Rethinking the morphophonology of Estonian quantity

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Introduction

Goals of this talk:

- Look at the 3-way quantity distinction in Estonian
- Propose a novel analysis of the morphophonology of these paradigms
- Show that foot structure need not be manipulated directly by rules to get the three-way distinction

The data in question

Minimal triplets for quantity:

Q1	Q2	Q3
“short”	“long”	“overlong”
vina	viina	viːina
‘vapour’ (nom.)	‘vodka’ (gen.)	‘vodka’ (part.)
lina	linna	linːna
‘flax’ (nom.)	‘city’ (gen.)	‘city’ (part.)
	laulu	lauːlu
	‘song’ (gen.)	‘song’ (part.)

Nominal alternations

I focus on the alternations with nominals:

Nominative	Genitive	Partitive	
Q3	Q2	Q3	
viiːn	viina	viiːna	‘vodka’
linːn	linna	linːna	‘city’
lauːl	laulu	lauːlu	‘song’

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linːn	linna	linːna	‘city’
lauːl	laulu	lauːlu	‘song’
suuː			‘mouth’

CVCV homophony

Nominative	Genitive	Partitive	
Q1	Q1	Q1	
vina	vina	vina	‘vapour’
lina	lina	lina	‘flax’

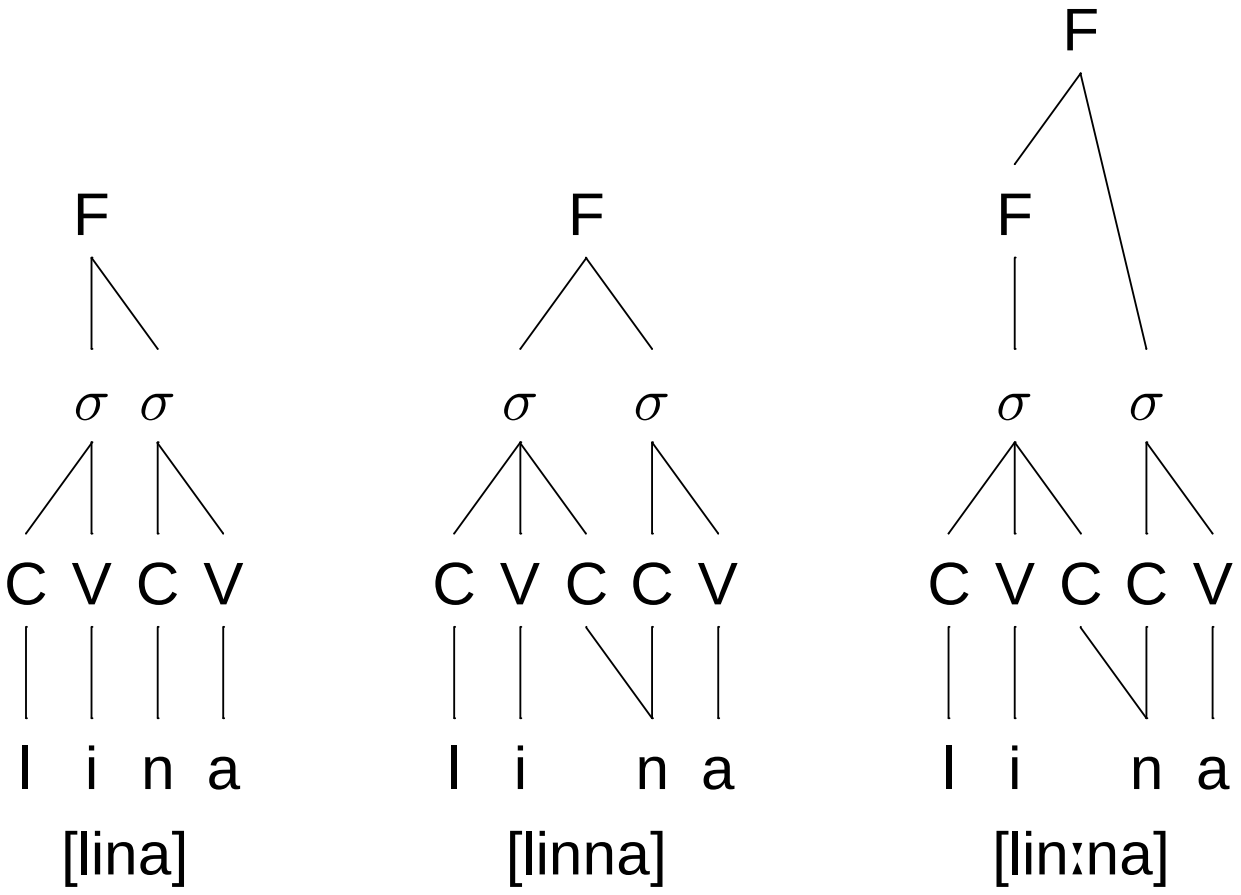
Quantity and weight

Standard descriptions (Viitso 2003:12) assume a weight distinction between Q2/Q3:

	Short	Long
Light	Q1	Q2
Heavy		Q3

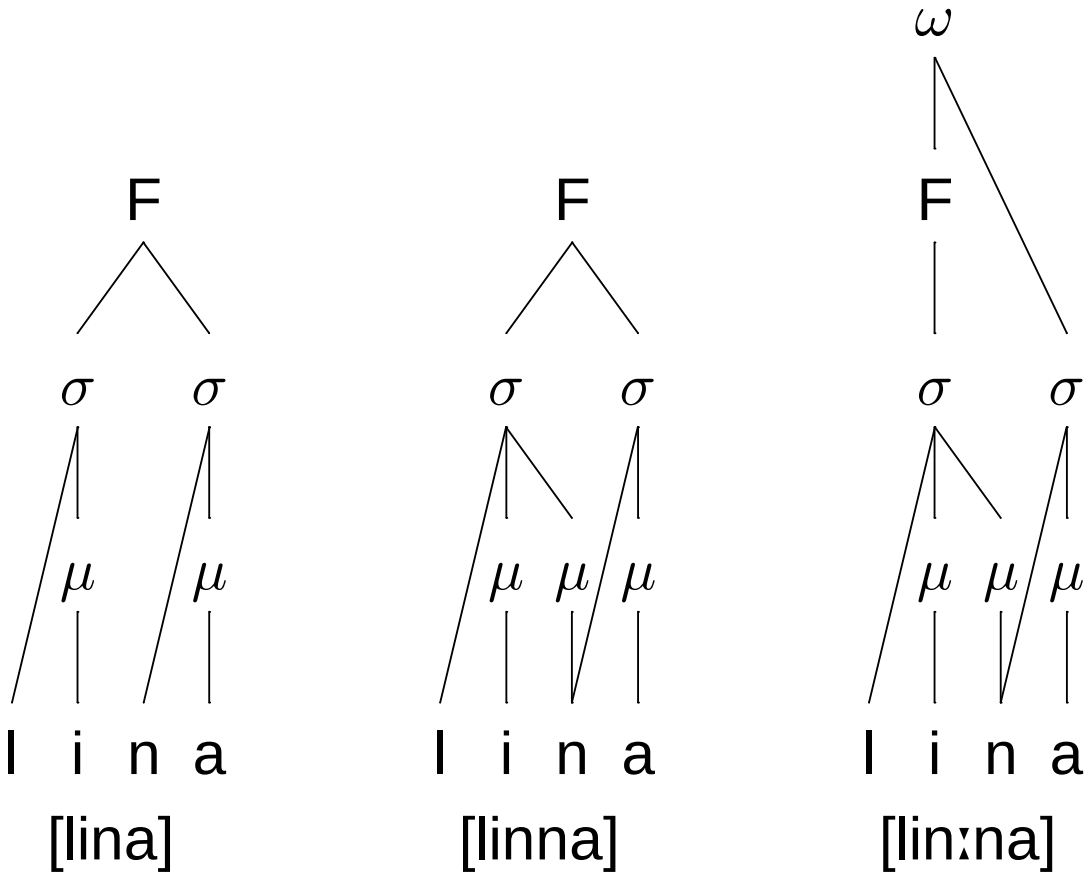
Prince 1980

Recursive foot structure. A syllable as its own foot is in Q3:



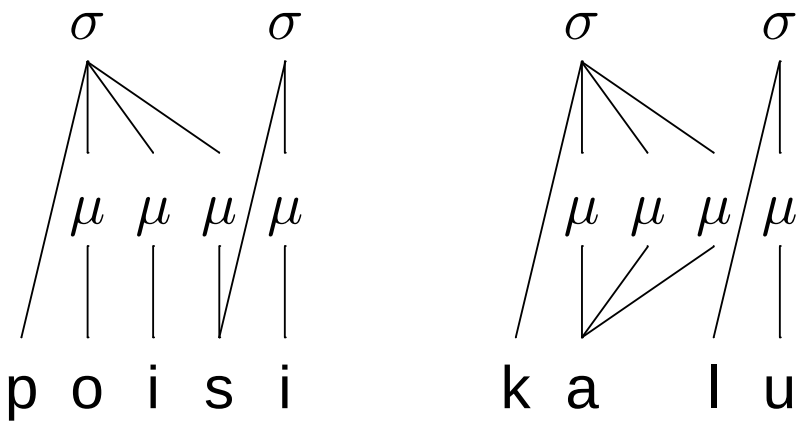
Odden 1997

Prince (1980) without recursive foot structure:



Hayes 1989

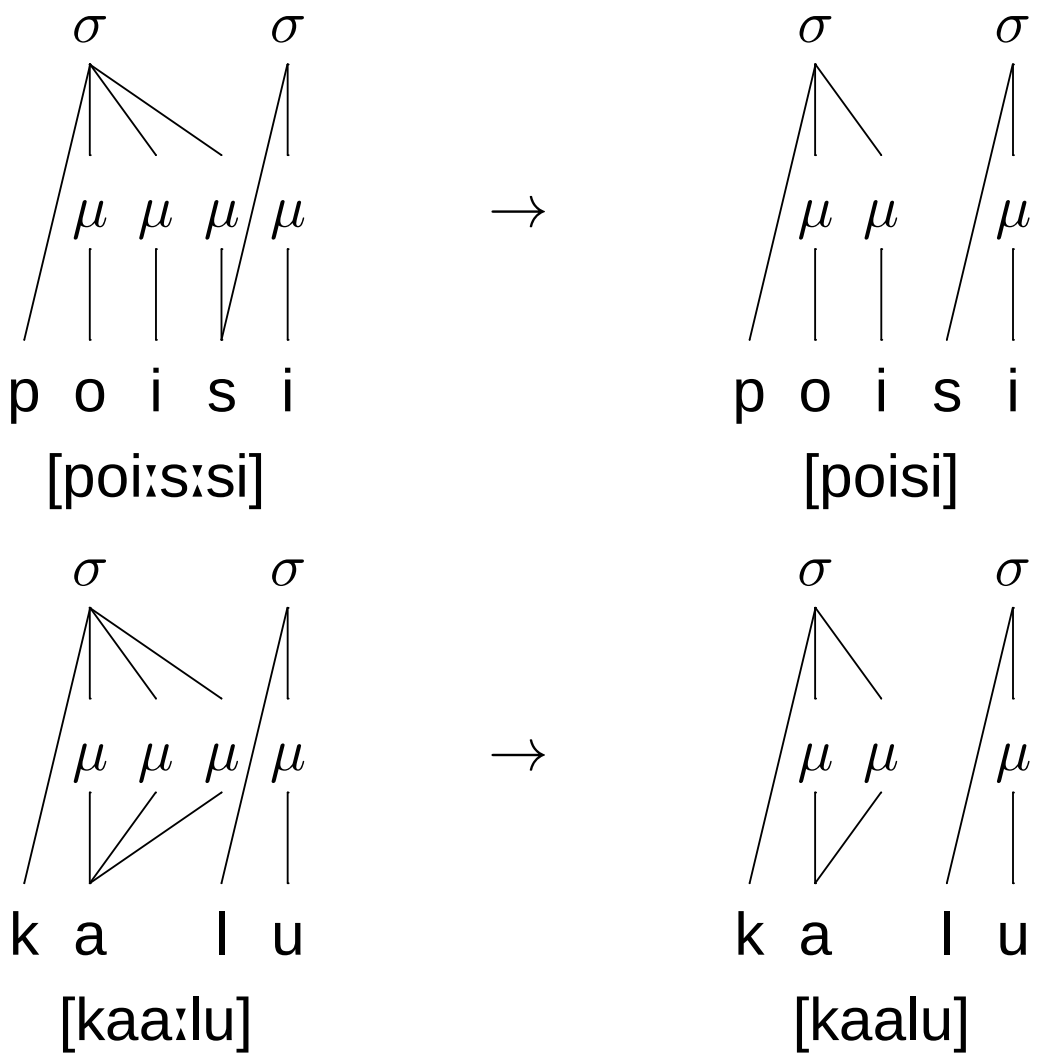
Overlong (Q3) syllables are trimoraic:



[poiːsːsi] ‘boy (part.)’

[kaaːlu] ‘weight (part.)’

Q2 is derived from Q3 by deleting the third mora:



Problems with Hayes

Hayes (1989) is not without issues:

- Weight (in moras) is not a binary distinction
  - Weight should be binary in keeping with traditional descriptions

Problems with Hayes

Hayes (1989) is not without issues:

- Weight (in moras) is not a binary distinction
  - Weight should be binary in keeping with traditional descriptions
- Morphophonological rules must directly manipulate prosodic structure (i.e. “delete the third mora”)
  - Why should the derivation of Q2 *not* be a mora-conserving process?

Foot structure

Analyses like Prince's and Odden's are good, but:

- Where do we get the right structure to parse, if not by deleting moras?
- Do we really want morphophonological rules that directly manipulate foot structure or syllable weight?

Assumptions

I make the following assumptions:

- All moras are present in the underlying forms
- There is no word-final deletion in the nominative
- Vowels in the second syllable come from “floating” phonemes

Quantity and weight

Mora counts:

Light	Heavy
Q1, Q2	Q3
1 mora	2 moras
μ	$\mu\ \mu$

Quantity and weight

Segmental length:

Short	Long
C, V	CC, VV
n, i	nn, ii

Underlying moraicity

Roots must underlyingly have a minimum of two moras:

Q3

μ μ

/ l i n n /

[linːn] ‘city’

Q1

μ μ

/ l i n a /

[lina] ‘flax’

μ μ

/ v i i n /

[viːin] ‘vodka’

Foot parsing

Feet (or quantity groups) can be parsed from prosodic structure:

1. Feet consist of two moras
2. When a foot is coextensive with a syllable, produce it in Q3

Word-final deletion?

What is the status of the “theme vowel” (Blevins 2005) in the second syllable of non-nominative singular forms?

Nominative	Genitive	Partitive	
Q3	Q2	Q3	
viiːn	viin<u>a</u>	viiːn<u>a</u>	‘vodka’
linːn	linn<u>a</u>	linːn<u>a</u>	‘city’
lauːl	laul<u>u</u>	lauːl<u>u</u>	‘song’

Word-final deletion?

