

Phonological approaches to word stress

Day 2:
Syllable structure

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Repetition

What is stress?

- General questions:
 - What are ‘typical’ correlates of stress?
 - Is there a fixed number of correlates across languages?
 - What are your intuitions?

Some of the most important phonetic correlates of stress

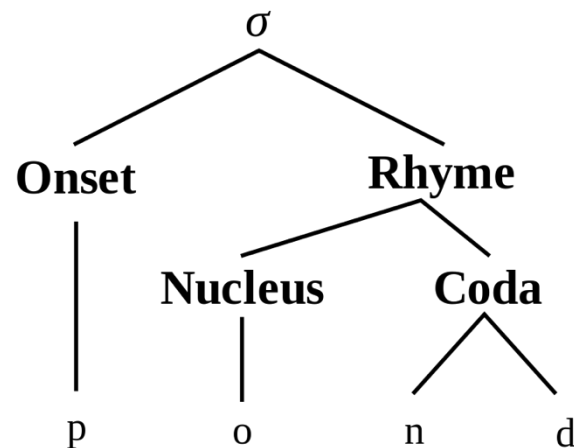
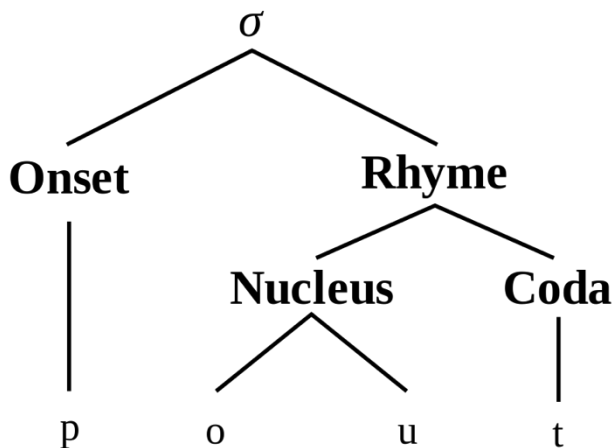
- Attraction of (intonational) tones
- Higher pitch
- Longer duration / lengthening of stressed syllables
- Higher intensity
- Lenition in unstressed syllables (reduction / deletion)
- Fortition in stressed syllables (vowels / consonants)

Bottom line

- (Sometimes strong) typological tendencies exist regarding the production and perception of stress, as well as regarding phonological processes associated with stress
- But: few are strictly universal

Syllable structure

Basic model of the syllable



CV vs. moras

- What is the 'best' model of syllable structure?
- What is the CV tier?
- What are moras, and why / how are people using them?

The skeletal tier

- Skeletal slots between the segments and the syllable:
CV slots
- C = syllable margin (consonant)
- V = syllable peak (vowel)

Arguments for the CV tier

- Language game: Luganda – Ludikya (Clements 1986)

Luganda – Ludikya

Luganda

mukono

mubinikilo

baana

ɣɣuba

kiwoɣɣolo

kubaɣɣa

Ludikya

nokomu

lokinibimu

naaba

bbaju

loɣowwoki

ɣabakku

‘arm’

‘funnel’

‘children’

‘dove’

‘butterfly’

‘to work in wood’

What’s going on here?

Luganda – Ludikya

b a n a
| ^ | |
C V V C V
| v | |
n a b a

k u b a ɟ a
| | | | ^ |
C V C V C C V
| | | | v |
ɟ a b a k u

Luganda – Ludikya

- Provides evidence that (vowel) length is not a feature like [+long] but follows from more abstract representations (e.g. long vowel has two V-slots)

Further arguments for the CV tier

- Compensatory lengthening
- When a segment gets lost, an adjacent segment can take over its skeletal position
- Result: lengthening
- But there are complications

Ingwaeonic → English

- gans ga:s goose
- fimf fi:f five
- tanth ta:th tooth
- munth mu:th mouth

- | | | | | |
|---|---|---|---|---|
| x | x | → | x | x |
| | | | | |
| a | n | | a | n |

