

**RECPHON2019**  
**BARCELONA**

# **Ternary rhythm as a complex morphological domain**

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# Outline

- Ternary rhythm
- Crypto-morphology
- A Strict CV analysis

## TERNARY RHYTHM

- English may show words with initial dactyls

abracadabra

catamaran

didgeridoo

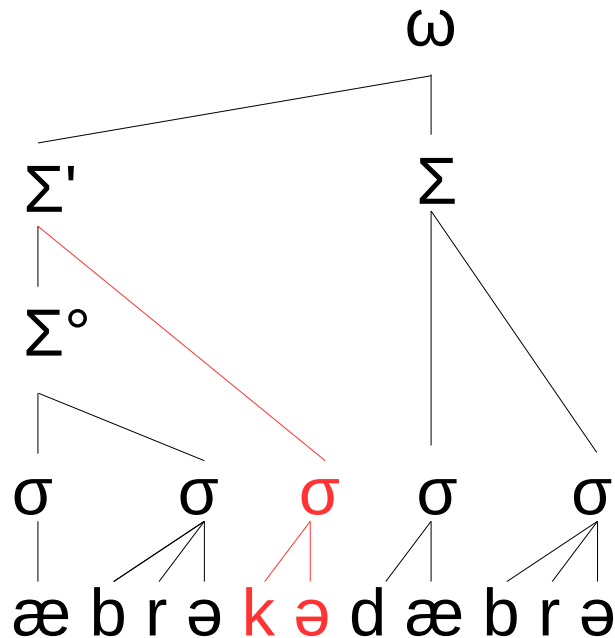
Kalamazoo

Lollapalooza

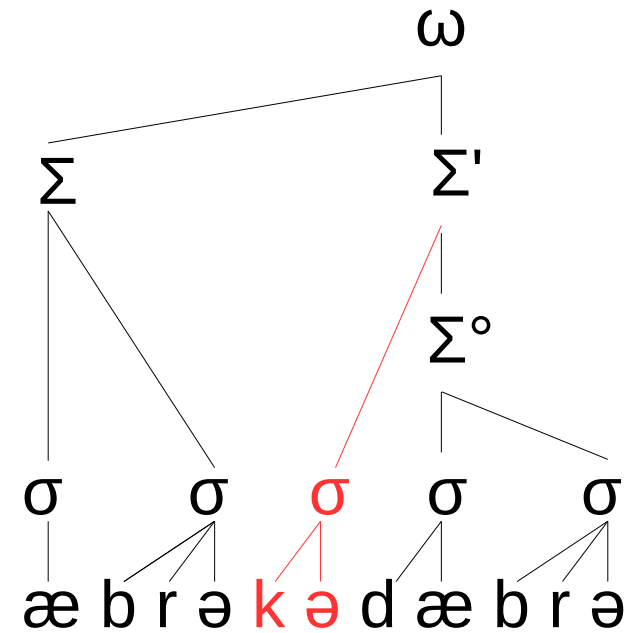
Nebuchadnezzar

Winnepesaukee

- How these sequences should be analysed in foot-based analyses ?



OR



- Dactyls involve segmental phenomena that can be used to solve this issue.
- Aspiration can be found in the onset of the 3rd syllable, despite an absence of stress.

Medi[t<sup>h</sup>]erranean  
Navra[t<sup>h</sup>]ilova  
Lola[p<sup>h</sup>]alooza  
Tara[h]umara

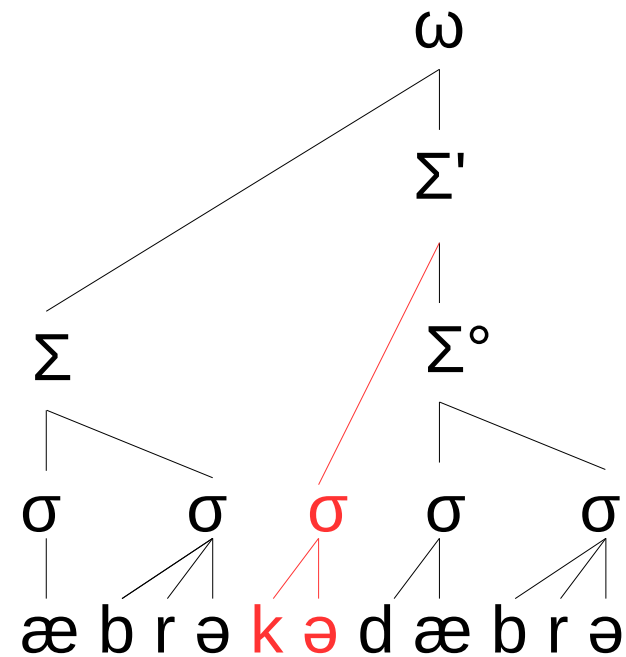
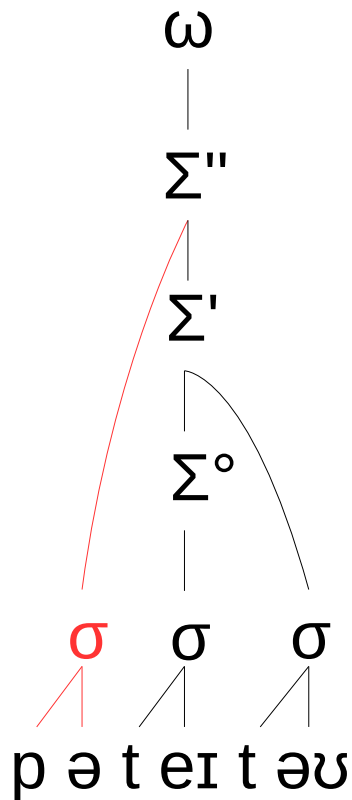
Wine[p<sup>h</sup>]essaukee  
Nebu[k<sup>h</sup>]adnezzar  
abra[k<sup>h</sup>]adabra

- This parallels word-initial behaviour.