The “theme vowel” is often implicitly or explicity assumed to simply delete in the nominative:

> *“It is plausible to assume that the nominative singular is generally derived by deletion of a stem-final vowel that shows up in the other cases and before derivational suffixes.”*

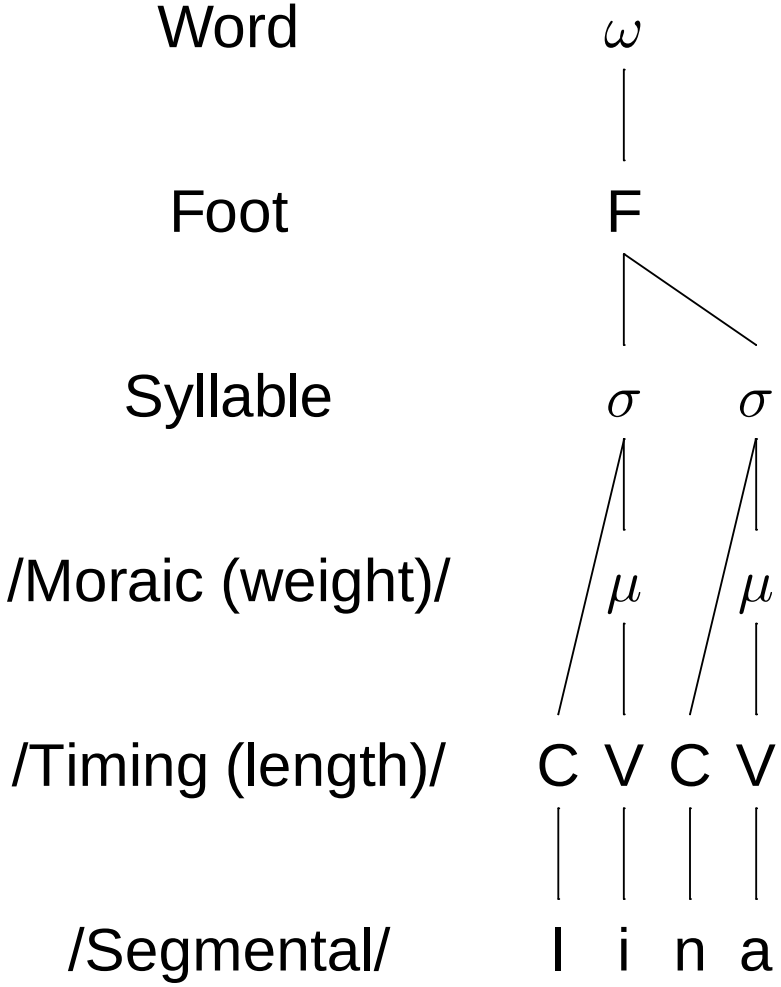
Prince (1980:534)

Word-final deletion?

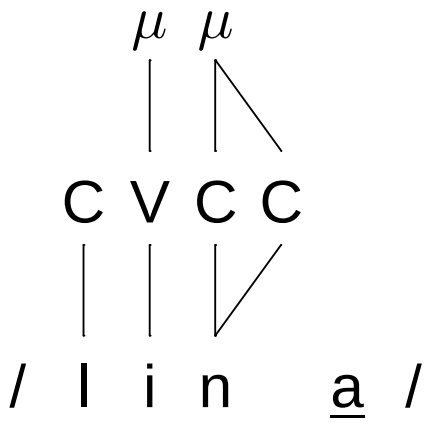
But this isn't actually that plausible:

- Only four of the nine vowel phonemes of Estonian can participate in this "deletion": /i, e, a, u/
- There are exceptions to it even with these vowels

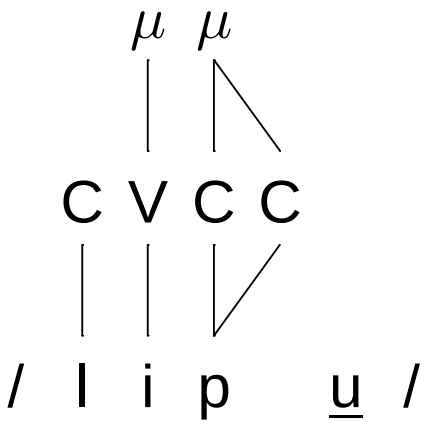
Underlying versus parsed constituents:



Floating phonemes



'city'

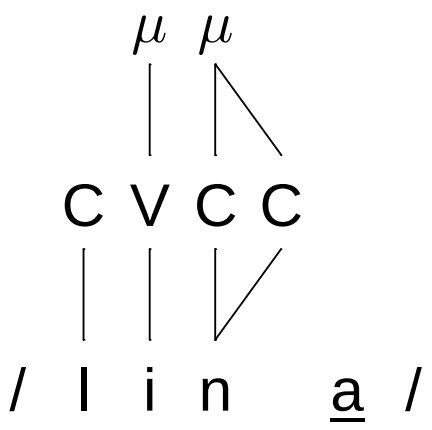


'flag'

Underline = *floating phonemes* (Sloan 1991)

The nominative

When just the root is used without suffixes, the floating phoneme has no timing unit or mora, so it is not parsed into a syllable:



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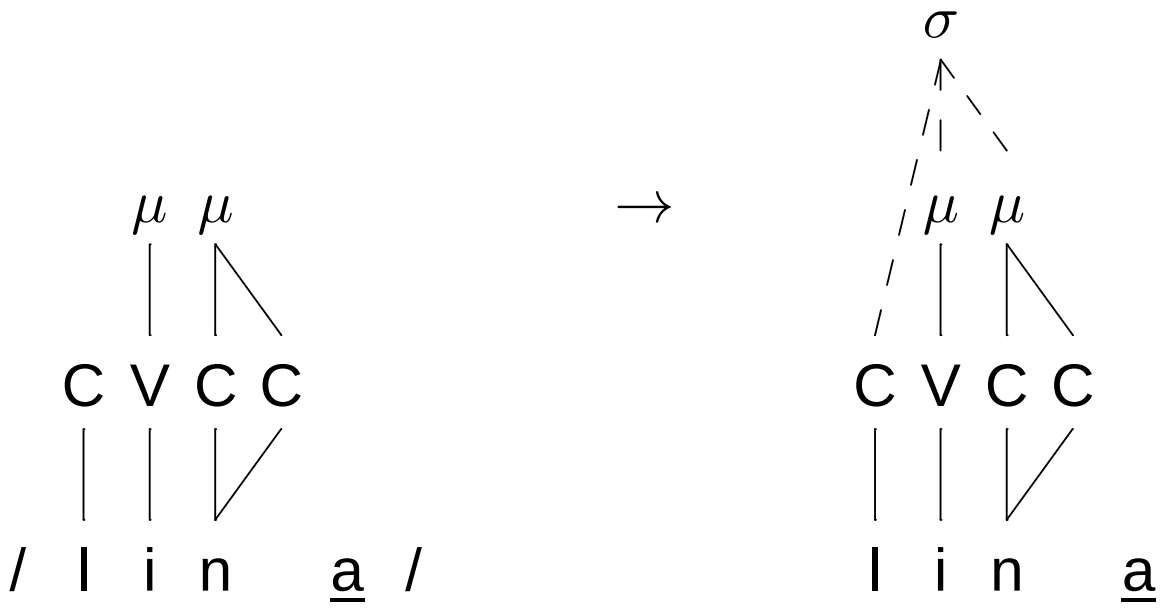
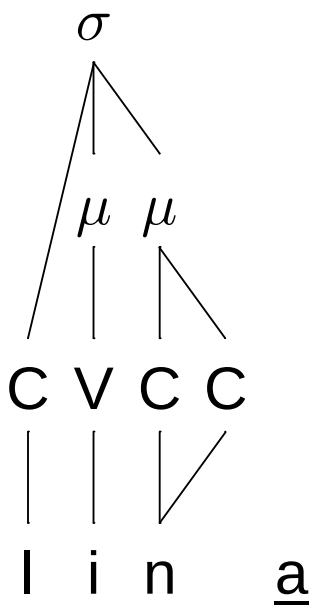