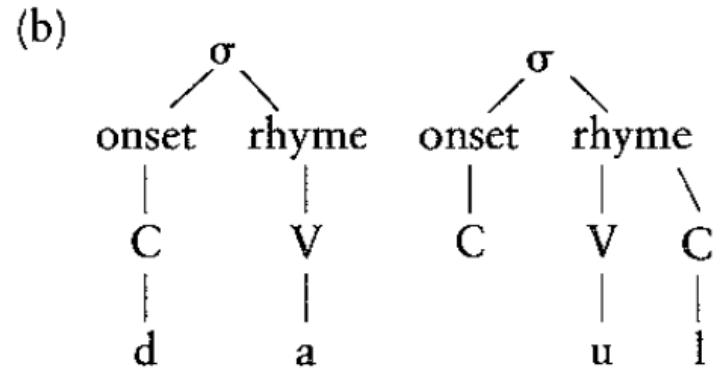
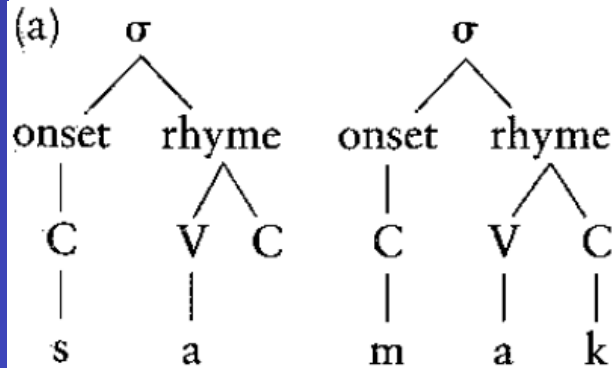
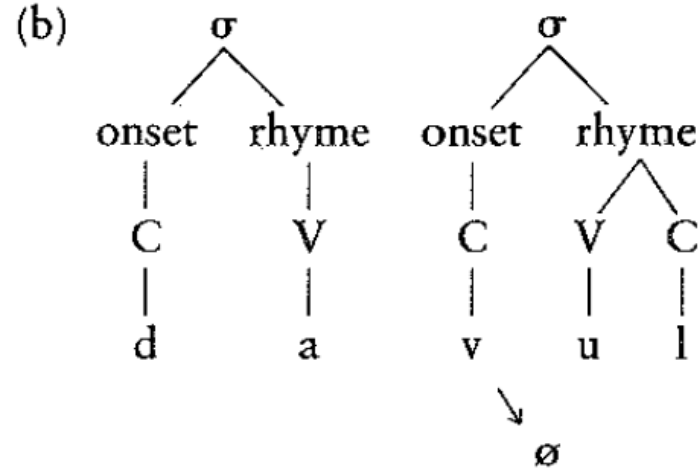
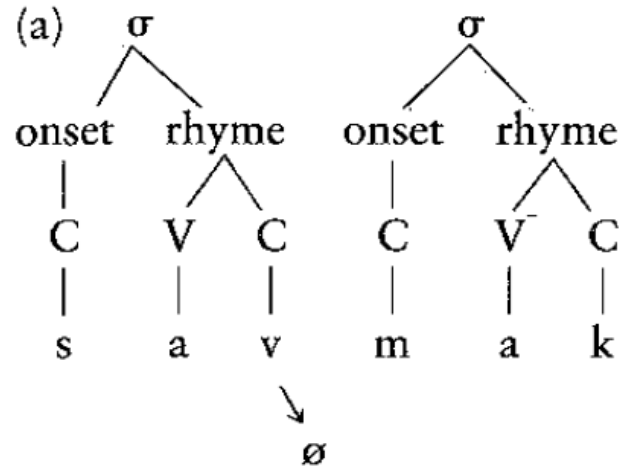
But...

- Things do not always work that 'simple' in issues of compensatory lengthening

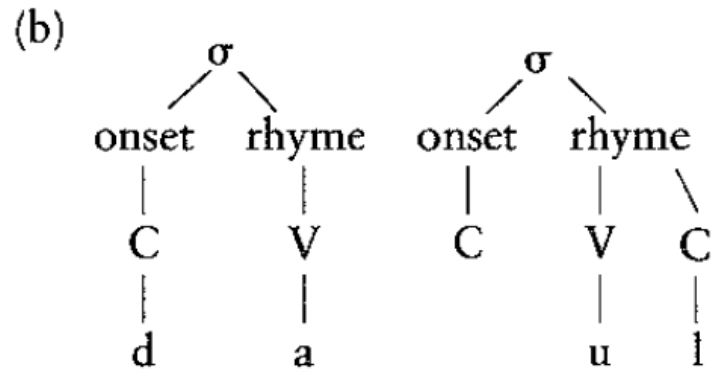
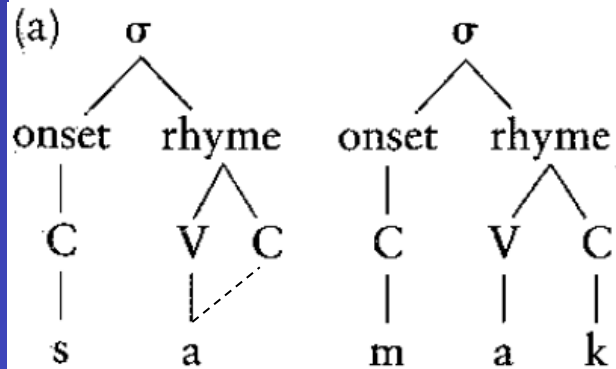
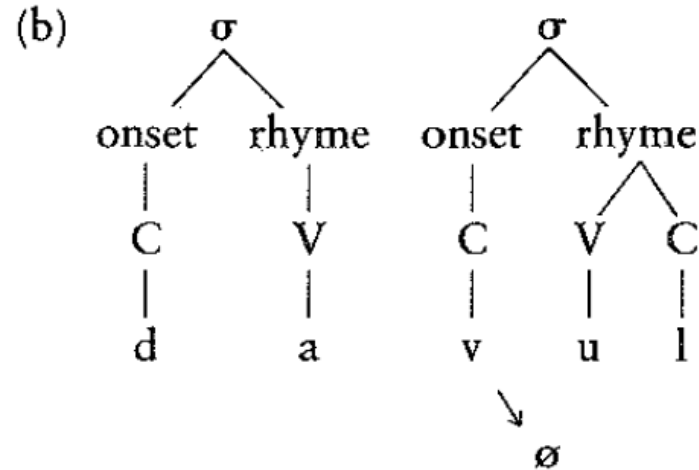
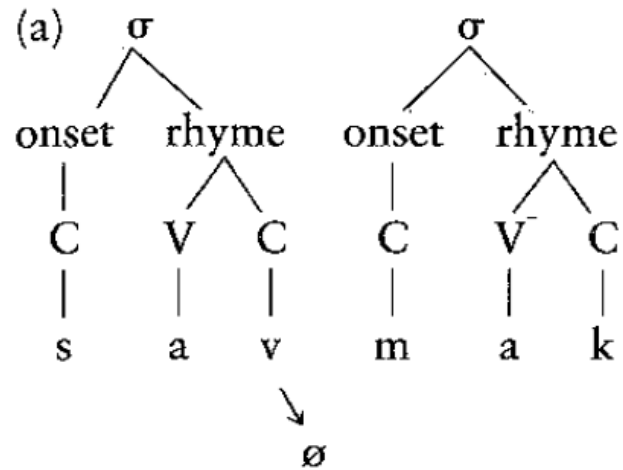
CL in Turkish (based on Sezer 1986)

