\sigma)(\sigma\sigma)(\sigma)(\sigma\sigma_V)] >$	$[(\sigma\sigma)(\sigma\sigma)(\sigma)(\sigma_C)]$	$[(\sigma\sigma)(\sigma\sigma)(\sigma\sigma_C)]$

Note:  $[\sigma_C = \text{closed syllable}; \sigma_V = \text{open syllable}]$

(33) *Proto-Saami* \*pinəw ‘pile’<sup>a</sup>

	SG	PL
NOM	*(pin.nəw)	*(.pi.nəwk)
GEN	*(pi.nəwn)	*(.pi.nəj)
ACC	*(pi.nəwm)	*(.pi.nəj).tee
ILL	*(pin.nəwn)	*(.pi.nəj).(ta.an)
INESS	*(pi.nəws).nee	*(.pi.nəj).nee
ELAT	*(pi.nəws).tee	*(.pi.nəj).stee
ESS		*(pin.nəw).nee
PART		*(pin.nəw).tee

(37) *Proto-Saami* \*kyppeeree ‘cap’

	SG	PL
	*(kyp.pee).ree	*(kyp.pee).reek
	*(kyp.pee).reen	*(kyp.pee).rij
	*(kyp.pee).reem	*(kyp.pee).(rij.tee)
	*(kyp.pee).(raa.sen)	*(kyp.pee).(rij.ta).an
	*(kyp.pee).(rea.snee)	*(kyp.pee).(rij.nee)
	*(kyp.pee).(rea.stee)	*(kyp.pee).(rij.stee)
		*(kyp.pee).(rea.nee)
		*(kyp.pee).(rea.tee)

(34) *Proto-Inari Saami* /pino/

	SG	PL
NOM	{(pinnoo)}	{(pinoh)}
GEN	{(pinoo)}	{(pinojj)}
ACC	{(pinoo)}	{(pi)(noojjte)}
ILL	{(pinnoon)}	{(pi)(noojta)}
INESS	{(pi)(nooste)}	{(pi)(noojne)}
ELAT	{(pi)(nooste)}	{(pi)(noojne)}
ESS		{(pin)(noone)}
PART		{(pin)(noone)}

(38) *Proto-Inari Saami* /kapp<sup>h</sup>eere/

	SG	PL
	{(káp)(p <sup>h</sup> èere)}	{(káp)(p <sup>h</sup> eereh)}
	{(káp)(p <sup>h</sup> èere)}	{(káp)(p <sup>h</sup> eerijj)}
	{(káp)(p <sup>h</sup> èere)}	{(kápp <sup>h</sup> ee)(rijjt)}
	{(kápp <sup>h</sup> ee)(rλ.λn)}	{(kápp <sup>h</sup> ee)(ràajt)}
	{(kápp <sup>h</sup> ee)(rìste)}	{(kápp <sup>h</sup> ee)(rìjijn)}
	{(kápp <sup>h</sup> ee)(rìste)}	{(kápp <sup>h</sup> ee)(rìjijn)}
		{(kápp <sup>h</sup> ee)(rìne)}
		{(kápp <sup>h</sup> ee)(rìte)}

(35) *Inari Saami V-stem* /pino/

	SG	PL
NOM	{(pin·o·)}	{(pino·h)}
GEN	{(pino·)}	{(pino·jj)}
ACC	{(pino·)}	{(pii·)(no·jijt)}
ILL	{(pin·o·n)}	{(pii·)(no·jt)}
INESS	{(pii·)(noo·st)}	{(pii·)(no·jjn)}
ELAT	{(pii·)(noo·st)}	{(pii·)(no·jjn)}
ESS		{(pin·)(noo·n)}
PART		{(pin·)(noo·n)}

(39) *Inari Saami C-stem* /kapp<sup>h</sup>eer/

	SG	PL
	{(káp)(p <sup>h</sup> èe·r)}	{(káp)(p <sup>h</sup> ee·reh)}
	{(káp)(p <sup>h</sup> èe·r)}	{(káp)(p <sup>h</sup> ee·rijj)}
	{(káp)(p <sup>h</sup> èe·r)}	{(kápp <sup>h</sup> e·)(rìjijt)}
	{(kápp <sup>h</sup> e·)(rλn)}	{(kápp <sup>h</sup> e·)(ràajt)}
	{(kápp <sup>h</sup> e·)(rìst)}	{(kápp <sup>h</sup> e·)(rìjijn)}
	{(kápp <sup>h</sup> e·)(rìst)}	{(kápp <sup>h</sup> e·)(rìjijn)}
		{(kápp <sup>h</sup> e·)(rìn)}
		{(kápp <sup>h</sup> e·)(rìt)}

