A comparative study of devoicing of word-final [d] in African American Vernacular English (AAVE)

Ania Kubisz (Eastern Michigan University)

Devoicing is a phonological process, as a result of which voice feature is deleted. A word-final voiced stop devoices when utterance-final or when followed by a voiceless consonant:

…d # > t
…d # t… > t # t

Yet, when followed by a voiced sound, it re-voices:

…t # d… > d # d

Although devoicing is well known to occur in AAVE, the present study results in original findings.

The aim of this project is to compare and describe occurrences of voice neutralization in AAVE for the word-final alveolar stop [d]. While typically languages such as Polish or German devoice word-finally, AAVE goes even further. Some of its speakers devoice syllable finally, while others delete the final consonants in their speech.

The working hypothesis of this project assumes that the devoicing and re-voicing processes occur in AAVE. It also assumes that the voiced alveolar stop [d] is shorter than the voiceless alveolar stop [t].

For the purpose of this study, [d] is preceded by front vowels /ɪ/, /ɛ/ and /eɪ/. The project primarily compares minimal pairs /ɪd/-/ɪt/, /ɛd/-/ɛt/ and /eɪd/-/eɪt/ as word-final segments. Duration of the neutralized and re-voiced stop [d] is examined and compared with the realizations of [t] in the voiced and voiceless environments to see if there are any differences between the realizations of [t] and [d]. In this project the neutralized and voiceless environments mean that the stops are followed by a voiceless consonant, for example *Read bed slowly. Read bet slowly.* The re-voiced environment means that the stops are followed by a vowel, for example *Read hid again. Read hit again.*

Four AAVE speakers participated in the present study[1]. All subjects were pursuing their undergraduate college degrees and all of them were female. They came from Michigan, USA. The experiment was conducted in English and the speakers were asked to read the wordlists three times. Only the third reading was analyzed for the purpose of the study as the sentences were read the most naturally on this last iteration. While the possible realizations of [d] in the voiced environment are [d], [dʰ], [ʔd], [ʔ] or [Ø]; in the devoiced environment these are [t], [tʰ], [ʔt], [ʔ] or [Ø].

Realizations of [d] and [t] in the speech of the subjects are identified using Praat[2] speech analysis software. For this reason, the presence of Voice Onset Time (VOT), that is, the lag between the release of closure and the onset of regular vocal cord vibration, is investigated as well.

Vowel duration is measured to state whether any differences between underlying stop-representations and their influence on the vowel could be observed.

The measurement results showed that, as was expected, [d] was shorter in duration in the voiced environment than in the voiceless environment. In general, there was no difference between the realizations of [d] and [t] in the devoicing and re-voicing environments as glottal stops were found in both environments. This homophony can make it impossible for the speakers themselves to

---

[1] Courtesy of Ms. Catherine Adams (Eastern Michigan University).

[2] http://www.fon.hum.uva.nl/praat/

distinguish between [d] and [t]. Interestingly, there were a few cases in the re-voicing environment where in minimal pairs glottal stops for underlying [d] were significantly shorter than for underlying [t]. Even though the final stops were homophonic, the differences between underlying [d] and [t] were preserved in vowel duration.

A closer look at phonetics reveals that while devoicing is a general cross-linguistic tendency, it is not a homogenous process. The degree of consonant reduction differs across languages, as well as among speakers of the same language.

Word count: 536