- Turkish: /v/ can optionally be deleted in certain contexts
- Sometimes, the preceding vowel lengthens, sometimes not
- /sav.mak/ → [sa:mak]
- /da.vul/ → [da.ul]
- What is the generalization here?

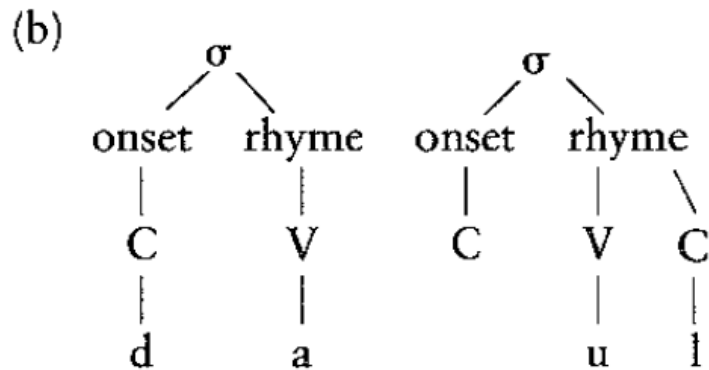
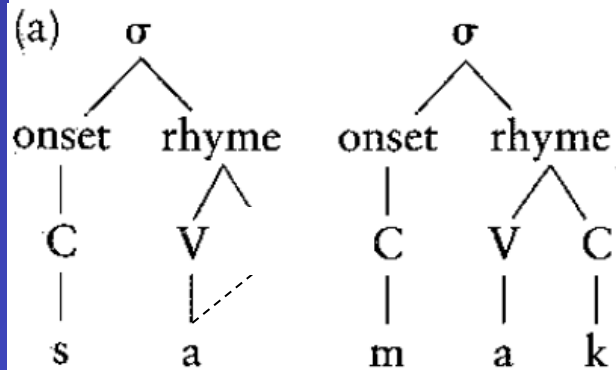
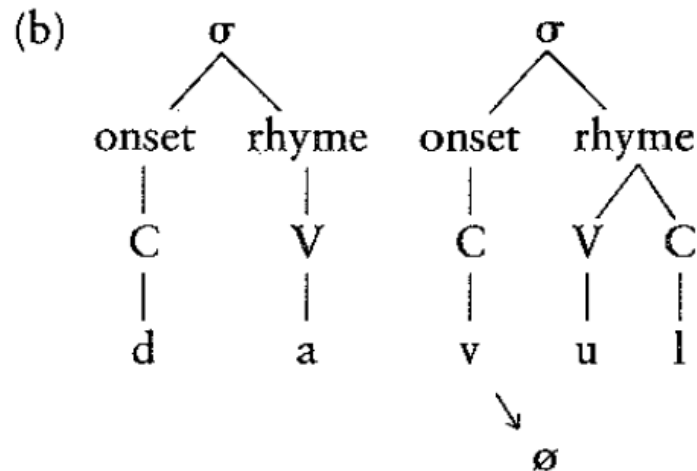
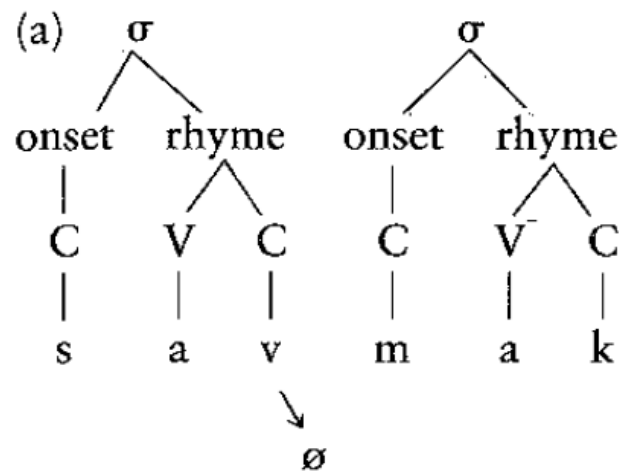
CL in Turkish (based on Sezer 1986)



/a/ takes over empty slot



C changes to V



How does Compensatory Lengthening work in Hungarian?