(36) *FUT transcription*

	SG	PL
NOM	pinò	pinòh
GEN	pinò	pinòḷ
ACC	pinò	p̄nòḷD
ILL	pinòn	p̄nòḷiD
INESS	p̄nòst	p̄nòḷin
ELAT	p̄nòst	p̄nòḷin
ESS		pinnōn
PART		pinnōn

(40) *FUT transcription*

	SG	PL
	kapp <sup>h</sup> ēr	kapp <sup>h</sup> ēreh
	kapp <sup>h</sup> ēr	kapp <sup>h</sup> ērḷ
	kapp <sup>h</sup> ēr	kap <sup>h</sup> ērḷD
	kap <sup>h</sup> èrvn	kap <sup>h</sup> èràid
	kap <sup>h</sup> èrist	kap <sup>h</sup> èrḷin
	kap <sup>h</sup> èrist	kap <sup>h</sup> èrḷin
		kap <sup>h</sup> èrin
		kap <sup>h</sup> èriD

<sup>a</sup>Reconstructions based on Lehtiranta (1989) and Sammallahti (1998)

## 2.2 Synchrony: lexical and morphological foot structure

- (41) *Construction-Based/Sign-Based Morphology* (Orgun 1996)  
In addition to segmental material, exponence may involve segmental and/or structural modifications to the host (stem allomorphy).
- (42) *Morphological Alignment constraints*  
McCarthy and Prince (1993); Yu (2007); Bye (2007)
- (43) *Declarativeness*  
Morphological constraints are declarative; alternatively dominate phonological constraints *en bloc*.  
(Yu 2007; Bye 2007)
- (44)  $\text{ALIGN}(e_{\varphi}, \text{R}; (\sigma)_{\text{Ft}}, \text{R})$   
The right edge of morphological exponent  $e_{\varphi}$  of morphosyntactic feature bundle  $\varphi$  must be aligned with the right edge of a monosyllabic foot.
- (45)  $\text{ALIGN}(e_{[\text{locative}]}, \text{R}; (\sigma)_{\text{Ft}}, \text{R})$   
The right edge of morphological exponent of [ locative ] must be aligned with the right edge of a monosyllabic foot.
- (46)  $\text{ALIGN}(e_{[\text{essive}]}, \text{R}; (\sigma)_{\text{Ft}}, \text{R})$
- (47)  $\text{ALIGN}(e_{[\text{partitive}]}, \text{R}; (\sigma)_{\text{Ft}}, \text{R})$
- (48)  $\text{ALIGN}(e_{[\text{accusative plural}]}, \text{R}; (\sigma)_{\text{Ft}}, \text{R})$
- (49)  $\text{ALIGN}(e_{[\text{illative plural}]}, \text{R}; (\sigma)_{\text{Ft}}, \text{R})$
- (50)  $\text{ALIGN}(e_{[\text{locative plural}]}, \text{R}; (\sigma)_{\text{Ft}}, \text{R})$
- (51)  $\text{ALIGN}(e_{[\text{illative C-stem}]}, \text{R}; (\sigma)_{\text{Ft}}, \text{R})$
- (52)  $\text{ALIGN}(e_{[\text{nominative C-stem}]}, \text{R}; (\sigma)_{\text{Ft}}, \text{R})$
- (53)  $\text{ALIGN}(e_{[\text{accusative/genitive C-stem}]}, \text{R}; (\sigma)_{\text{Ft}}, \text{R})$
- (54) *Morphological footing beats phonological footing (V-stem)*

	pino+LOC.SG	LOC.SG	STRESS
a.	(pínoost)	*!	
b.	☞ (píi)(nòost)		*

- (55) *Morphological footing beats phonological footing (C-stem)*

	kapp <sup>h</sup> eer+LOC.SG	LOC.SG	STRESS
a.	(káp)(p <sup>h</sup> ëerist)	*!	
b.	☞ (káp <sup>h</sup> ee)(rìst)		*

- (56) *Default footing in absence of morphological requirements (V-stem)*



	pino+NOM.PL	NOM.PL	STRESS
a.	(píi)(nòoh)		*!
b.	☞ (pínooh)		

(57) *Default footing in absence of morphological requirements (C-stem)*

	kapp <sup>h</sup> eer+NOM.PL	NOM.PL	STRESS
a.	(ká <sup>h</sup> ee)(rèh)		*!
b.	☞ (káp)(p <sup>h</sup> èereh)		

### 3 Alternation in Quantity and Duration

#### 3.1 Vowel quantity and duration

(58) \*SHORTV

A vowel must not be short.

