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A link between phonology and the lexicon: Morphophonological exceptionality and decomposition in English stress shift

USC
AMP 2024

1. Introduction and Background

Expectation for phonological rules to apply across entire domains (complex words), but there are exceptions

(1) English suffixes that cause stress shift (Kaisse, 2005):
a. Process applies across stem-affix boundary without exception (cohering)
díalect → dialéct-al rígid → rigíd-ity
b. Suffixes fails to apply across stem, excluding affix from stem (non-cohering)
díalect → díalect-hood (*dialéct-hood)
rígid → rígid-ness (*rigíd-ness)

Previous analyses detach (1b) affixes from stem and place in separate phonological domains (Poser, 1990; Hannahs, 1995; Hsu, 2015)

Representational solution leaves open question of why (1b) affixes pattern separately

Research questions:
1. Can we predict when an affix does/doesn't cohere to a stem?
2. Which factors are correlated with each of these possibilities?

Link proposed between linguistic behaviors of individual affixes, and likeliness to decompose from stems (Hay, 2001; Hay & Baayen, 2002; 2003; Dabouis, 2019)

Any factor that helps with locating word-boundaries will be relevant to morphological parsing, and connect to decomposition (Hay and Baayen, 2003)

(2) Phonotactic prob. at stem+affix junctures correspond decomp. likelihood
a. adult + hood = [t-h] (unlikely word-internally; decomp. likely)
b. attend + ant = [d-ə] (likely word-internally; decomp. unlikely)

2. Hypothesis

My claim: Exceptions in phonological alternations also help indicate word-boundaries

Predicts that (1b) suffixes patterning separately from stems also corresponds to decomp. likelihood

Hypothesis: Phonological exceptionality and morphological decomposition are linked, so affixes which pattern separately from stems should be more decomposable in the lexicon

Connects to lexical propensity to undergo phonological alternations: i.e. different suffixes have different propensities to undergo phonological processes (e.g. Moore-Cantwell and Pater, 2016; Zuraw and Hayes, 2017)

Acknowledgements: Huge thank you to Stephanie Shih, Canaan Breiss, and Louis Goldstein for your continuous guidance on this project. Also big thank you to the USC PhonLunch group, Breiss Lab, and Psycholinguistics Lab for providing insights to both the content and presentation of these materials.

3. Corpus study

Used indicators of decomposability to compare affixes which pattern with the stem (cohering) to ones that don't (non-cohering/exceptional)

What indicates decomposability? → **Relative frequency:** LN (f(base)/f(whole word))
(Hay, 2001; Hay & Baayen, 2002; 2003; Dabouis, 2019)
- base > whole word = decomp. likely VS whole word > base = decomp. unlikely

Bimorphemic words with derivational affixes in Morpholex-EN (Sánchez-Gutiérrez et al., 2018)

Goal: Find whether non-cohering/exceptional suffixes in English stress shift process are more likely to decompose than cohering suffixes

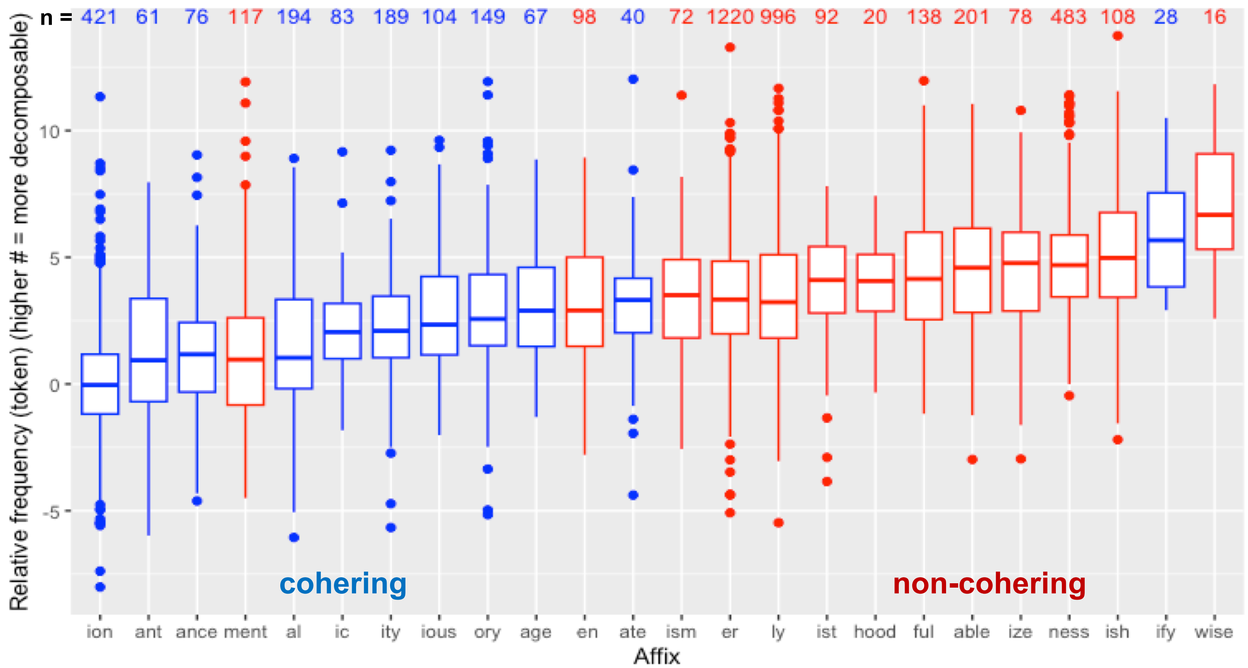
Prediction:

Cohering suffix: rígid → rigíd-ity	**Whole word > base Less decomposable**
Non-cohering suffix: rígid → rígid-ness	**Base > whole word More decomposable**

4. Results and Analysis

Highly decomposable suffixes also more likely to be non-cohering, not patterning with stem phonologically ($\widehat{\beta}$ = 1.67, SE = 0.60, z = 2.77, p = 0.006)

Figure 1: Relative frequency for English cohering and non-cohering suffixes



Takeaways: Factors which condition decomposition ALSO condition morphophonological exceptionality (relative frequency)

Suggests a close relationship between processing of complex words in lexical access and representations input into phonological alternations

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