- Older form > novel form

*wizi	>	vi:z	‘water’
*tyzy	>	ty:z	‘fire’
*utu	>	u:t	‘road’
*ludu	>	lu:d	‘goose’
*nezi	>	ne:ʒ	‘four’
*modoru	>	modo:r	‘bird’
*teheni	>	tehe:n	‘cow’

In the CV approach

- Older form > novel form
- Solution: Second vowel deletes, V-slot re-associates with first vowel



Problems for the CV tier

- Hayes 1989 points out that the skeletal tier does not straightforwardly capture the fact that Compensatory Lengthening usually occurs when a segment from a rhyme gets deleted but not when a segment from an onset is deleted
- Many languages distinguish syllables on the basis of **quantity**. Here again, onsets usually do not contribute to weight (to be discussed further next week).

Possible solution: moras

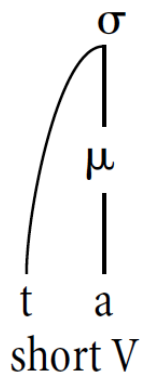
- Hyman 1985 and Hayes 1989 propose moras as an intermediate level between segments and syllables
- Syllable weight (= quantity) distinguishes between monomoraic (= **light**) syllables and bimoraic (= **heavy**) syllables (to be discussed further next week)
- Onsets are always non-moraic
- Codas may or may not be moraic

Different types of syllables

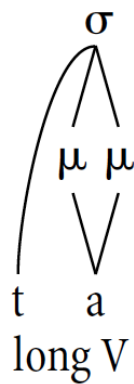
- Monomoraic: [ta]
- Bimoraic: [ta:]
- Bimoraic: [tat]
- Monomoraic: [tat]

(25)

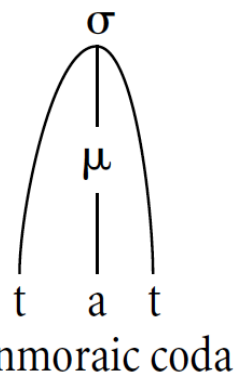
a.



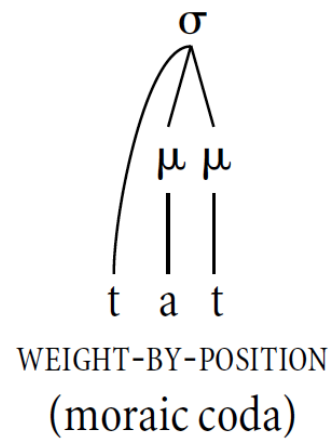
b.



c.



d.

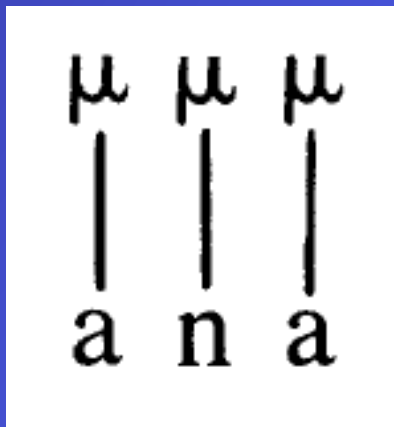


The representations of geminates

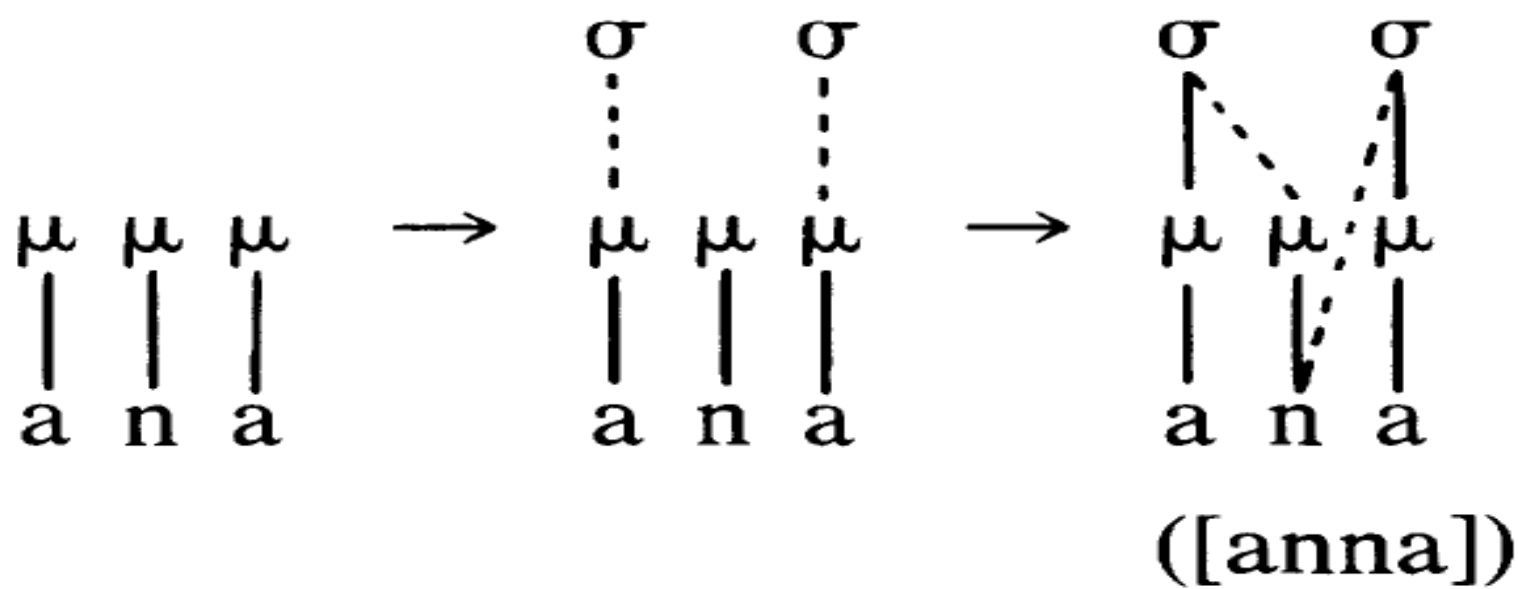
- Mora theory has a specific way of representing ambisyllabic consononants (geminates)
- They are represented with a mora