(59) *Length/sonority harmony scale* (cf. Prince and Smolensky 2004: 159)

$$\left\{ \begin{array}{c} e: \\ o: \\ a: \\ \alpha: \end{array} \right\} \succ \left\{ \begin{array}{c} i: \\ u: \end{array} \right\} \succ \Lambda:$$

(60) a. \*LONG/REDUCED

Reduced vowel { $\Lambda$ } must not be short.

b. \*LONG/HIGH

High vowels {i u} must not be short.

c. \*LONG/NONHIGH

Non-high vowels {e o a  $\alpha$ } must not be short.

(61) \*LONG/REDUCED  $\gg$  \*LONG/HIGH  $\gg$  \*LONG/NONHIGH

(62) LICLONGV

If V:, then V: in weak branch of Ft or  $\omega$ .

(63) \* $\nu_{\mu\mu}\nu_{\mu\mu}$  (cf. Zoll 1992)

Consecutive heavy nuclei are disallowed.

(64) *Iambic quantity profile within foot* (nominative singular forms)

/lasa/	(lásaa)	lasà	‘doorpost’	ILWB 2: 10
/spak <sup>h</sup> a/	(spáhaa)	spahà	‘saddlepack’	ILWB 3: 164
/stik <sup>h</sup> a/	(stíhaa)	<stihá>	‘boot’	SSSK 147
/rit <sup>h</sup> a/	(rít <sup>h</sup> aa)	<ritá>	‘trap’	SSSK 147
/tʃuðe/	(tʃúððee)	tʃuðè	‘foe’	ILWB 1: 107
/mane/	(mánnee)	manè	‘egg’	ILWB 2: 99
/kop <sup>h</sup> e/	(kóp <sup>h</sup> ee)	kop‘è	‘valley’	ILWB 2: 370
/ife/	(ífee)	isè	‘help’	ILWB 1: 199
/ase/	(ásee)	asè	‘skin-side of hide’	ILWB 1: 30
/pino/	(pínnoo)	pinò	‘pile’	ILWB 2: 367
/tak <sup>h</sup> o/	(táho)	<taho>	‘deed, act’	SSSK 147

(65) *Iambic quantity profile within foot*

/mane/	* $\nu_{\mu\mu}\nu_{\mu\mu}$	*SHORTV	LICLONGV
a. (máannee)	*!		*
b. (mánne)		**!	
c. (máanne)		*	*!
d. ☞ (mánnee)		*	

(66) *Iambic quantity profile across feet (essive forms)*

/lasa+`n/	(lás)(sàan)	<lassaan>	‘doorpost’	SSSK 147
/spak <sup>h</sup> a+`n/	(spáh)(hàan)	<spahhaan>	‘saddlepack’	SSSK 147
/stik <sup>h</sup> a+`n/	(stíh)(hàan)	<stihháan>	‘boot’	SSSK 147
/rit <sup>h</sup> a+`n/	(rít)(t <sup>h</sup> àan)	<rittáan>	‘trap’	SSSK 147
/tʃuðe+`n/	(tʃúð)(ðèen)	<čuðdeen>	‘foe’	SSSK 148
/mane+`n/	(mán)(nèen)	<manneen>	‘egg’	SSSK 148
/kop <sup>h</sup> e+`n/	(kóp)(p <sup>h</sup> èen)	<koppeen>	‘valley’	SSSK 148
/iʃe+`n/	(íʃ)(ʃèen)	<iššeen>	‘help’	SSSK 148
/ase+`n/	(ás)(sèen)	<asseen>	‘skin-side of hide’	SSSK 148
/pino+`n/	(pín)(nòon)	<pinnoon>	‘pile’	SSSK 147
/tak <sup>h</sup> o+`n/	(táh)(hòon)	<tahhoon>	‘deed, act’	SSSK 147
/vaʃo+`n/	(váʃ)(ʃòon)	<vaššoon>	‘sharp wind’	SSSK 147

(67) *Iambic quantity profile across feet*

/mane+`n/	* $\nu_{\mu\mu}\nu_{\mu\mu}$	*SHORTV	LICLONGV
a. (máan)(nèen)	*!		*
b. (mán)(nèn)		**!	
c. (máan)(nèn)		*	*!
d. ☞ (mán)(nèen)		*	