[t<sup>h</sup>]omato  
[t<sup>h</sup>]ogether  
[p<sup>h</sup>]acific  
[h]orizon

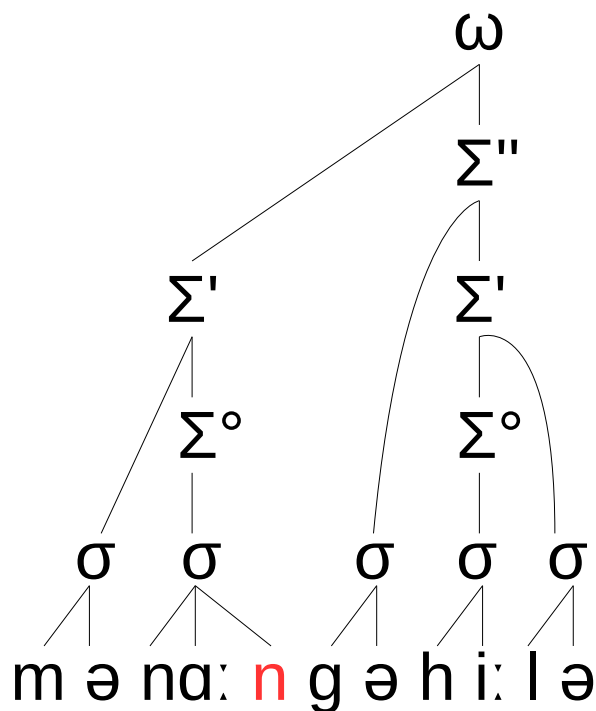
[p<sup>h</sup>]aralysis  
[k<sup>h</sup>]onnect  
[k<sup>h</sup>]orageous  
[h]awaii

- Thus these syllables adjoin to the right, not left.

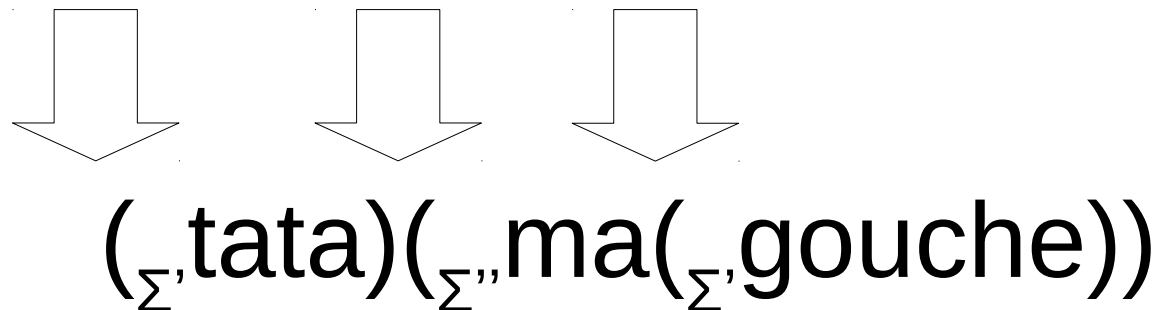




- Prediction: nasal assimilation is unexpected across foot boundaries (e.g. co[n]gréssional).



- This representation makes also possible to generalize the position of expletive infixation: it occurs immediately before a foot boundary.



- As far as we know, this proposal has been put forward to account for the data but no explanation has been provided so as to why such an adjunction should occur.

**CRYPTO-MORPHOLOGY**

## **Our claim:**

The phenomena we have just seen are manifestations of (crypto-)morphology.

- This intuition is discussed in Prince (1983), who says that 'felt' feet will follow the following generalisation:
  - "a weak syllable, not immediately after the stress, will procliticize to a following (main-stressed?) foot."
- He notes that "closed syllables seem to resist" and that "the process thus appears to reflect constraints on word form".

- Prince also notes that the presence of tense [i] (which is found word-finally) may corroborate this analysis, e.g. *Hal[i]carnassus*.
- In the dataset of Dabouis *et al.* (2017), this can also be found: *Ball[i]macarrett*, *Lil[i]burlero*, *mar[i]huana*, *mill[i]fiori*, *pich[i]ciego*, *Sem[i]palatinsk*, *Tipp[i]canoe*
- But there are more counter-examples: *Ar[I]mathaea*, *car[I]cature*, *Cass[I]velaunus*, *cons[I]gliere*, *el[I]campane*, *Hal[I]carnassus*, *jard[I]niere*, *Kil[I]manjaro*, *mull[I]gatawny*, *Nakh[I]chevan*, *Winn[I]pesaukee*, *Yn[I]sybwl*
- And cases with tense [i] in the wrong position: *Qrdzhon[i]kidze*, *tiram[i]su*

- A similar view has been proposed by Fidelholtz (p.c.) :
  - "I suggest that all long words in English that are unanalyzable morphologically [...] are broken by folk etymology into manageable ('bite-sized') chunks separated by a word boundary".



