Phonologically-conditioned cyclicity: suffix’s phonological shape can affect cyclic effects in base-derivative pairs

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1. Introduction

- The phonology of derivatives can be:
  - regular: the derivative follows the language’s phonotactics, i.e. it behaves like monomorphemic neighbours.
  - cyclic: the derivative bears resemblance to its base beyond what is predicted by the language’s phonotactics.
- There are cases where cyclic effects in base-derivative pairs are phonologically conditioned (Kenstowicz 1996).

Research question: what kind of phonological properties can condition cyclic effects in base-derivative pairs?

- van Oostendorp (2004) proposed that cyclicality can be conditioned by suffix’s phonological shape, based on Dutch data.

  (1) a. Stress is regular with vowel-initial suffixes
      - ervoud [‘ervu:d] ‘simplicity’
      - ervoud-ig [‘evaud-ox] ‘simple’
  b. Stress is cyclic with consonant-initial suffixes
      - televisie [televi:zi] ‘television’
      - televisie-achtig [televi:-txtix] ‘television-like’

- van Oostendorp proposed resyllabification + derived-environment effect (DEE) as a mechanism to account for this pattern:
  - V-initial suffix → resyllabification of stem-final C → stress shift
  - C-initial suffix ∉ resyllabification of stem-final C ∉ stress shift

Goals:
- To provide additional empirical evidence from Standard French for the suffix’s phonological shape conditioning cyclic application in derivatives.
- To propose a similar derived-environment effect analysis to van Oostendorp’s, but which does not involve resyllabification.

Why Standard French (SF)? Literature (Dell 1985; Nguyen & Fagyl 2008) suggests that suffix’s phonological shape conditions application of Le de Positie (LdP) in derivatives:

  (2) a. Regular application of LdP with V- and G-initial suffixes
      - fit-ons ‘we party’ [fetɔn]/*[fetɔz] ≠ fet [fet]
  b. Cyclic application otherwise
      - fit-ons ‘we will party’ [fetɔz]/*[fetɔz] = fet [fet]

2. Methods

- To test cyclicity in SF, three forms must be compared:
  - Derivative (e.g. fit-ard ‘partier’)
  - Base (e.g. fete ‘party’)
  - Phonotactic baseline/Neighbour (e.g. feta)
- 42 Derivative-Base-Neighbour triplets were selected.
- 14 bases for each of the three vowels occurring stem-finally in consonant-final bases [e, o, ±] (e.g. fete, cete, vol)
- Neighbour matches syllabic structure in Derivative (control for LdP) + vowel after the target vowel (control for V harmony).
- Words embedded in carrier sentence (3 repetitions of each word)
- On dit pas X, on dit Y. (e.g. X = fètard, Y = fètard (= target))
- 10 speakers from Paris (4 women speakers analyzed so far)

3. Results

- Model comparison
  - Dependent variable: distance to F1/F2 center
  - Fixed effects:
    - VowelBase (e, o, ±)
    - ConsontantalContext (_CV, _CGV, CLV/_CCV, _C#)
    - Interaction: VowelBase, ConsonantalContext
  - Random effects: random intercept by speaker and by item

- 4 models were fitted to the data:
  - Fully phonotactic model: Derivative = Neighbour
  - Fully cyclic model: Derivative = Base
  - Morphologically-conditioned cyclicity: Derivative = Base if inflection; Derivative = Neighbour otherwise
  - Phonologically-conditioned cyclicity: Derivative = Neighbour if V or G-initial suffix; Derivative = Base otherwise

- Results:
  - Phonetic model
    - phonotactic model: 24465.46
    - cyclic model: 24415.79
    - phon model: 24437.50
    - Phon/cyclic (morph): 24381.18
  - Summary of cyclic effects
    - In Standard French, suffix’s phonological shape conditions cyclic application in derivatives.

4. Discussion

- Resyllabification of stem-final C does not necessarily trigger regular application of LdP.
- C-liquid clusters are syllabified as onsets in French (Goslin & Frauenfelder 2000), but liquid-initial suffixes trigger cyclic application in stems.

- Cyclic application otherwise
  - fit-ons ‘we will party’ [fetɔz]/*[fetɔz] = fet [fet]

- Alternative DEE analysis: modification of release properties of stem-final C induced by suffix triggers regular application of LdP (Storme 2017).

- How to explain cyclicity before epenthetic schwa?

- Cyclic application before epenthetic schwa
  - maigr-c-let ‘thick-DIM’ [mi Notre] ≠ Neighbour [crevise]

- [a] is the epenthetic vowel: it can be epenthized in the base (e.g. maigr[a]).

- When epenthized in the derivative (e.g. maigr[a]let), it therefore does not add new formant transitions that cannot be derived in the base.

5. Conclusion

- The preliminary results of this pilot study support van Oostendorp’s claim that suffix’s phonological shape can condition cyclic effects.

- However, the results do not support the idea that resyllabification of stem-final C is crucial in explaining the pattern.

- Goals:
  - Analyze other participants’ data + run follow-up experiment
  - Control for other factors aside LdP + vowel harmony.
  - E.g. consonants flanking V, base/derivative frequency, etc.

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References