(68) *Trochaic quantity profile within foot (nominative singular forms)*

/kari/	(káarri)	<i>kā̀ri</i>	‘wooden vessel’	ILWB 1: 281
/pat <sup>hi</sup> /	(páat <sup>hi</sup> )	<i>pāt̄i</i>	‘pot’	ILWB 2: 323
/ets <sup>hi</sup> /	(éets <sup>hi</sup> )	<i>ē, t̄s̄i</i>	‘father’	ILWB 1: 126
/peli/	(péelli)	<i>pèl̄i</i>	‘half’	ILWB 2: 333
/tsuak <sup>hi</sup> /	(tsúahi)	<cuáhi>	‘low tide’	SSSK 149
/liep <sup>hi</sup> /	(líep <sup>hi</sup> )	<i>luəp̄i</i>	‘shoulder-blade’	ILWB 2: 90
/piat <sup>hu</sup> /	(piát <sup>hu</sup> )	<piātu>	‘wild beast’	SSSK 149
/kiat <sup>hu</sup> /	(kiát <sup>hu</sup> )	<kiā̀ču>	‘shepherding’	SSSK 149
/maʃu/	(máaʃu)	<máá̄šu>	‘composure’	SSSK 149
/mahu/	(máahu)	<máá̄hu>	‘taste’	SSSK 149

(69) *Trochaic quantity profile within foot*

/kari/	* $\nu_{\mu\mu}\nu_{\mu\mu}$	*SHORTV	*LONG/Hi	LICLONGV
a. (káarri)	*!		*	*
b. (kárri)		**!		
c. (kárri)		*	*!	
d. ☞ (káarri)		*		*

(70) *Trochaic quantity profile across feet (essive forms)*

/kari+`n/	(káar)(rìn)	<käärrin>	‘wooden vessel’	SSSK 148
/pat <sup>h</sup> i+`n/	(páat)(t <sup>h</sup> in)	<päättin>	‘pot’	SSSK 148
/ets <sup>h</sup> i+`n/	(éet)(ts <sup>h</sup> in)	<eeččin>	‘father’	SSSK 148
/peli+`n/	(péel)(lìn)	<peellin>	‘half’	SSSK 148
/tsuak <sup>h</sup> i+`n/	(tsúah)(hìn)	<cuáhin>	‘low tide’	SSSK 149
/liep <sup>h</sup> i+`n/	(líep)(p <sup>h</sup> in)	<lyeppin>	‘shoulder-blade’	SSSK 149
/piat <sup>h</sup> u+`n/	(píat)(t <sup>h</sup> ùn)	<piättun>	‘wild beast’	SSSK 149
/kiat <sup>h</sup> u+`n/	(kíat)(t <sup>h</sup> ùn)	<kiäččun>	‘shepherding’	SSSK 149
/maf <sup>h</sup> u+`n/	(máaf)(jùn)	<mááššun>	‘composure’	SSSK 149
/mahu+`n/	(máah)(hùn)	<mááhun>	‘taste’	SSSK 149

(71) *Trochaic quantity profile across feet*

/kari+`n/	* $\nu_{\mu\mu}\nu_{\mu\mu}$	*SHORTV	*LONG/Hi	LICLONGV
a. (káar)(riin)	*!		*	*
b. (kár)(rìn)		**!		
c. (kár)(riin)		*	*!	
d. ☞ (káar)(rìn)		*		*

(72) *Trochaic quantity profile within foot (accusative singular forms)*

/kus $\Delta$ /	(kúuz $\Delta$ )	<i>kūzv</i>	‘cow’	ILWB 1: 426
/ruot <sup>h</sup> $\Delta$ /	(rúojj $\Delta$ )	<i>ruoǰv</i>	‘clatter’	ILWB 3: 60

(73) *Trochaic quantity to avoid long  $\Delta$*

/kus $\Delta$ /	*LONG/RED	* $\nu_{\mu\mu}\nu_{\mu\mu}$	*SHORTV	*LONG/Hi	LICLONGV
a. (kúuz $\Delta\Delta$ )	*!	*		*	*
b. (kúz $\Delta\Delta$ )	*!		*		
c. (kúz $\Delta$ )			**!		
d. ☞ (kúuz $\Delta$ )			*	*	*