- Doubtful morphology: some long words have a possible morphological parsing which is not synchronically absolutely transparent.

*Mediterranean*     *medium, medieval, subterranean*

*Mesopotamia*     *Mesolect, mesolithic, Mesozoic*

*Montefiori*     *Montebello, Montenegro*

*catamaran*     *trimaran*

*Lollapalooza*     *palooza*

*Winnipesaukee*     *Winni (dim.)*

*abracadabra*     *Abra, Kadabra (pokemons)*

- To test to what extent crypto-morphology is actively present in the representation of English words, we set up an internet-based questionnaire containing 30 words with ternary rhythm.
- If confirmed, this claim would not be surprising: long words in English are often morphologically complex so speakers could have a 'default' parsing procedure for long words.

- Online survey.
- 39 respondents (details on the handout).

## Materials:

- 16 monomorphemic words with a trisyllabic pretonic sequence, e.g. *Abracadabra, hullabaloo*
- 4 words with “doubtful” morphology with a trisyllabic pretonic sequence: *Mediterranean cp. medium, medieval, subterranean*
- 10 controls, e.g. *academic, fortuitous, interject*

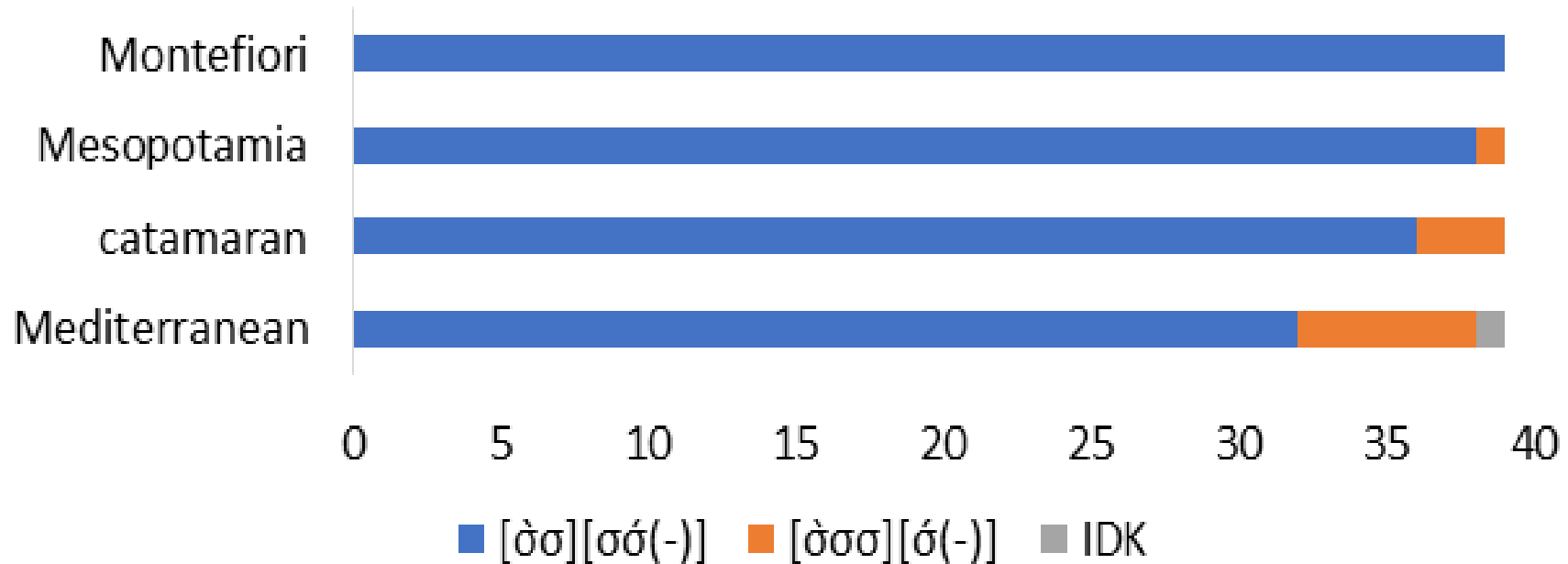
## Instructions

*“For each of the following words, try to answer as quickly as possible. The aim is to get your intuitions so keep in mind that there is no “good” or “bad” answer. Please DO NOT use a dictionary to answer this questionnaire.”*