Because the single syllable is bimoraic, it forms its own foot in Q3:



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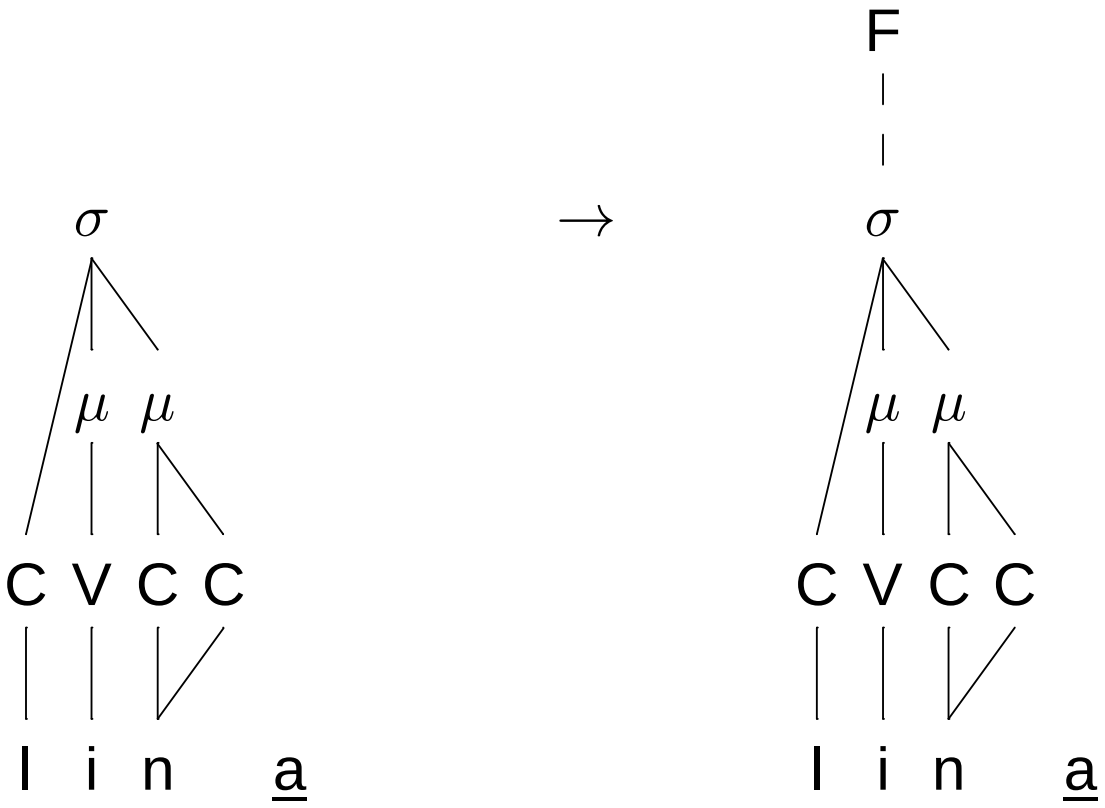


Palatalization

An exception to the non-realization of the floating phoneme in the nominative:

Nominative	Partitive	
halːl	halːla	‘frost’
haĺːl	haĺːli	‘hall’
nutːt	nutːtu	‘crying’
nuťːt	nuťːti	‘round object’

Palatalization

This is an exception; here the floating phoneme is realized as slight diphthongization preceding the consonant:

Nominative	Partitive
h a l l	h a l l a
a	a
h a l l	h a l l i
i	i

The second syllable in the genitive and partitive

How does the floating vowel in the second syllable get realized?

The genitive and partitive case suffixes introduce only prosodic material, but no segmental material.

The partitive case

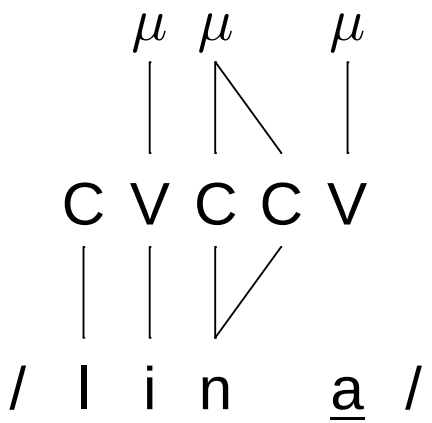
The partitive case suffix is a mora and a vowel timing slot:

$$\begin{array}{c} \mu \\ | \\ / \ - \ \mathrm{V} \ / \end{array}$$

‘partitive’

The partitive case

When suffixed to a stem, this V picks up the floating phoneme:



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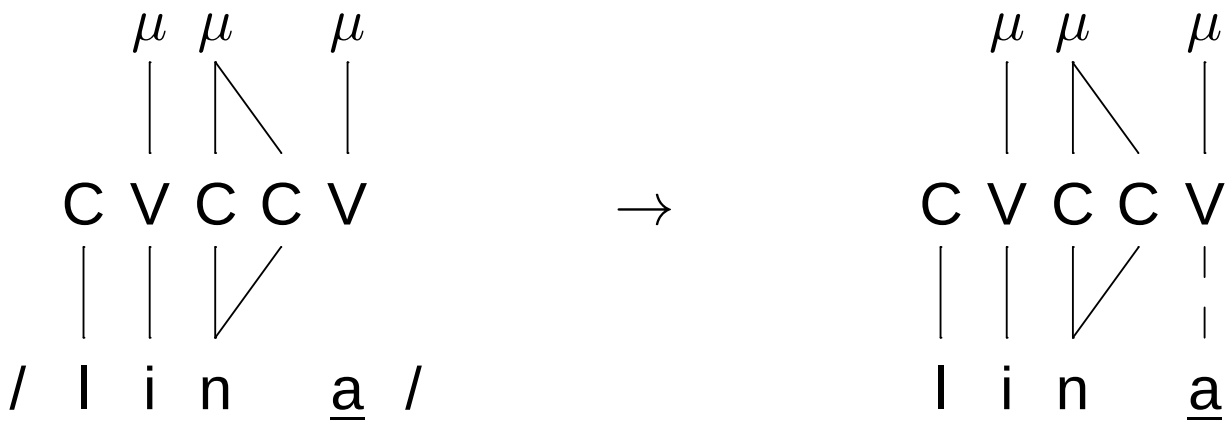
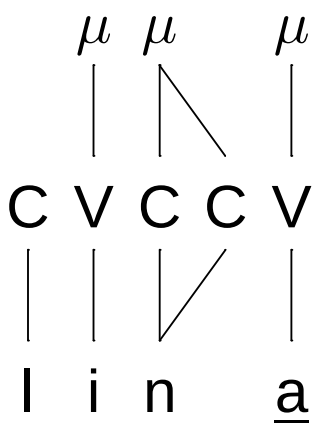


The partitive case

Syllable structure is then parsed:



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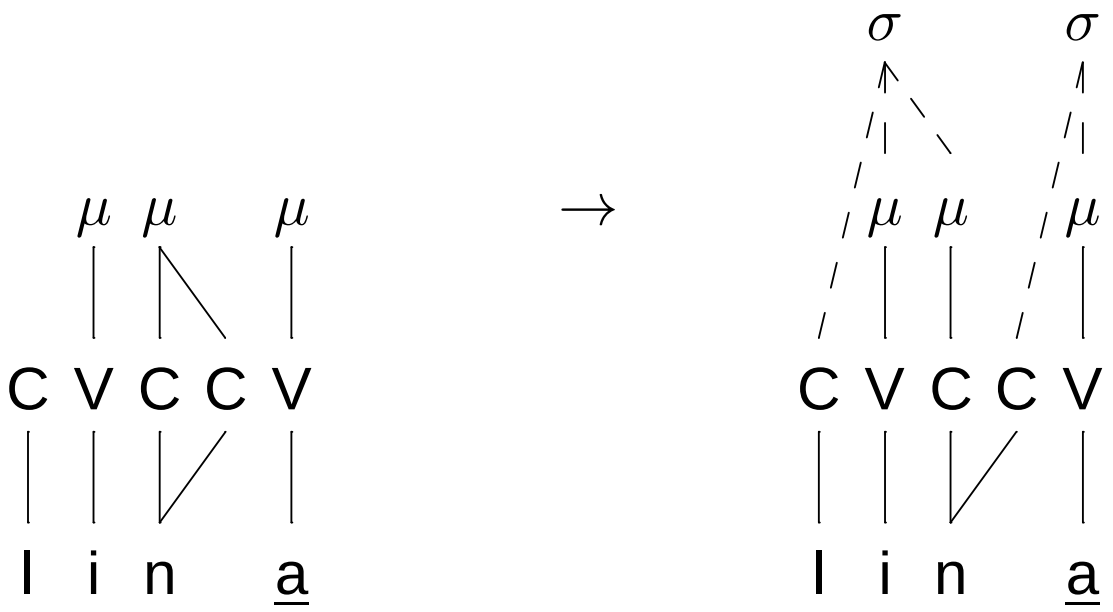
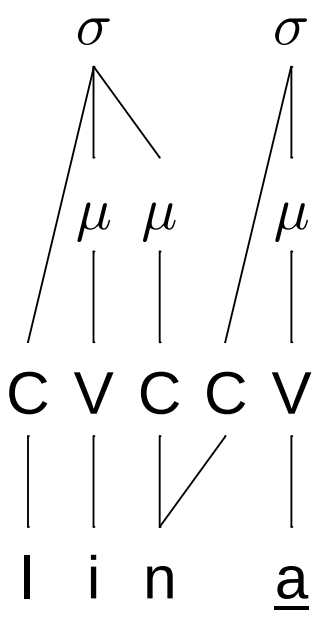


The first syllable is heavy (bimoraic) so it is parsed as its own foot:



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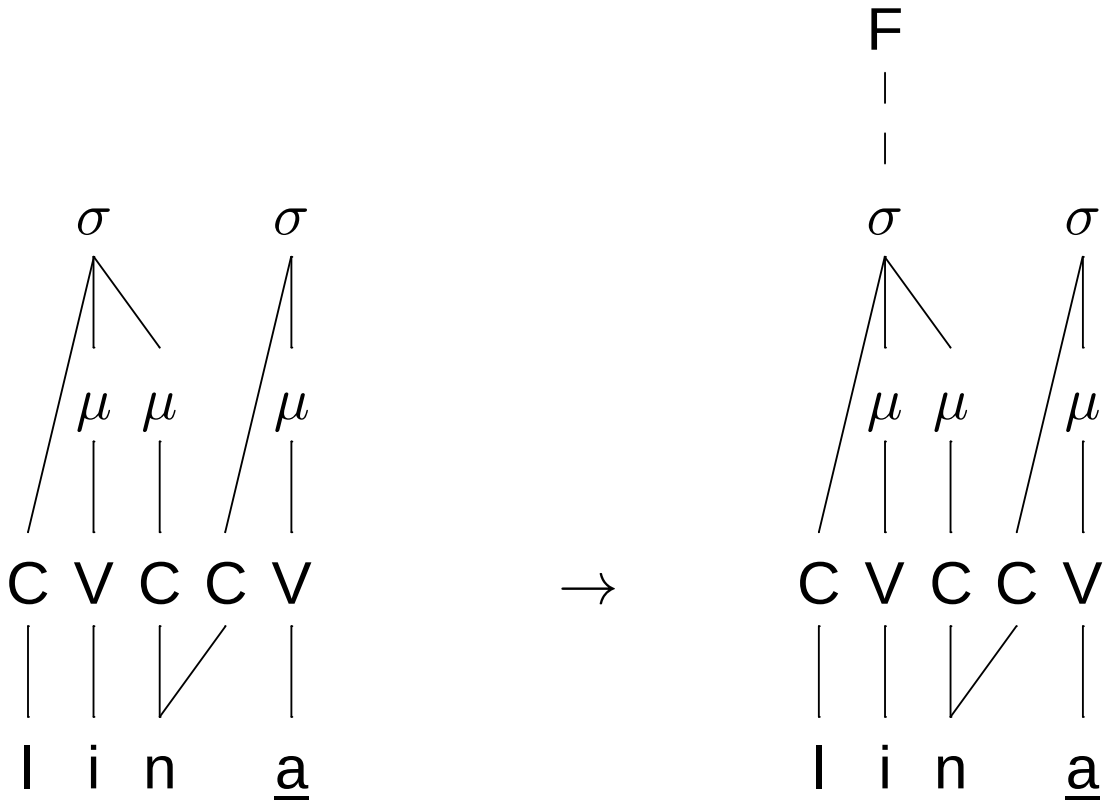
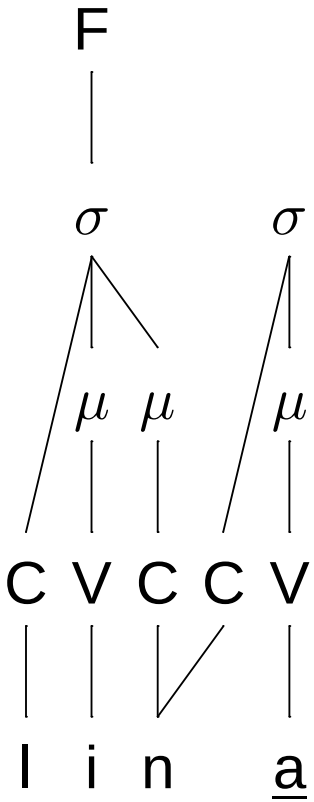


Finally, both the foot and the syllable are parsed as part of the prosodic word:



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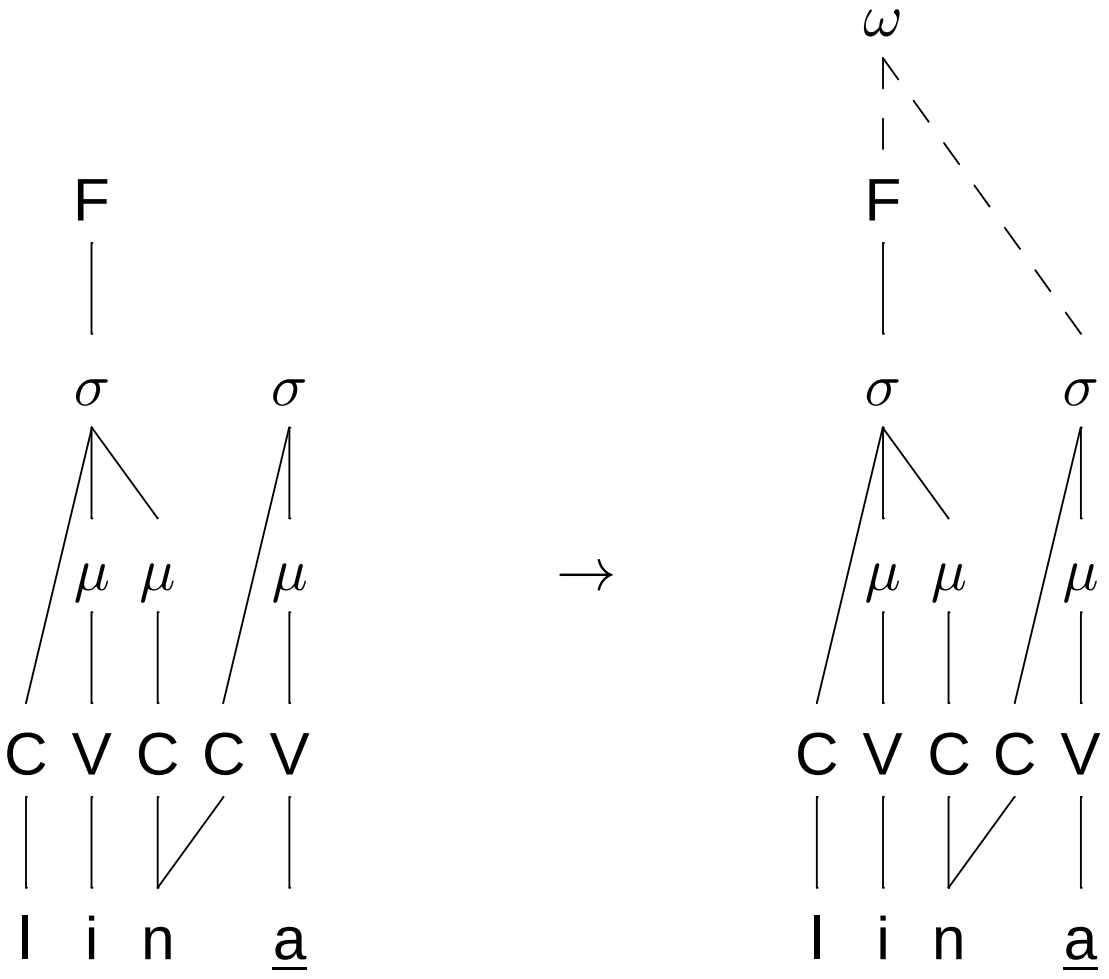