(74) *No long V with overlong*

/vuolli/	(vuól:li)	<Vuol’li>	(name)	SSSK 146
/joll $\Delta$ /	(jól:lǎ)	<i>jol’p</i>	‘crazy’	ILWB 1: 223
/kannu/	(kán:nu)	<i>kannu</i>	‘jug’	ILWB 1: 260
/lanne/	(lán:ne)	<i>lanne</i>	‘prison’	ILWB 2: 9
/pamma/	(pám:ma)	<i>pamma</i>	‘teat’	ILWB 2: 221
/pirra/	(pír:ra)	<i>pirrá</i>	‘spinning top’	ILWB 2: 369
/skapp <sup>h</sup> i/	(skápp <sup>h</sup> i)	<skappi>	‘cupboard’	SSSK 147

	/mitt <sup>h</sup> o/	(mít:t <sup>h</sup> o)	<i>mitt'ó</i>	'gauge'	ILWB 2: 144
	/lakk <sup>h</sup> e/	(lák:k <sup>h</sup> e)	<i>lakk'e</i>	'lengthwise half'	ILWB 2: 8
	/niekk <sup>h</sup> i/	(niék:k <sup>h</sup> i)	<i>nǐěkk'í</i>	'neck'	ILWB 2: 8
	/juŋk <sup>h</sup> a/	(júŋ:k <sup>h</sup> a)	<i>juŋkk'á</i>	'brat'	ILWB 1: 233
	/mietk <sup>h</sup> i/	(miét:k <sup>h</sup> i)	<i>mǐūǎtk'í</i>	'strip of land'	ILWB 2: 173
	/lavŋe/	(láv:ŋe)	<i>lavūŋŋe</i>	'peat'	ILWB 2: 13
(75)	/kusΛ/	(kús:sǎ)	<i>kuss<sup>á</sup></i>	'cow'	ILWB 1: 426
	/jollΛ/	(jól:lǎ)	<i>joll<sup>ó</sup></i>	'crazy'	ILWB 1: 223

(76) \*VVC:C

A long vowel followed by an overlong consonant or cluster is disallowed.

(77) \*C:CVV

A long vowel preceded by an overlong consonant or cluster is disallowed.

(78)

/lanne/	{ *VVC:C *C:CVV }	* $\nu_{\mu\mu}\nu_{\mu\mu}$	*SHORTV	LICLONGV
a. (lán:nee)	*!*	*		*
b. (lán:ne)	*!		*	*
c. (lán:nee)	*!		*	
d. ☞ (lán:ne)			**	

(79)

/kannu/	{ *VVC:C *C:CVV }	* $\nu_{\mu\mu}\nu_{\mu\mu}$	*SHORTV	*LONG/Hi	LICLONGV
a. (kán:nuu)	*!*	*		*	*
b. (kán:nu)	*!		*	*	
c. (kán:nu)	*!		*		*
d. ☞ (kán:nu)			**		

(80) No long V with overlong

/vuolli+`n/	(vuól:)(lìn)	<Vuol'lin>	(name)	SSSK 146
/jollΛ+`n/	(jól:)(làn)	<jollân>	'crazy'	SSSK 146
/kannu+`n/	(kán:)(nùn)	<kannun>	'jug'	SSSK 146
/lanne+`n/	(lán:)(nèn)	<lannen>	'prison'	SSSK 148
/pamma+`n/	(pám:)(màn)	<njamman>	'teat'	SSSK 147
/pirra+`n/	(pír:)(ràŋ)	<pirrán>	'spinning top'	SSSK 147
/skapp <sup>h</sup> i+`n/	(skáp)(p <sup>h</sup> ìn)	<skappin>	'cupboard'	SSSK 147
/mitt <sup>h</sup> o+`n/	(mít:)(t <sup>h</sup> òn)	<mitton>	'gauge'	SSSK 147
/lakk <sup>h</sup> e+`n/	(lák:)(k <sup>h</sup> èn)	<lakken>	'lengthwise half'	SSSK 148
/juŋk <sup>h</sup> a+`n/	(júŋ:k)(k <sup>h</sup> àn)	<juŋkkán>	'brat'	SSSK 147
/lavŋe+`n/	(láv:ŋ)(ŋèn)	<lavŋen>	'peat'	SSSK 148

(81)

/lanne+`n/	$\left\{ \begin{array}{l} *VVC:C \\ *C:CVV \end{array} \right\}$	* $\nu_{\mu\mu}\nu_{\mu\mu}$	*SHORTV	LICLONGV
a. (láan:)(nèen)	*!*	*		*
b. (láan:)(nèn)	*!		*	*
c. (lán:)(nèen)	*!		*	
d. $\rightarrow$ (lán:)(nèn)			**	

(82)