$$\begin{array}{c} \mu \\ | \\ \mathbf{n} \end{array} = / \mathbf{nn} /$$

How will this word be syllabified?



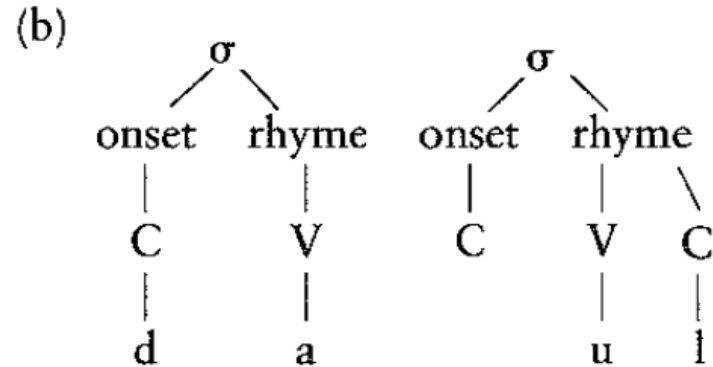
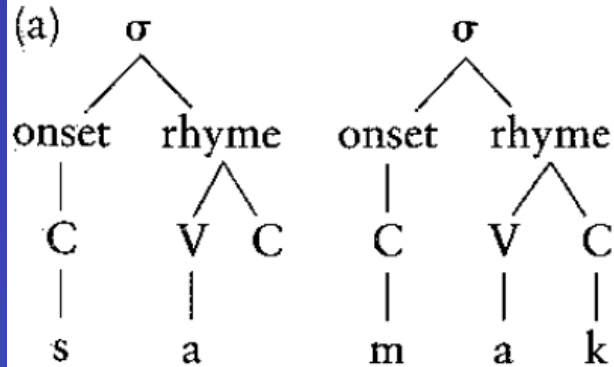
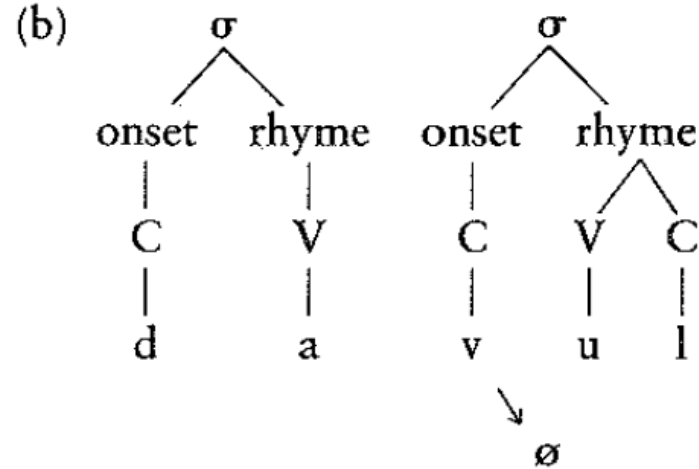
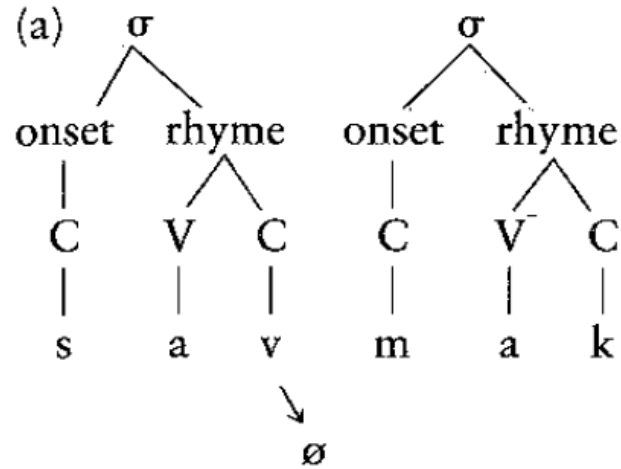
- Remember: 1. A μ must be in a coda, onsets don't have a mora, but...
2. A syllable also 'wants' an onset (Maximum Onset Principle)

