

# The Relative Contributions of Root and Word Representations to Post-Lexical Processing of Suffixed Words

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It is currently unknown how post-lexical phonological processing occurs for multimorphemic words. Full-storage and dual-route theories of morphology propose that whole-word representations are stored for many and possibly all multimorphemic words, including words with highly productive morphology (e.g. Baayen & Schreuder, 1999; Seidenberg & Gonnerman, 2000). We would expect that if whole-word representations are active during phonological processing, the lexical properties of the surface form should contribute to the word's final phonetic form.

It has been demonstrated that vowel distribution in F1/F2 space is modulated by word frequency and neighborhood density (Munson & Solomon, 2004). We examined the relative contributions of word and root representations to phonological processing by investigating whether the vowel space of English suffixed words (e.g., *paced*) is best accounted for by the lexical properties of the root (*pace*) or the surface form (*paced*). Analyses revealed that the vowel space is determined primarily by the lexical properties of the root, not the whole word. Results were similar in a follow-up study of words with a greater surface frequency than root frequency (e.g., *folks* > *folk*) despite the suggestion that these words are likely processed as wholes (Hay, 2003).

To rule out the possibility that final phonemes (suffix or otherwise) simply do not contribute to vowel space, monomorphemic embedded word pairs (*bald* and *ball*) were tested. The vowel space of the carrier words differed from those of the embedded words, suggesting that the results of the first two studies are in fact due to morphological structure.

Our results indicate that the post-lexical processing of English multimorphemic words is primarily influenced by the lexical properties of the root rather than surface form, even in words that are most likely to be processed as wholes (Hay, 2003).

## References

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