/kannu+`n/	$\left\{ \begin{array}{l} *VVC:C \\ *C:CVV \end{array} \right\}$	* $\nu_{\mu\mu}\nu_{\mu\mu}$	*SHORTV	*LONG/Hi	LICLONGV
a. (káan:)(nùun)	*!*	*		*	*
b. (kán:)(nùun)	*!		*	*	
c. (káan:)(nùn)	*!		*		*
d. $\rightarrow$ (kán:)(nùn)			**		

(83) *Trochaic quantity*

/lop <sup>h</sup> at <sub>AS</sub> Λ+h/	(lóp <sup>h</sup> aa)(tλzΛh)	<i>lop`áDvzq̄h</i>	‘promises’
/pur <sub>AMU</sub> Λ+h/	(púrrǎ)(mλzΛh)	<i>pur<sup>r</sup>mvžq̄h</i>	‘food’
/pos <sub>ALTUVV</sub> Λ+h/	(póozal)(tùvνΛh)	<i>po·zv̀lDuũvq̄h</i>	‘laundry’

(84) *Iambic quantity*

/kajm <sub>ARIKKE</sub> +h/	(káj:mǎ)(rìkeeh)	<i>kaĩm<sup>r</sup>riçèh</i>	‘tapeworm’
/ap <sup>h</sup> it <sup>h</sup> ime+h/	(áap <sup>h</sup> it)(t <sup>h</sup> imeeh)	<i>ä`p`itt`imèh</i>	‘powerless’
/pefnirike+h/	(péefni)(rìheeh)	<i>pe`šnirihèh</i>	‘white wagtail ( <i>Motacilla alba</i> )’
/jot <sup>h</sup> elupo+h/	(jót <sup>h</sup> ee)(lùpooh)	<i>jot`èluBòh</i>	‘faster’

(85) *Phonetic rules for V duration*

- a. /VV/ → [V·]/(  $\overset{\acute{\sigma}}$  \_\_\_\_\_ )
- |
- b. /VV/ → [VV·]/( \_\_\_\_\_ X )

### 3.2 Geminate duration

(86) *Phonetic duration of geminates at foot boundary (locative singular forms)*

/lummo/	(lúm)(mòost)	<i>lummōst</i>	‘pocket’	ILWB 4: 8
/lanne/	(lán)(nèest)	<i>lannēst</i>	‘prison’	ILWB 4: 8
/millo/	(míl)(lòost)	<milloost>	‘mill’	SSSK 149
/pirra/	(pír)(ràast)	<pirráast>	‘spinning top’	SSSK 149

(87) *Phonetic duration of geminates foot medially (accusative singular forms)*

/lummo/	(lúmmoo)	<i>lumò</i>	‘pocket’	ILWB 4: 8
/lanne/	(lánnēe)	<i>lanè</i>	‘prison’	ILWB 4: 8
/millo/	(mílloo)	<miło>	‘prison’	SSSK 149
/pirra/	(pír <sub>aa</sub> )	<pirá>	‘prison’	SSSK 149

(88) *Phonetic rules for C duration*

- a. /C/ (C/ → [C·C])
- b. /C:/ (C/ → [C·C])

- c. /CC/ → [C·]  
d. /C:C/ → [C·C]

### 3.3 Foot-medial obstruent effects

(89) *Foot medial obstruents degeminate*

/kop <sup>h</sup> e/	(kóp <sup>h</sup> ee)	<i>kop'è</i>	'valley'	ILWB 2: 370
/liep <sup>h</sup> i/	(líep <sup>h</sup> i)	<i>luəp'ɪ</i>	'shoulder-blade'	ILWB 2: 90
/it <sup>h</sup> o/	(ít <sup>h</sup> oo)	<i>it'ò</i>	'embryo'	SSSK 146
/pat <sup>h</sup> i/	(páat <sup>h</sup> i)	<i>pāt'ɪ</i>	'pot'	ILWB 2: 323
/ets <sup>h</sup> i/	(éets <sup>h</sup> i)	<i>ē, tš'ɪ</i>	'father'	ILWB 1: 126
/spak <sup>h</sup> α/	(spáhαα)	<i>spahà</i>	'saddlepack'	ILWB 3: 164
/tsuak <sup>h</sup> i/	(tsúahi)	<cuáhi>	'low tide'	SSSK 149
/lasα/	(lásαα)	<i>lasà</i>	'doorpost'	ILWB 2: 10
/ife/	(ífee)	<i>išè</i>	'help'	ILWB 1: 199
/mafju/	(máafju)	<máášu>	'composure'	SSSK 149

(90)

/las <sub>i</sub> α, μ <sub>i</sub> /	*μ/OBS	WTIDENT(C)
a. (lásαα)	*!	
b. ☞ (lásαα)		*

(91)

/man <sub>i</sub> e, μ <sub>i</sub> /	*μ/OBS	WTIDENT(C)
a. (mánnee)		
b. ☞ (mánee)		*!