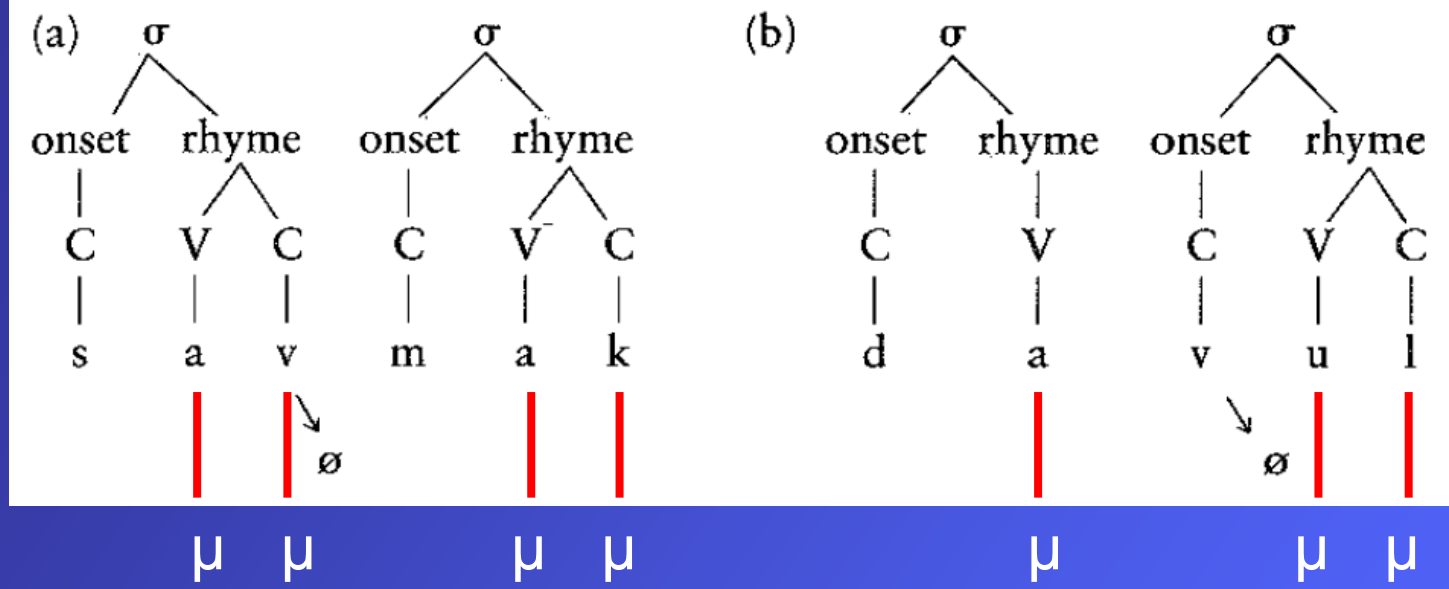


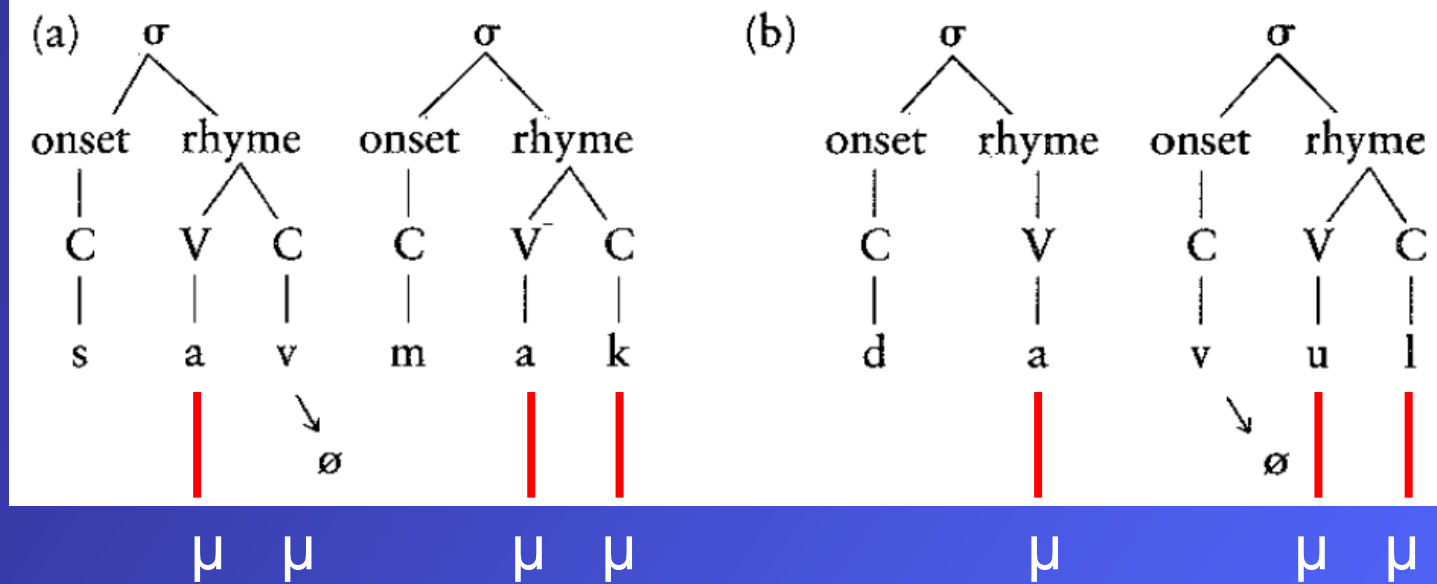
And how...

