

# Finnish dialectal epenthesis: two distinct types of vowel insertion\*

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MFM 22  
May 28 - 31, 2014

## 0 Introduction

### 0.1 Description

- In Savo and Pohjois-Pohjanmaa (PP) dialects, words with shape  $C_1VC_2C_3V$  are produced as  $C_1VC_2vC_3V$ 
  - $v$  in Savo dialects often has a quality between those of the surrounding vowels (1a)
  - $v$  in PP dialects has a quality that is identical to the preceding  $V$  (1b)
  - Epenthesis is also triggered when  $C_3$  is a geminated consonant (1c)

(1)	a.	silmä	>	silemä	'eye'
	b.	silmä	>	silimä	'eye'
	c.	helppo	>	heleppo	'easy'

- Epenthesis is not triggered by all CC environments. All exceptions fall under one of the following:
  - Later CC contexts (2a)
  - Homorganic  $C_2C_3$  contexts (2b), (2c)
  - Voiceless  $C_2C_3$  contexts (2d)
  - CC contexts where /r/ is  $C_2$  (2e), though there is disagreement (Suomi 1990, 2000; Harrikari 1999)

(2)	a.	kuvitelma	>	*kuvitelvma	'fantasy'
	b.	linna	>	*linvna	'castle'
	c.	ilta	>	*ilvta	'evening'
	d.	ahkera	>	*ahvkera	'hard-working'
	e.	sormi	>	?sorvmi	'finger'

- Proposal:** Finnish dialectal epenthesis is the mixed result of phonetic exerescence and the phonologization of inserted vowels

- Dialectal epenthesis is related to Second-Mora Lengthening, another dialectal phenomenon
- Different dialect groups display differing degrees of phonologization

### 0.2 Roadmap

- Background
- Second-Mora Lengthening (SML)
- Acoustic Study
- Discussion and Conclusions

## 1 Background

- Two major questions:
  - Which dialects exhibit  $C_2C_3$  vowel insertion?
  - Which CC sequences trigger vowel insertion?

### 1.1 Early descriptions and dialectology

- Kettunen (1940) differentiates between three types of vowel insertion
  - 'jalaka, kylmä, silmä,' similar to (1b)
  - 'jalaka, kylömä, silemä,' similar to (1a)
  - 'jal<sup>a</sup>ka,' or a schwa-like insertion
- Vowel insertion spans roughly what is contained in Savo and PP regions now
- (1a)-like pronunciations limited to southern Savo regions; (1b)-like pronunciations elsewhere
- Dialect atlas was purely descriptive, with no account for *which dialects* or in *which environments*

### 1.2 Generative approaches

- Later work collapses Savo (1a) and PP (1b) insertions as the same phenomenon
- Suomi (1990) proposed that the  $C_2C_3$  environments that trigger epenthesis are those that are not allowed in  $C_1VVC_2C_3V$  words
  - This largely accounts for the distribution of environments, described in (2)
  - Does not account for the failure of later CC environments to trigger vowel insertion
- Harrikari (1999) proposed an OT account that invoked OCP (CLUSTERINTEGRITY), \*CODA, DEP-IO, and footing constraints
  - Codas are illegal, except when the CC sequence formed is homorganic
  - Insertion in voiceless CC sequences violates DEP(F), where features (voicing on the vowel) cannot be added
  - Called on footing constraints to account for the failure of later CC environments to trigger vowel insertion
  - However, accounts for restrictions on words like *hedelmä*—not for words like *kuvitelma* (2a)

Input: /hedelmä/	FTBIN <sub>Max</sub> (σ)	HEAD-DEP	NoCODA	DEPIO
a. $\text{he} \cdot \text{del} \cdot \text{mä}$			*	
b. $(\text{he} \cdot \text{de} \cdot \text{le}) \cdot \text{mä}$	!*			*
c. $(\text{he} \cdot \text{de}) \cdot (\text{le} \cdot \text{mä})$		!*		*

Figure 1: The OT tableau proposed by Harrikari (1999)

- Neither Suomi (1990) nor Harrikari (1999) attempt to account for which dialects have vowel insertion
- I argue that a connection with Second-Mora Lengthening accounts for both major questions

\*Special thanks to Elina Nuortie, Riikka Lappalainen, Tiina Schiltz, and Carol Rose Little for their help in transcribing the data.

## 2 Second-Mora Lengthening

### 2.1 General description

- Described in depth by Suomi and Ylitalo (2004) and Spahr (2012)
- Second-Mora Lengthening (SML) is, very generally, when the second mora of a word is lengthened to (on average) 1.5 x the length of a comparable segment
- Applies to both vowels and consonants
- Especially notable—Finnish contrasts vowel quantities!

	Lestijärvi		Vantaa	
	V2 / V1	St. Dev.	V2 / V1	St. Dev.
phrase-finally				
non-finally				

Figure 2: Mean V2/V1 ratios for Lestijärvi, a dialect with SML, and Vantaa, a dialect without SML. (((((F stats))))))

### 2.2 Connection to vowel insertion

- Strong correlation between dialects with SML and dialects with inserted vowels
- **Relevant case:** when consonants are the second mora, i.e.,  $C_1VC_2C_3V$  words
  - Consonants in second-mora position lengthen as well
  - However, consonants cannot be sustained in the same way that vowels can
  - Result: short, variable gap where with no consonantal closure
  - Later: phonologization of the gap into a “full-fledged” vowel
- If SML really is the root cause of vowel insertion, it neatly addresses the major questions:
  1. Which dialects exhibit vowel insertion?
    - ✓ **Savo and PP dialects:** They are both dialects with SML
  2. Which CC sequences trigger vowel insertion?
    - ✓ **Restriction to  $C_2C_3$ :** Only environments that are affected by SML
    - ✓ **Non-homorganic sequences:** In a homorganic CC sequence, the closure of  $C_2$  is not sufficiently decreased before the closure of  $C_3$  is re-selected
    - ✓ **Restriction on voiceless sequences:** The gap is voiceless; therefore, it is not interpreted as a vowel
    - ✓ **Debate on rC sequences:** Trills can be sustained, but changes in airflow can alter the duration of the trill, which could result in the occasional excrescent vowel
- A connection to SML further allows for the variable realization of the inserted vowel
  - ✓ **Savo dialects:** An excrescent vowel would account for the “intermediate” vowel quality of the inserted vowel—as it is excrescent, it is not specified, merely realized in the transition between two vowels
  - ? **PP dialects:** Another process would have to come into play, specifically the phonologization of the inserted vowel. Is there evidence for such a process, either within PP dialects, or in Savo dialects?

## 3 Acoustic study

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