(92)

/mit <sub>i</sub> o, μ <sub>i</sub> /	σ <sub>μμμ</sub> -WTIDENT	*μ/OBS	WTIDENT(C)
a. (mítoo)	*!*		*
b. (míttoo)	*!	*	*
c. ☞ (mít:to)		**	

(93) *Foot-junctural obstruents geminate*

/kop <sup>h</sup> e+`n/	(kóp)(p <sup>h</sup> èen)	<koppeen>	'valley'	SSSK 148
/liep <sup>h</sup> i+`n/	(líep)(p <sup>h</sup> in)	<lyeppin>	'shoulder-blade'	SSSK 149
/it <sup>h</sup> o+`n/	(ít)(t <sup>h</sup> òon)	<ittoon>	'embryo'	SSSK 146
/pat <sup>h</sup> i+`n/	(páat)(t <sup>h</sup> in)	<päättin>	'pot'	SSSK 148
/ets <sup>h</sup> i+`n/	(éet)(ts <sup>h</sup> in)	<eeččin>	'father'	SSSK 148
/spak <sup>h</sup> α+`n/	(spáh)(hàan)	<spahhaan>	'saddlepack'	SSSK 147
/lasα+`n/	(lás)(sàan)	<lassaan>	'doorpost'	SSSK 147
/ife+`n/	(íf)(fèen)	<iššeen>	'help'	SSSK 148
/mafju+`n/	(máaf)(fùn)	<mááššun>	'composure'	SSSK 149
/mahu+`n/	(máah)(hùn)	<mááhun>	'taste'	SSSK 149

### 3.4 Foot-minimality effects

(94) *Locative singular → Weak Grade*

/nuolΛ/	(núo)(l̩st)	<i>nuolbst</i>	'arrow'	ILWB 4: 6
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/nom <sub>Λ</sub> /	(nóo)(màst)	<i>nōmāst</i>	‘name’	ILWB 4: 6
/pat <sup>hi</sup> /	(páa)(ðīist)	<i>pāðīst</i>	‘pot’	ILWB 4: 7
/kuos <sub>Λ</sub> /	(kúo)(zàst)	<kuosâst>	‘spruce’	SSSK 146
/turki/	(túur)(kìst)	<tuurgist>	‘messy pig’	SSSK 147
/skapp <sup>hi</sup> /	(skáa)(p <sup>h</sup> īst)	<skaapist>	‘cupboard’	SSSK 146

(95) *Foot binarity and spondee effect with non-high vowels*

/lana/	(láa)(nàast)	<i>lānāst</i>	‘young birch’	ILWB 4: 5
/kove/	(kóo)(vèest)	<i>kōvēst</i>	‘picture’	ILWB 4: 7
/pino/	(pii)(nòost)	<i>pīnōst</i>	‘pile’	ILWB 4: 7

(96) *Spondee effect fails*

/kove+`st/	FTBIN-μ	*ν <sub>μμ</sub> ν <sub>μμ</sub>	*SHORTV	LICLONGV
a. (kó)(vèst)	*!		**	
b. (kó)(vèest)	*!		*	
c. ☺ (kóo)(vèst)			*	
d. ☞ (kóo)(vèest)		i*!		

(97) \*SHORTNONHIGH/HD

A short non-high stressed nucleus is disallowed.

(98) *Spondee effect*

/kove+`st/	FTBIN-μ	*SHORTNONHIGH/HD	*ν <sub>μμ</sub> ν <sub>μμ</sub>	*SHORTV	LICLONGV
a. (kó)(vèst)	*!	*		**	
b. (kó)(vèest)	*!			*	
c. (kóo)(vèst)		*!		*	
d. ☞ (kóo)(vèest)			*		