The genitive case

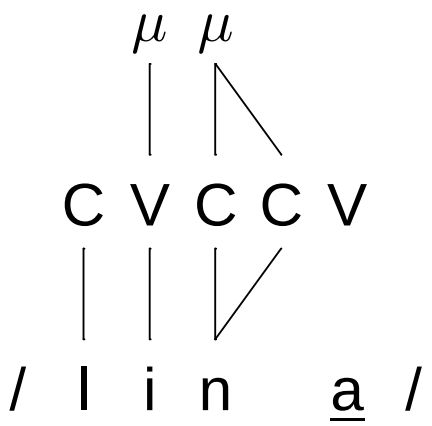
The genitive case suffix is just a featureless vowel:

/ – V /
‘genitive’

It does not come with its own mora.

The genitive case

Again, the timing slot associates with the floating phoneme from the stem:



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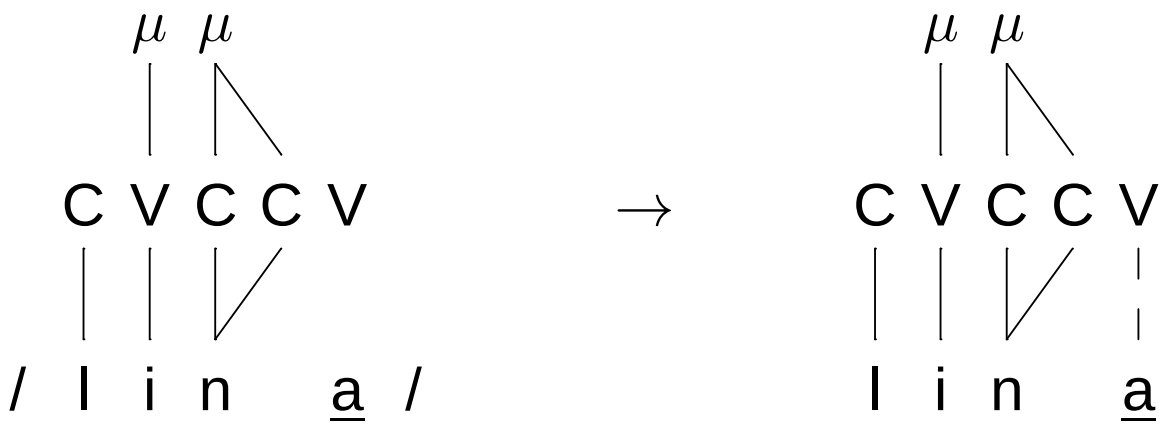

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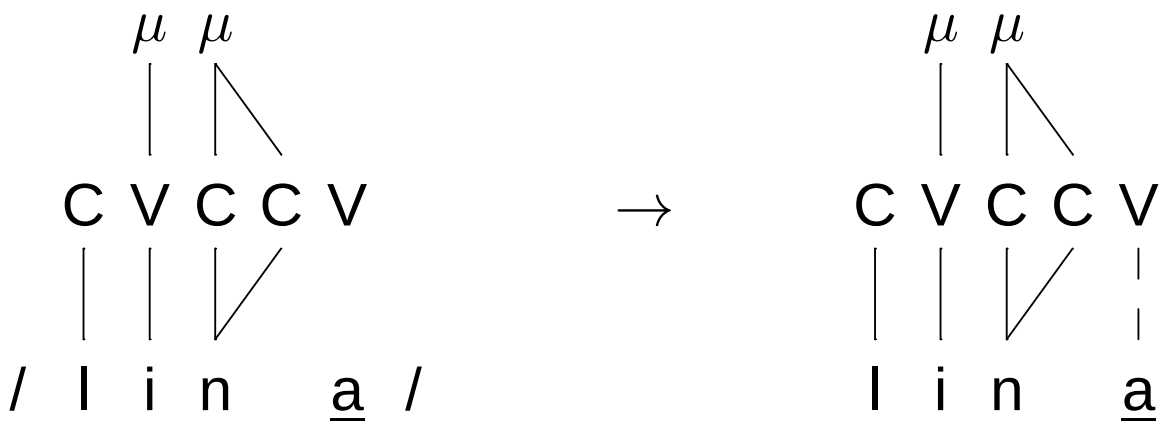
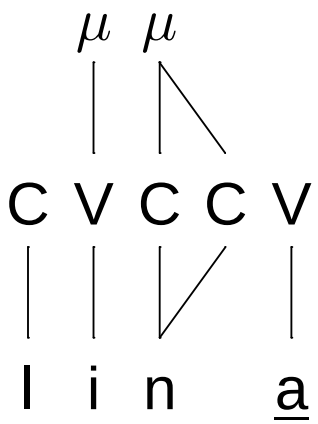


. . . but this leaves us with a weightless (non-moraic) vowel. . .

The genitive case

The vowel gets a mora from the stem:



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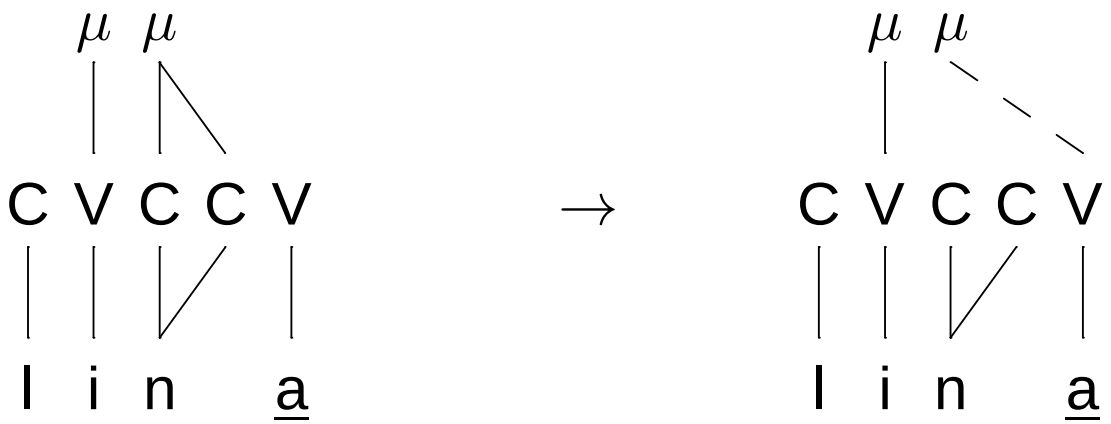