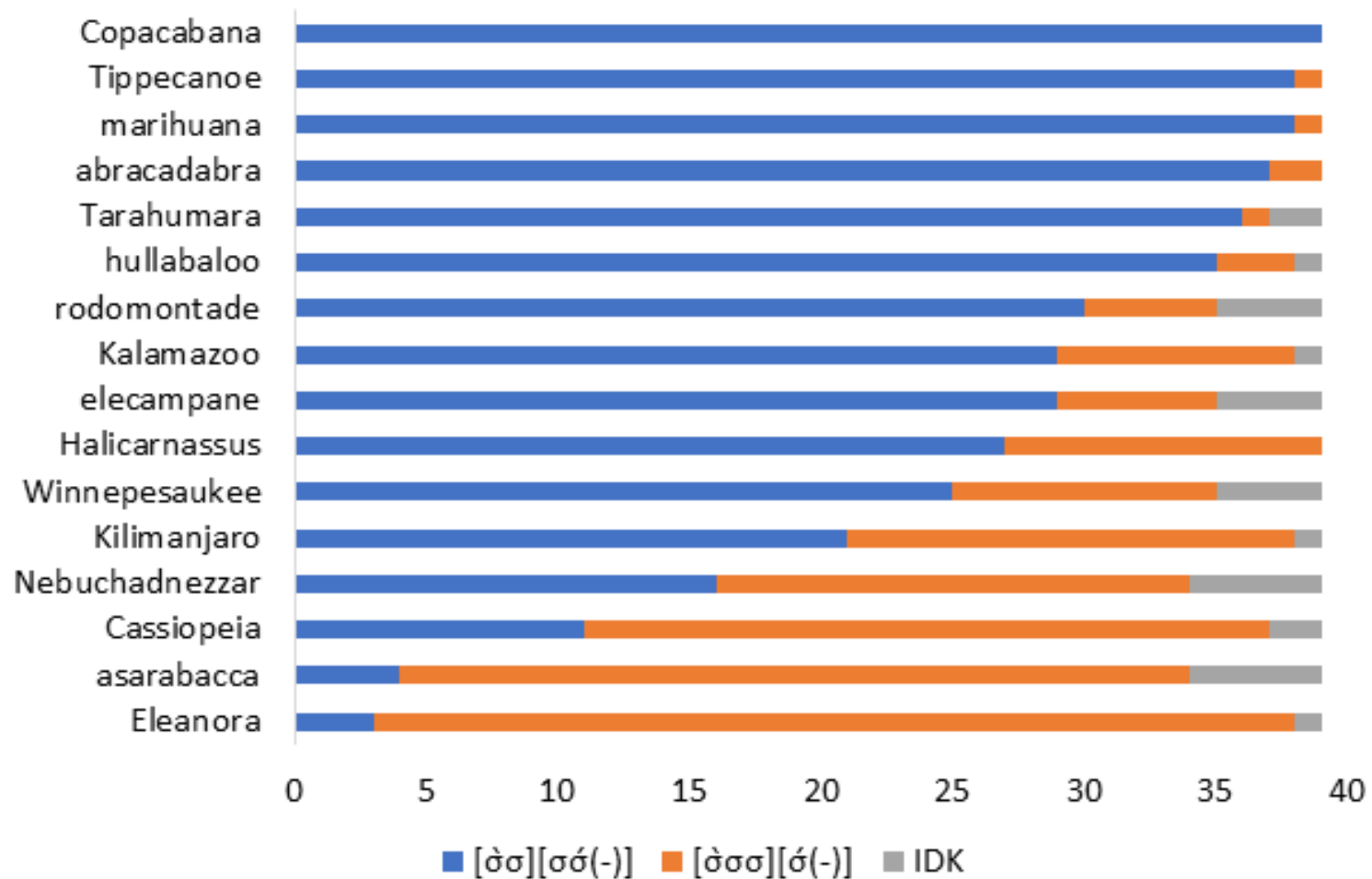
For each word: *“If you were to cut the word X in two, how would you do it?”*

*You are going to be asked your intuitions on how long words can be cut into two, e.g. sub-standard, journalist, ash-tray.*

## Results: "doubtful" morphology



## Results: tested items



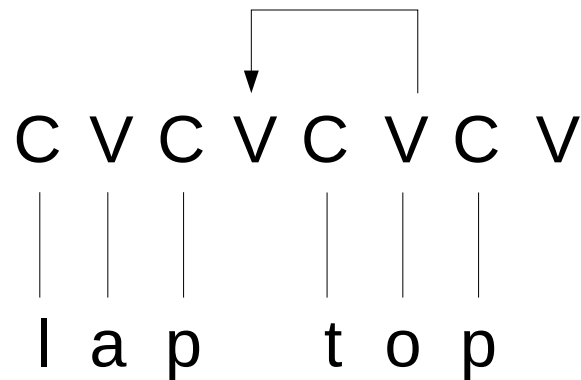
## Interpretation

- It isn't clear whether participants use prosodic or cryptomorphological parsing
- The dominant logic clearly isn't "parse immediately before a stressed syllable"
- The results for the controls suggest that they parsed words in word-like units, e.g. *aca-demic*, *blas-phemous*, *for-tuitous*, *inter-ject*, *retro-gress...*

## STRICT CV ANALYSIS



- Strict CV is a flat representation of phonology
- There is no recursivity



- Thus, Strict CV has no metrics
- Both **prosody** and **morphology** involve a CV

[C V]C V [C V]C V C V  
| | | | | | | |  
p o t a t o

- We hypothesize that various effects in dactyls result from morphology, rather than recursivity.
- We can account for:
  - Aspiration
  - Schwa elision
  - Absence of nasal homorganicity
  - Absence of vowel reduction
  - Expletive infixation

