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Authors

Brown, Kevin
Nguyen, My V. H.
Hernandez, Arturo E.

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A Graph Theory Approach to the Bidialectical Nature of English

Kevin Brown
Oregon State University, Corvallis, Oregon, United States

My Nguyen
University of Houston, Houston, Texas, United States

Arturo Hernandez
University of Houston, Houston, Texas, United States

Abstract

The English lexicon is a creole consisting of early-learned Anglo-Saxon (AS) words and late-learned Latinate (LA) words with some other origins at lower frequency. The creole nature of the lexicon is most evident in pronunciation rules. We pair etymological and age of acquisition data for 20,000 English words with phonological and semantic networks to study word organization over time. Analyses reveal dramatic sound and meaning shifts over time in the most densely connected cores of the graphs. Phonologically, there is a shift in middle school from AS "air" words to LA "ale" words. Semantically, the dense core shifts from an AS/LA balanced set of food and number words to medicinal and chemical terms between junior high and high school. These shifts are evident in monolinguals. This AS to LA shift also affects individuals from diverse language backgrounds, especially L2 English learners from L1 Latinate (e.g., Spanish) and non-Latinate languages. The implications of our findings will be discussed.

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