

The status of unstressed lax vowels in northern dialect of Brazilian Portuguese

Arthur Santana

University of São Paulo / University of Southern California

Introduction. Brazilian Portuguese (BP) has a phonemic inventory of seven vowels in stressed syllable /a, ε, e, i, ɔ, o, u/. The contrast between lax /ε, ɔ/ and tense vowels /e, o/ is lost in unstressed contexts. In southern dialect, reduction favors tense vowels [e, o] (eg. p[ε]le ‘skin’; p[e]lada ‘naked’, (underline indicates stress)), and lax vowels are, in general, blocked outside the stressed syllable. However, this is not the case for northern dialects, where lax-mid vowels [ε, ɔ] are licensed in pretonic (eg. p[ε]lada ‘naked’) and non-final postonic syllables (eg. vesp[ε]r[a] ‘eve’), but also alternate with tense (eg. b[e]leza ‘beauty’; corr[e]go ‘stream’) and high vowels (eg. [i]ntrega ‘delivery’; tip[i]co ‘typical’).

Santana’s (2016) experimental study proposed that in non-final postonic syllables, lax-mid vowels are predictable and result from harmony with the final vowel in northern dialects. Therefore, reduction via tensing is the strategy observed in this position. However, previous sociolinguistic studies have claimed that in pretonic syllables, lax-mid vowels cannot be fully accounted for through vowel harmony (Silva, 2009; among others). In order to address the status of lax-mid vowels in unstressed syllables, we carried out a controlled experiment to analyze mid-vowel alternation in pretonic syllables in trisyllabic words with penultimate stress (σσσ).

Method and results. An experiment carried out with 20 native speakers of northern dialect of BP resulted in a phonologically balanced corpus of 3600 tokens. Speakers produced, in a carrier sentence, 60 target words that were randomly repeated three times during the experiment. The F1 of the pretonic vowel was measured and an ANOVA was used to test the significance of correlations. Results showed that lax-mid vowels were more frequently produced ([ε] 55%; [e] 41,7%; [i] 3,3%. [ɔ] 59,8%; 39,1%; [u] 1,1%). Regarding mid-vowel alternation, we noticed that tense and high vowels are predictable pretonically. Both [e] and [o] were significantly more pronounced when (i) they were followed by stressed tense or high vowels (eg. f[o]rm[o]so ‘handsome’; n[o]tuno ‘nocturnal’) (ii) when they were followed by a nasal consonant (becoming nasalized [ẽ, õ]; eg. c[õ]mposto ‘composed’) and (iii) specifically for /e/, when followed by a palato-alveolar fricative [ʃ] (eg. t[e]xtura ‘texture’). High-vowels tended to be produced when followed by a nasal consonant (eg. c[u]ncurso ‘contest’), but with a much smaller frequency rate.

Analysis and Conclusion. As argued by previous sociolinguistic studies, vowel harmony is not able to fully predict the production of lax vowels pretonically, as they may also be produced when there is a high vowel in stressed position (eg. t[ɔ]rtura ‘torture’). However, vowel harmony, nasalization and coarticulation can be the motivation for the production of tense and high-vowels in pretonic syllables. As noted by Crosswhite (2004), reduction via tensing fits in much better with the theoretical approaches to vowel reduction, which are usually categorized as contrast enhancement or prominence alignment mechanisms. Why, then, reduction via laxing occurs pretonically? Also, why it does not occur in non-final postonic syllables? In this talk, I argue that this is the result of a difference in relative prominence. Word-initial syllables, even if unstressed, are more prominent than non-final postonic syllables (cf. Walker, 2011). Reduction via laxing is, then, the result of an interaction between contrast enhancement and prominence alignment types of neutralization. Contrast enhancement protects corner vowels /a, i, u/ given their contrastive power. Prominence alignment, then, selects which set of mid vowel gets to be produced in more and less prominent contexts (/ε, ɔ/ word-initially, and /e, o/ word-internally).

References.

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