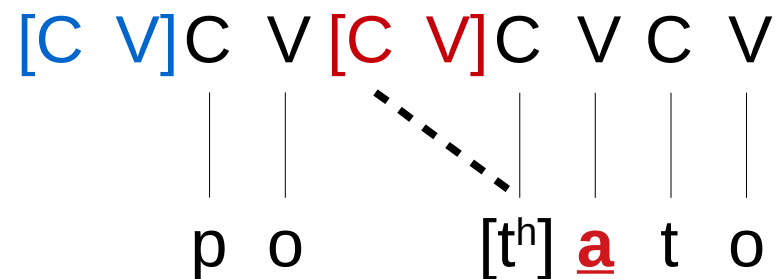


- Conclusion of our experiment
  - Not all ternary feet contain a boundary

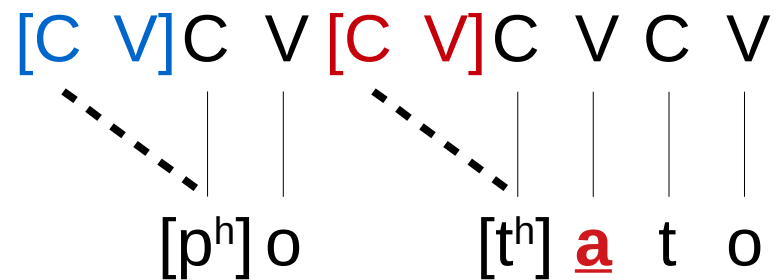
[C V]C V C V C V [C V]C V C V  
| | | | | | | | | |  
a s a r a b a cc a

[C V]C V C V C V [C V]C V C V  
| | | | | | | | | |  
e l e a n o r a

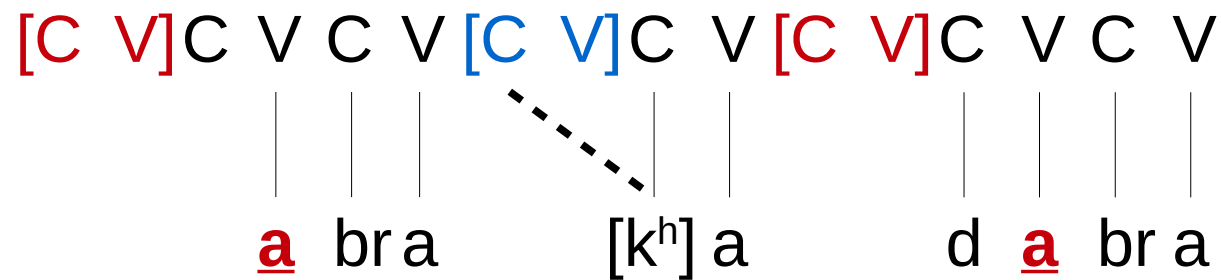
- Aspiration before stress results from spreading toward a prosodic CV



- Initial aspiration results from spreading toward a morphological CV

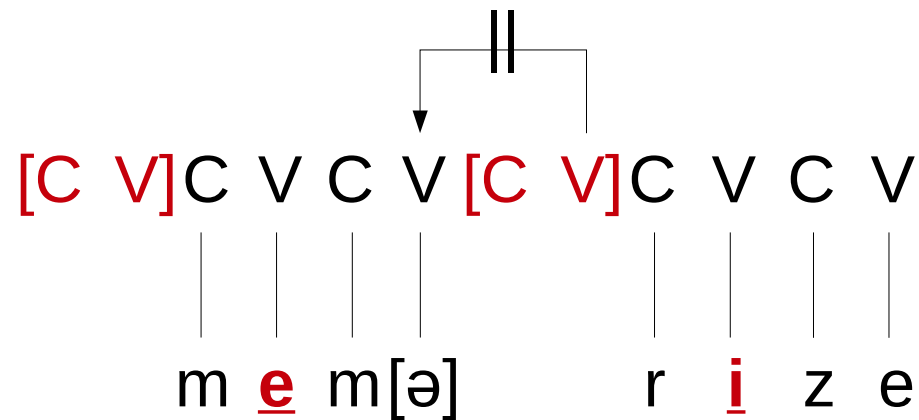


- Aspiration in dactyls also results from spreading toward a (crypto-)morphological CV