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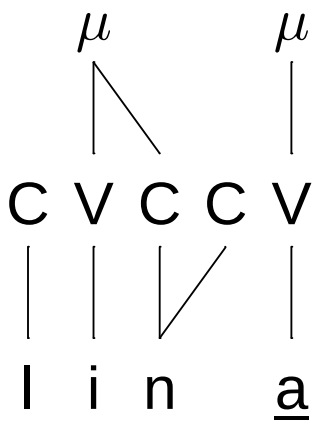

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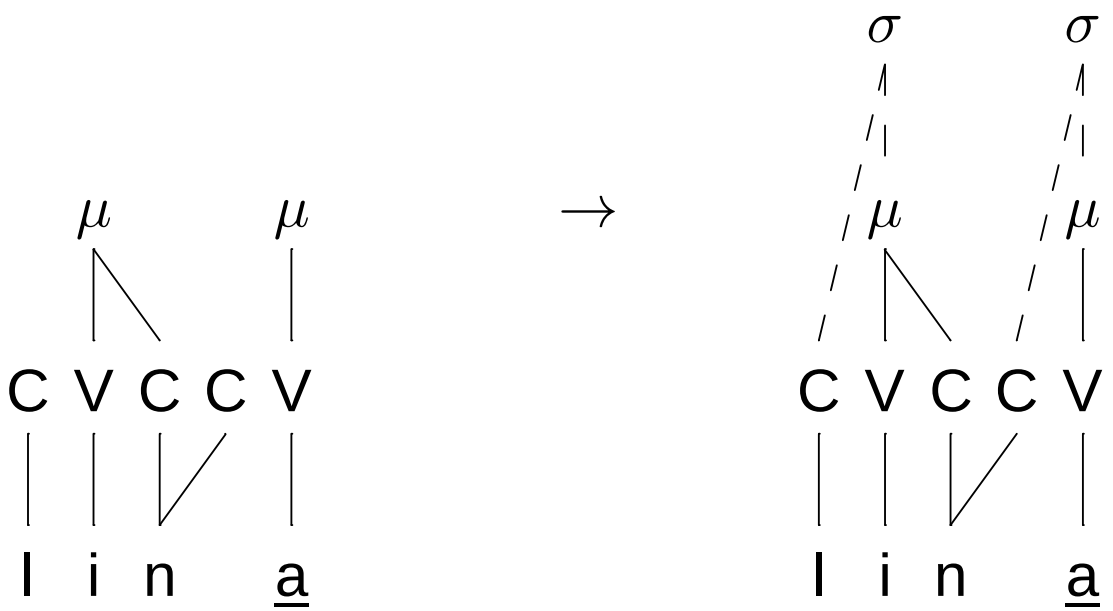

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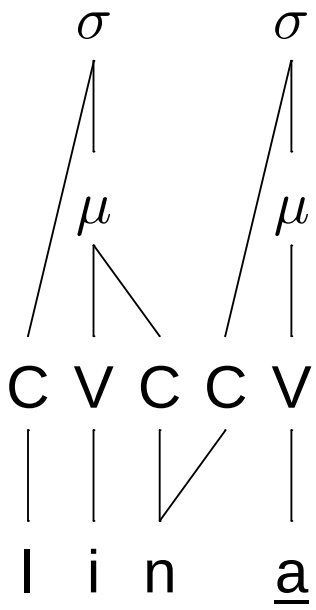

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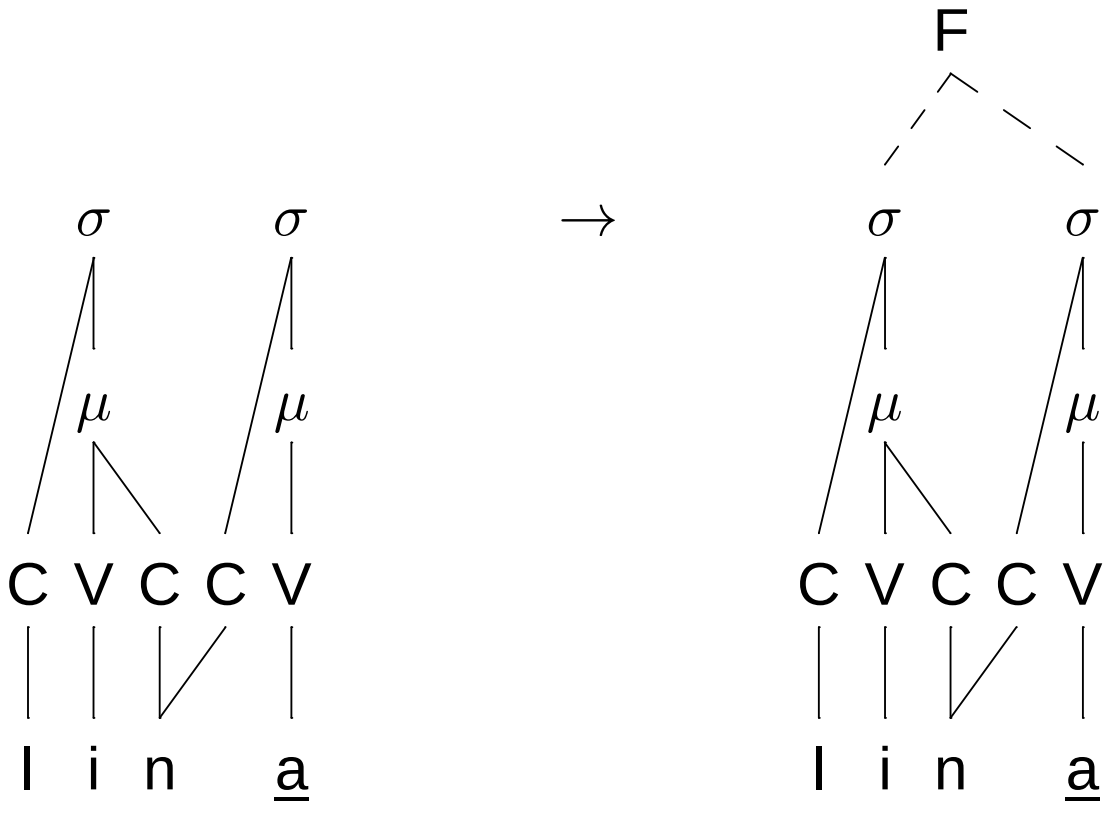
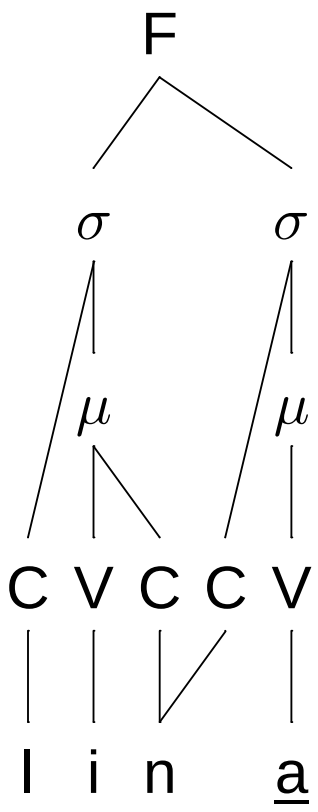


Finally, this foot is part of a prosodic word:



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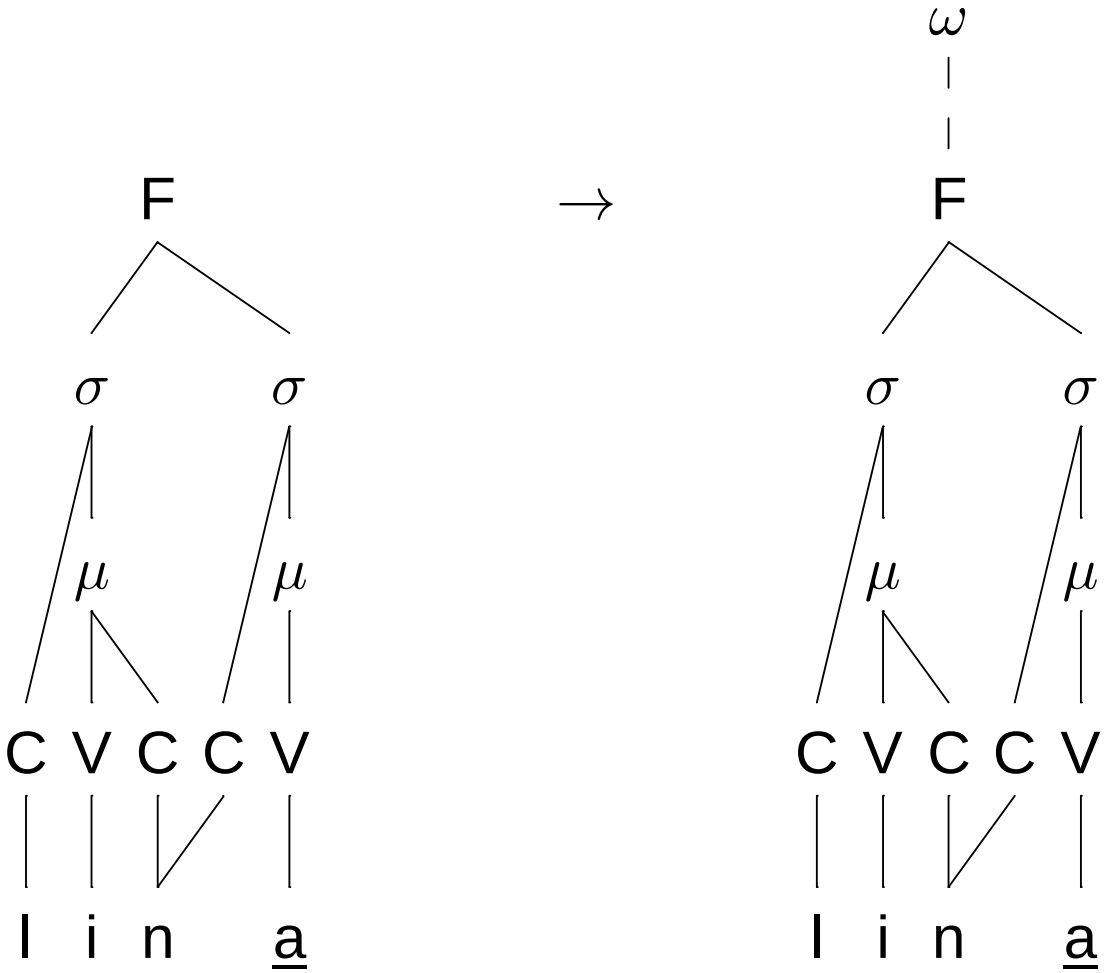

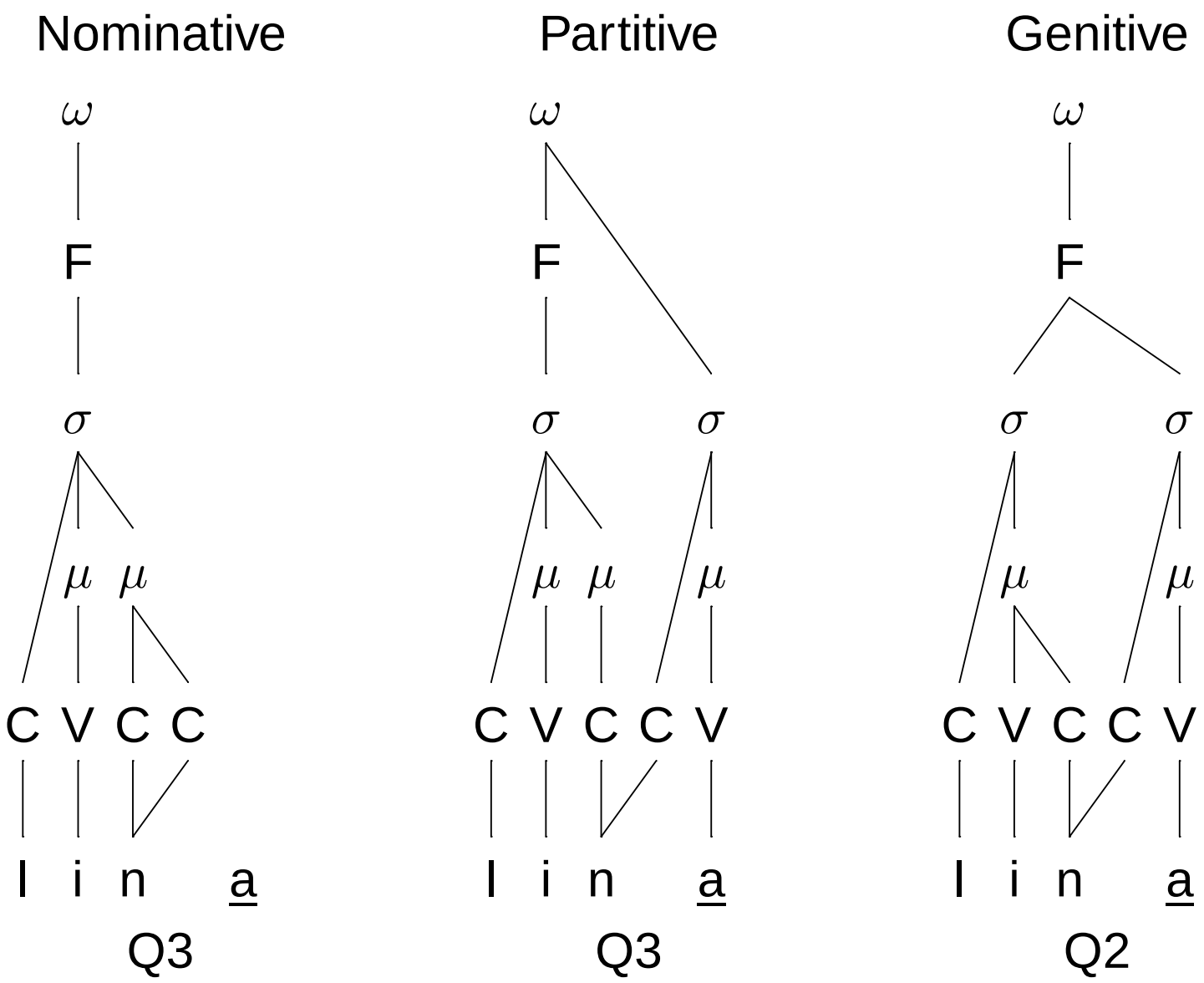
Nominative
Partitive
Genitive
ω
F
σ
μ
C V C C
l i n a
Q3
Q3
Q2

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Conclusions

- It is possible to derive the Q2/Q3 distinction if we assume Estonian uses bimoraic feet
- The underlying forms of stems more closely prosodically resemble their nominative (citation) forms:
  - They are bimoraic (Q3)
  - They do not have a second syllable (floating phonemes)
- Foot structure is not directly manipulated by morphophonological rules
  - Q3 is still represented as a single syllable exhausting a foot
  - We don't need to delete moras; the suffix just doesn't have its own!

Aitäh!

References

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