- does one do compensatory lengthening with moras?

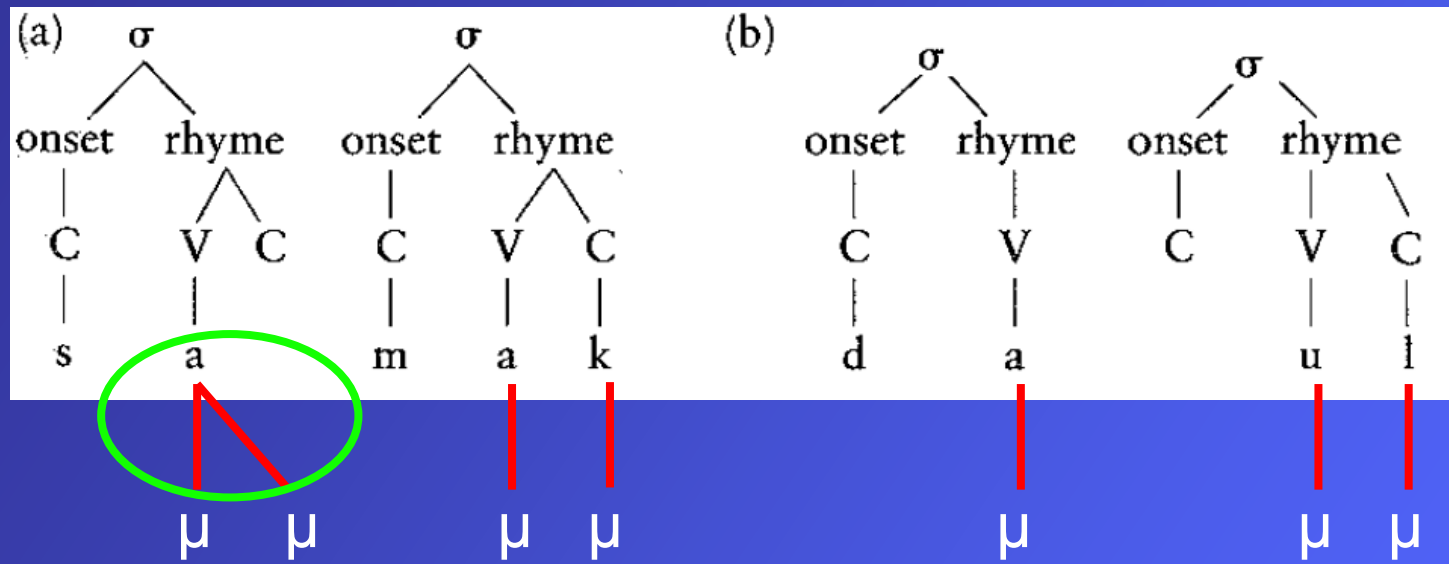
CL in Turkish (based on Sezer 1986)







Segment deletes, μ = floating



Mora reassociates with preceding vowel

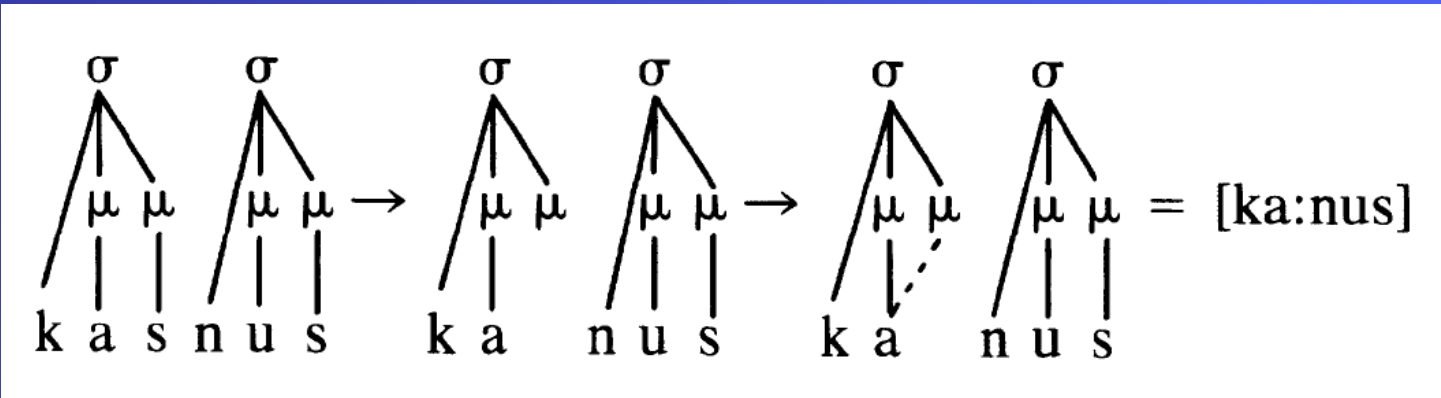
CL in Turkish: summary

- CL takes place if the disappearing segment has a mora
- If it is non-moraic, we will not find CL