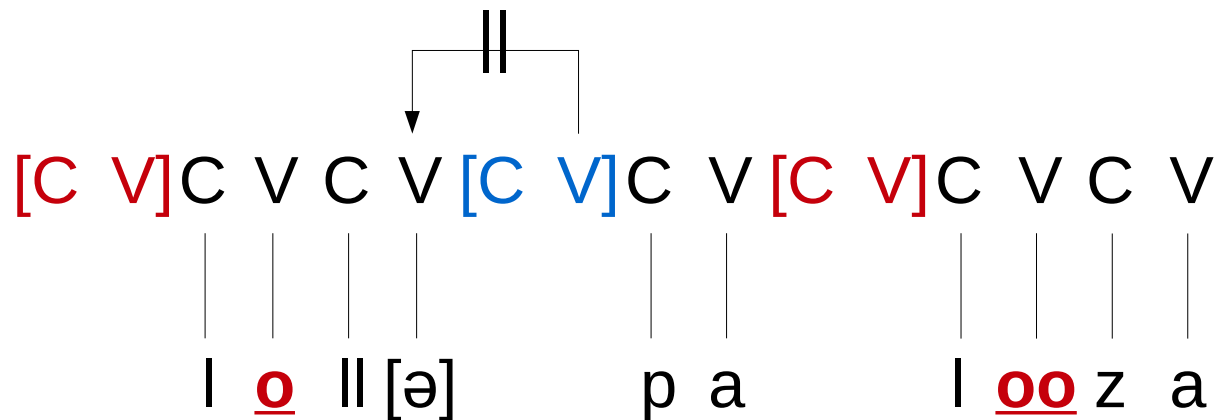




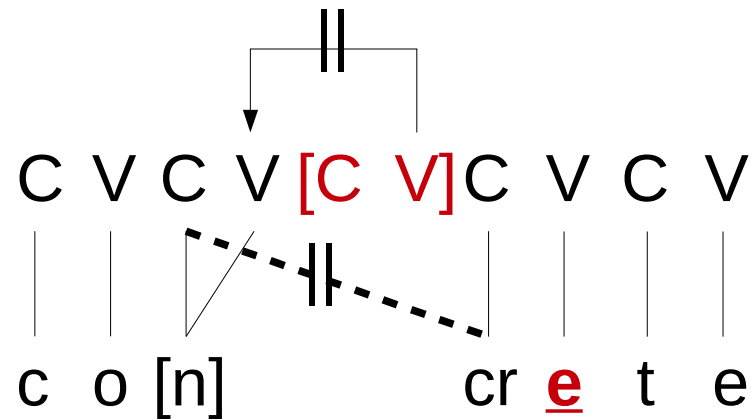
- Absence of elision before stress results from an absence of government



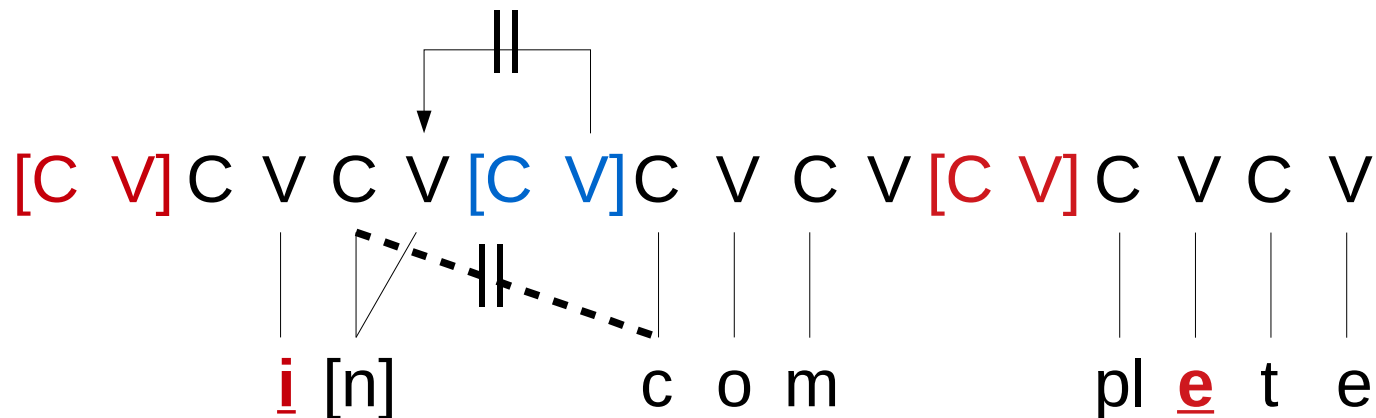
- Absence of elision in dactyls also results from an absence of government



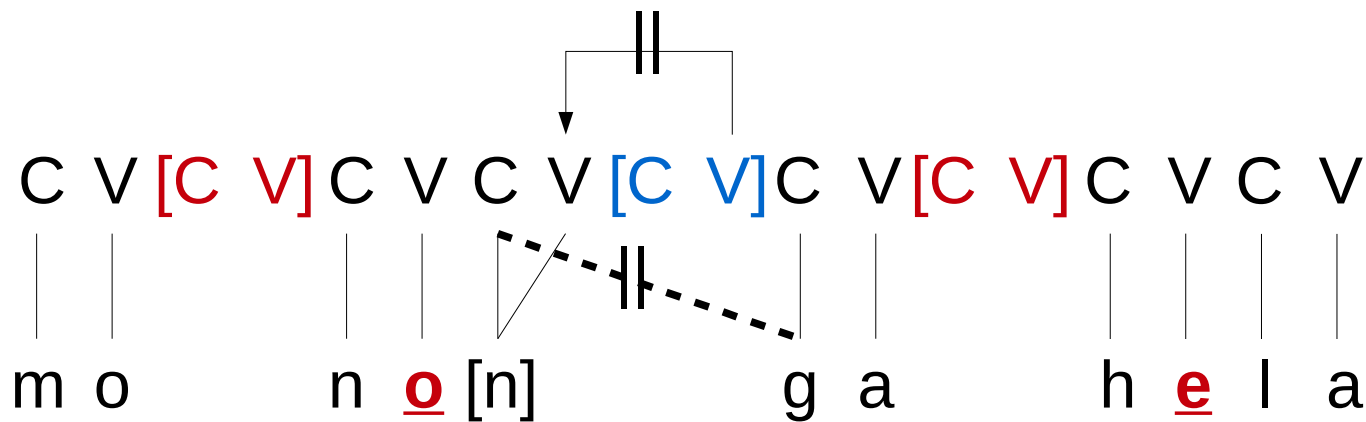
- Absence of nasal homorganicity before stress results from the line crossing constraint