### 3.5 Foot-juncture gemination

(99) *Comitative singular → Weak Grade*

/núo <sub>Λ</sub> /	(núo)(làaj <sub>n</sub> )	<i>núolàin</i>	‘arrow’	ILWB 4: 6
/nom <sub>Λ</sub> /	(nóo)(màaj <sub>n</sub> )	<i>nōmàin</i>	‘name’	ILWB 4: 6
/lana/	(láa)(nàaj <sub>n</sub> )	<i>lānàin</i>	‘young birch’	ILWB 4: 5
/kove/	(kúu)(vìij <sub>n</sub> )	<i>kūvìin</i>	‘picture’	ILWB 4: 7
/pat <sup>hi</sup> /	(páa)(ðīij <sub>n</sub> )	<i>pāðīin</i>	‘pot’	ILWB 4: 7

(100) *Foot-junctural gemination preceding heavy nucleus*

/kuos <sub>Λ</sub> /	(kuóz)(zàaj <sub>n</sub> )	<kuos’sáain>	‘spruce’	SSSK 146
/skapp <sup>hi</sup> /	(skáp)(p <sup>h</sup> īij <sub>n</sub> )	<skappiij <sub>n</sub> >	‘cupboard’	SSSK 146
/liffa/	(líf)(fàaj <sub>n</sub> )	<i>liššàin</i>	‘scythe’	ILWB 4: 5
/seŋk <sub>Λ</sub> /	(séŋk)(kàaj <sub>n</sub> )	<i>sēŋgàin</i>	‘bed’	ILWB 4: 6

(101) FOOT-JUNCTURAL OBSTRUENT GEMINATION (FOG)

(102) *Trochaic quantity profile across feet*

/skap <sup>hi</sup> +`jn/	FOG	WTIDENT(V)	* $\nu_{\mu\mu}\nu_{\mu\mu}$	*SHORTV	*LONG/Hi	LICLONGV
a. (skáa)(p <sup>hi</sup> jn)	*!	*		**		
b. (skáa)(p <sup>hi</sup> ijn)	*!			*	*	
c. (skáp)(p <sup>hi</sup> jn)		*!		**		
d. (skáap)(p <sup>hi</sup> jn)		*!		*		*
e. (skáap)(p <sup>hi</sup> ijn)			*!		*	*
f. ☞ (skáp)(p <sup>hi</sup> ijn)				*	*	

- (103) *Foot-junctural gemination preceding light nucleus (optional)*  
 /kuos $\Lambda$ / (kúoz)(z $\lambda$ st) *kuossâst* ‘spruce’ SSSK 146  
 /skapp<sup>hi</sup>/ (skáap)(p<sup>hi</sup>ist) *skaappist* ‘cupboard’ SSSK 146

- (104) *Trochaic quantity profile across feet*

/skap <sup>hi</sup> +`st/	FOG	WTIDENT(V)	* $\nu_{\mu\mu}\nu_{\mu\mu}$	*SHORTV	*LONG/Hi	LICLONGV
a. (skáa)(p <sup>hi</sup> ist)	*!			**		
b. (skáp)(p <sup>hi</sup> ist)				**!		
c. (skáap)(p <sup>hi</sup> ist)			*!	*	*	*
d. (skáp)(p <sup>hi</sup> ist)				*	*!	
e. ☞ (skáap)(p <sup>hi</sup> ist)				*		*

### 3.6 Residual problems

- (105) *No lengthening in weak branch*  
 /potak+h/ (pót)(t<sup>h</sup>àak<sup>h</sup>eh) *pott‘ā $\bar{k}$ ‘eh* ‘potato’  
 /suop $\Lambda$ p+h/ (súop)(p<sup>h</sup>λpeh) *suop̥p‘vñeh* ‘lasso’  
 /tjelhifn+h/ (t.jéel)(hìfneh) *ťšḕlhišneh* ‘plait’

- (106)
- | /pot <sup>h</sup> ak+h/          | DEP- $\mu^2$ | * $\nu_{\mu\mu}\nu_{\mu\mu}$ | *SHORTV | LICLONGV |
|----------------------------------|--------------|------------------------------|---------|----------|
| a. (pót)(t <sup>h</sup> àakeeh)  | *!           | *                            |         | *        |
| b. (pót)(t <sup>h</sup> àkeeh)   | *!           |                              | *       |          |
| c. (pót)(t <sup>h</sup> àkeh)    |              |                              | **!     |          |
| d. ☞ (pót)(t <sup>h</sup> àakeh) |              |                              | *       | *!       |

## 4 Conclusions

- Inari Saami has a lexical distinction between presence vs. absence of final monosyllabic foot.
- Final monosyllabic foot is a (co-)exponent of certain morphological categories.
- Complex pattern of alternation in (phonological) quantity and (phonetic) duration derives from interaction of final monosyllabic foot, stress assignment, constraints regulating segmental quantity, and phonetic rules.



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