

## Phonological variation in vowel sequences: The role of frequency in phonetic reductive processes

The study of vowel sequences in Spanish has been focused on accounting for the phonological factors that predict their reduction. Specifically, stress and vowel quality are considered important factors in describing maintenance or reduction patterns (Jenkins 1999, Alba to appear). The majority of previous research provides formal theoretical descriptions (Harris 1985, Martinez-Gil 2000) that do not take into consideration usage and sociolinguistic factors with the exception of Alba (to appear). More recently, Hualde and Prieto (2002: 233) have presented experimental results revealing that “words with lexical hiatus tend to have greater duration of the sequence than words where the relevant sequence is “felt” as being tautosyllabic by most speakers.” The present paper examines vowel sequences in word-internal position, where it has been described that variation tends to be common (Navarro Tomás 1999), with the purpose of analyzing the role of frequency and the sociolinguistic factors of age, sex, and socioeconomic class.

For this study, eighteen speakers were selected from the corpus *Estudio Sociolingüístico del Habla de Caracas* (1987); (see Bentivoglio and Sedano 1993) with equal representation of the following independent variables: socioeconomic level (upper class, middle class, and working class), age (14-29, 30-45, and 61 and older), and gender (male and female). All instances of vowel sequences consisting of /ae/ (*maestro* ‘teacher’), /ao/ (*caos* ‘chaos’), /oa/ (*toalla* ‘towel’), /oe/ (*poeta* ‘poet’), /eo/ (*rodeo* ‘rodeo’), and /ea/ (*real* ‘real’) were extracted and coded according to the following independent variables: 1) vowel quality of the second vowel of the sequence, 2) stress, 3) grammatical category, 4) token frequency, 5) type frequency, 6) age, 7) gender, and 8) socioeconomic class. The first part of the analysis focuses on presenting a general perspective of the phenomenon according to the independent variables included in our study. The second part of the analysis examines the role of frequency in predicting diphthongized variants of the vowel sequences under study.

The findings of the present investigation reveal that stress of the vowel predicts the dependent variable since categorically diphthongized variants do not occur when the first vowel of the sequence is stressed. The quality of the second vowel of the sequence shows that diphthongization is favored when it follows a low or a mid-back vowel. Regarding grammatical category and number of syllables, the results show that infinitives, nouns, and words of 4 syllables or more favor diphthongized variants. The analysis of extra-linguistic factors shows that lower and middle socioeconomic background speakers are more likely to diphthongize. The study also reveals the role of token frequency as a predictor of diphthongized variants since the phenomenon is more likely to happen in sequences such as /ea/ (*real* ‘real’). We consistently found that words containing a sequence /ea/ such as *realidad* ‘reality,’ *realito* ‘little money,’ etc. are diphthongized. These findings have implications for proposing that diphthongization can be characterized as a retiming process following a pattern of lexical diffusion (Bybee 2002, 2003).

## References

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