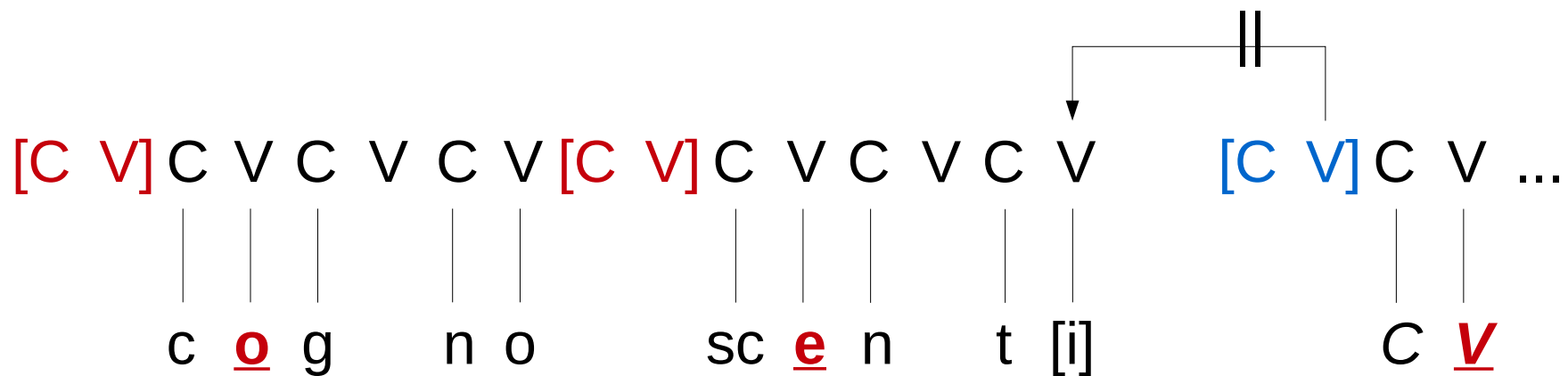
- Absence of nasal homorganicity before a boundary also results from the line crossing constraint



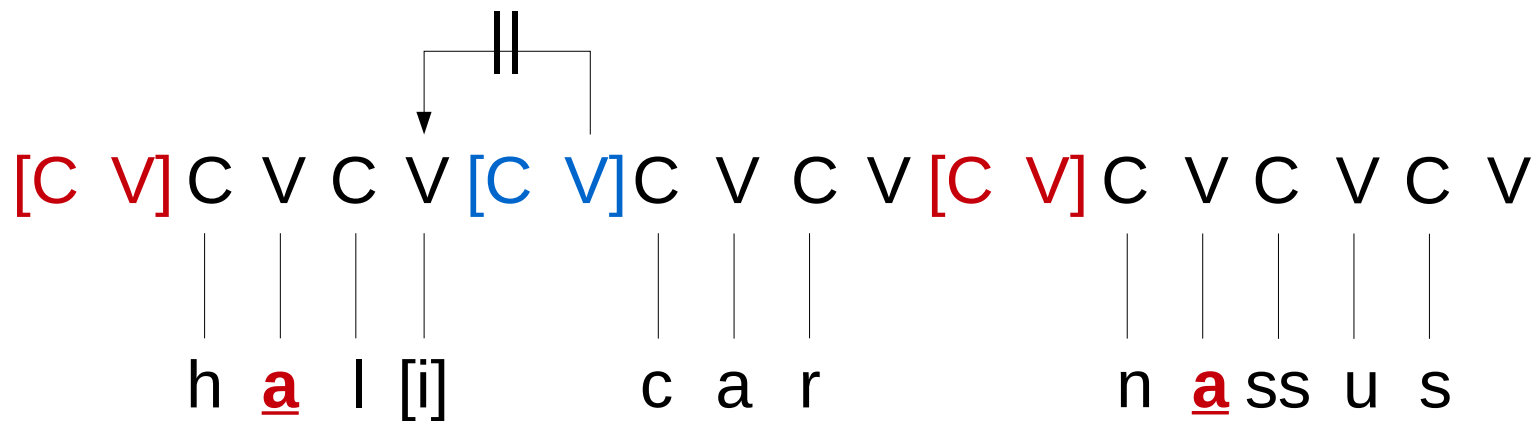
- Absence of nasal homorganicity in words with « crypto-morphology » is thus expected



- Absence of vowel reduction (i.e. tenseness) results from an absence of government in final position

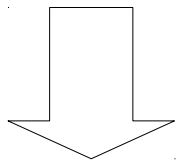


- Absence of vowel reduction (i.e. tenseness) results from an absence of government