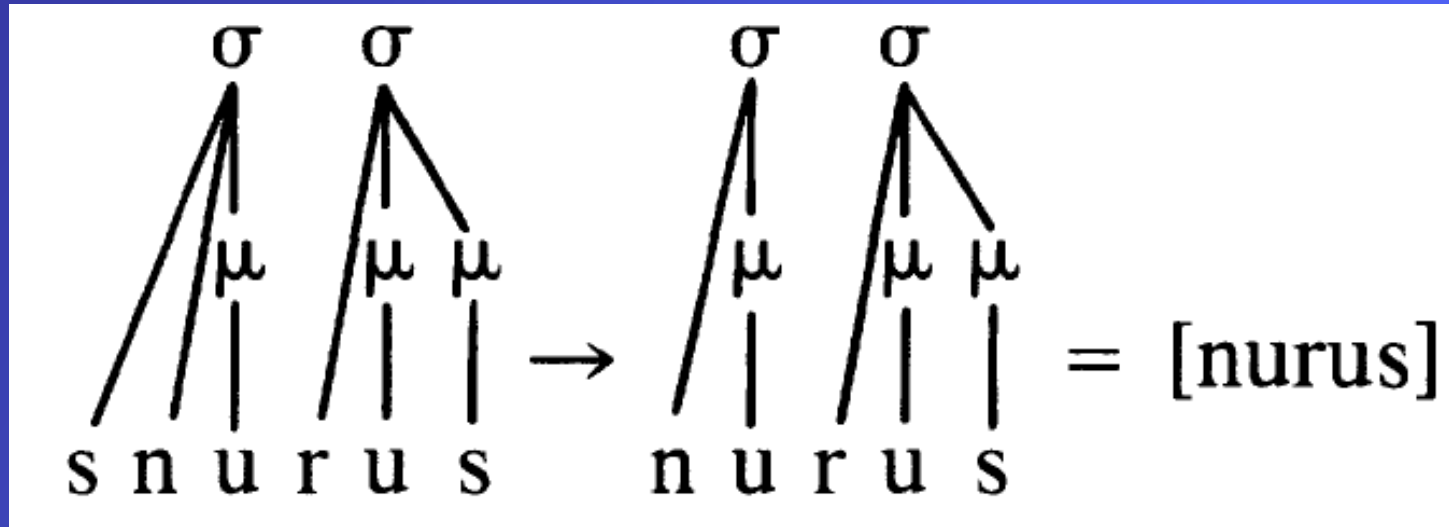
CL in Latin (Hayes 1989)

*kasnus	→	ka:nus	‘gray’
*kosmis	→	ko:mis	‘courteous’
*fideslia	→	fide:lia	‘pot’
*smereo:	→	mereo:	‘deserve-1 sg.-pres.’
*snurus	→	nurus	‘daughter-in-law’
*slu:brikus	→	lu:brikus	‘slippery’

CL in Latin (Hayes 1989)



CL in Latin (Hayes 1989)



How does Compensatory Lengthening work in Hungarian with moras?

- Older form > novel form

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*nezi	>	ne:ʒ	‘four’
*modoru	>	modo:r	‘bird’
*teheni	>	tehe:n	‘cow’

How does Compensatory Lengthening work in Hungarian work with moras?

- Solution: Second vowel deletes, mora re-associates with first vowel



But wait

- There is one fact we discussed that basic mora theory has a hard time accounting for

Luganda – Ludikya

Luganda

mukono

mubinikilo

baana

ɣɣuba

kiwoɣɣolo

kubaɣɣa

Ludikya

nokomu

lokinibimu

naaba

bbaju

loɣowwoki

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‘arm’

‘funnel’

‘children’

‘dove’

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Luganda – Ludikya

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nokomu

lokinibimu

naaba

bbaju

lojowwoki

jabakku

‘arm’

‘funnel’

‘children’

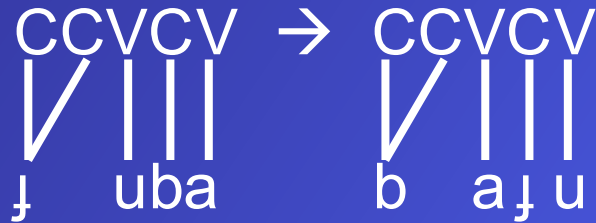
‘dove’

‘butterfly’

‘to work in wood’

Luganda – Ludikya

- ɸuba → bbaɸu
- Fairly easy to do in CV theory:



Luganda – Ludikya

- ɟɟuba → bbaɟu
- If onsets are universally non-moraic, mora theory has no straightforward way to express geminate onsets!

Evaluation

- What's the “better” theory of syllable structure?
- Mora theory can explain some facts CV theory cannot (e.g. Turkish lengthening)
- And vice versa (e.g. Luganda)
- No definitive answer!