- Generalization : a CV makes infixation possible
  - Before a morphological CV

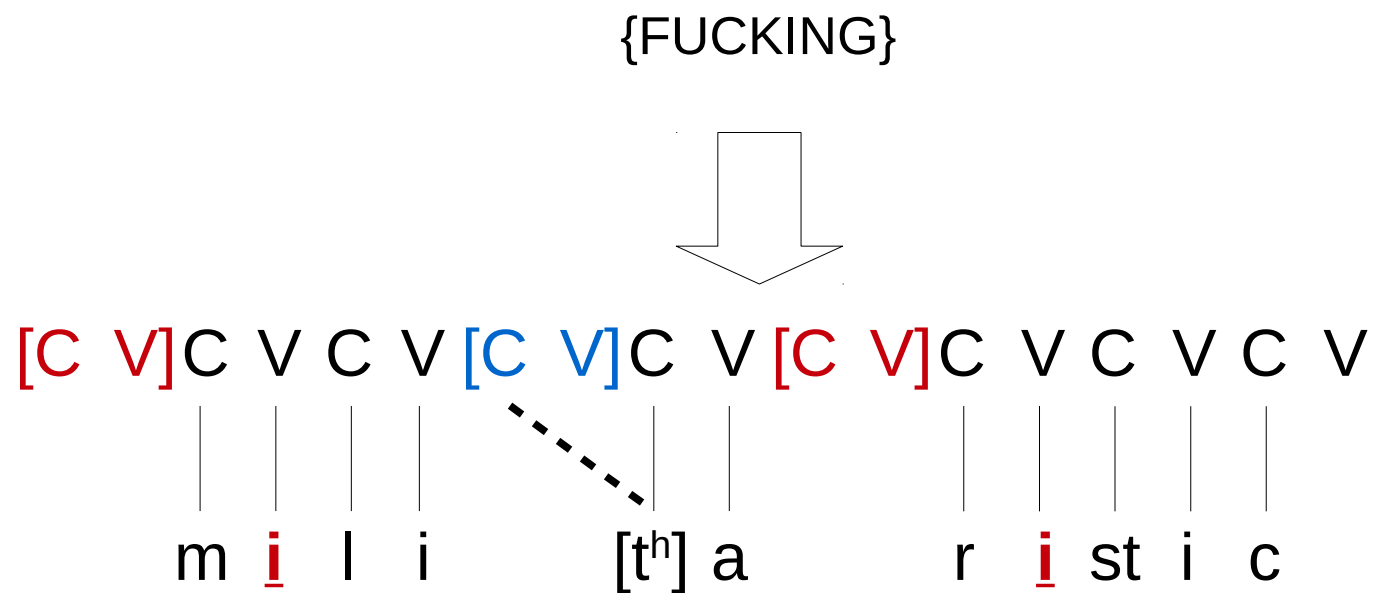
{FUCKING}



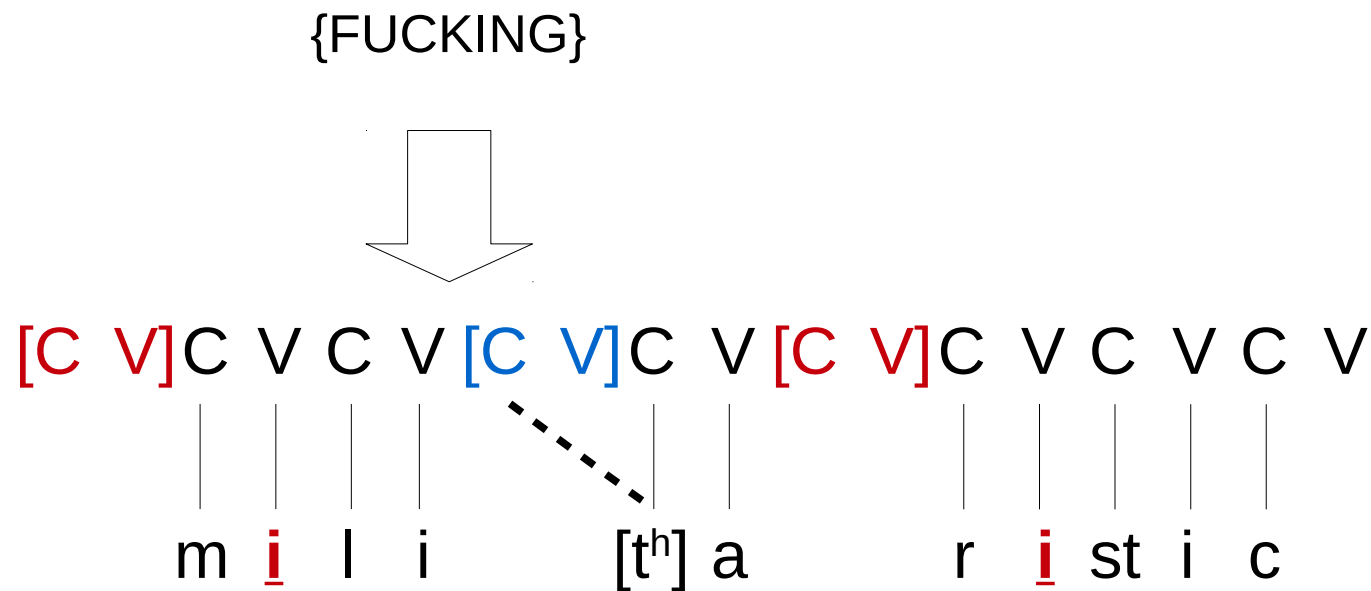
[C V]C V C V [C V]C V [C V]C V C V C V  
| | | | | | | | | | | | | | | | | |  
m i l i [t<sup>h</sup>] a r i s t i c



- Generalization : a CV makes infixation possible
  - Before a prosodic CV

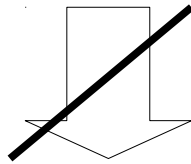


- Generalization : a CV makes infixation possible
  - Before a (crypto-)morphological CV



- No CV, no infixation

{FUCKING}



[C V]C V C V C V [C V]C V C V C V  
| | | | | | | | | | | | | | | |  
c a p i [r] a l i s t i c

# Conclusion

- Morphology is a possible factor
- It is the only explanation in (classical) Strict CV
- This hypothesis accounts for all the segmental phenomena related to ternary rhythm

# References

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