

English stop pronunciation on Croker Island and language contact: an acoustic analysis

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Phonetic differences between Aboriginal varieties of English and Standard Australian English have been reported (Butcher 2008; Fletcher & Butcher 2014). One such difference is the neutralisation of the English stop contrast (Butcher 2008; Malcolm 2008). These differences have been attributed at least partially to substratum influence from Australian Indigenous languages (Butcher 2008; see already Elwell 1979). However, the phonetics of Aboriginal varieties of English in Australia is still under-researched (Eades 2014) and little instrumental evidence has been published in general. For instance, virtually no evidence supporting the often-quoted neutralisation of the English voicing contrast in stops has been published.

This talk reports results from an acoustic analysis of English stop and affricate phonemes, investigating three parameters, closure duration, voice onset time (VOT) and lenition (measured as intensity abatement, see Ennever, Meakins & Round) with populations of both Indigenous and non-Indigenous speakers.

The main research question we asked was whether the way these parameters pattern in Iwaidja and Kunwinjku show parallels to English spoken by Iwaidja/Kunwinjku-English bilinguals that English spoken by non-Iwaidja/Kunwinjku speakers does not. Specifically, we were interested in whether especially Iwaidja speakers neutralise the stop contrast in English, as Iwaidja has only a single stop series.

The data come from experiments conducted on Croker Island and in Western Sydney with four different populations: 4 Iwaidja-English bilinguals (2 male), 4 Kunwinjku-English bilinguals (2 male), 3 (Croker Island) Aboriginal English monolinguals (1 male), 4 Australian Standard English monolinguals (2 male). Suitable target words were elicited in English, Iwaidja and Kunwinjku (written stimuli or shadowing) with stop phonemes in initial, medial and final position embedded in a natural carrier phrase controlling for the phonological environment (4 target words per condition, 3 repetitions each). Recordings were made with a Countryman EMW microphone using an iPad with iRigPro preamp with a 16-bit sampling depth and a 48kHz sampling rate. The data was analysed using the Praat for R script developed by Ennever, Meakins & Round (subm.). We ran a linear mixed effects model with speaker as a random factor and language as a fixed factor investigating a main-effect on amplitude abatement.

Overall, the results give a negative answer to the research question: None of the non-Standard Australian varieties differed significantly from Australian Standard English sample on any of the three measures (see e.g. Table 1 for medial intensity abatement (lenition)). Particularly, all samples showed that the non-Standard Australian English speakers use VOT to keep the stop categories distinct, just as Standard Australian English speakers. This is in disagreement with reports found in the literature (see e.g. Butcher 2008:627), but agrees with recent acoustic analyses on creole varieties in northern Australia (Jones & Meakins 2013; Baker, Bundgaard-Nielsen & Graetzer 2014). However, it is noteworthy that there is significant individual variation, suggesting that English on Croker Island is quite heterogeneous, which raises interesting sociolinguistic questions. Furthermore, our results do not support Indigenous contact influence. There are no significant differences in terms of language background, and the only population that shows some differences compared with our sample of Standard Australian English are Indigenous monolingual English speakers.

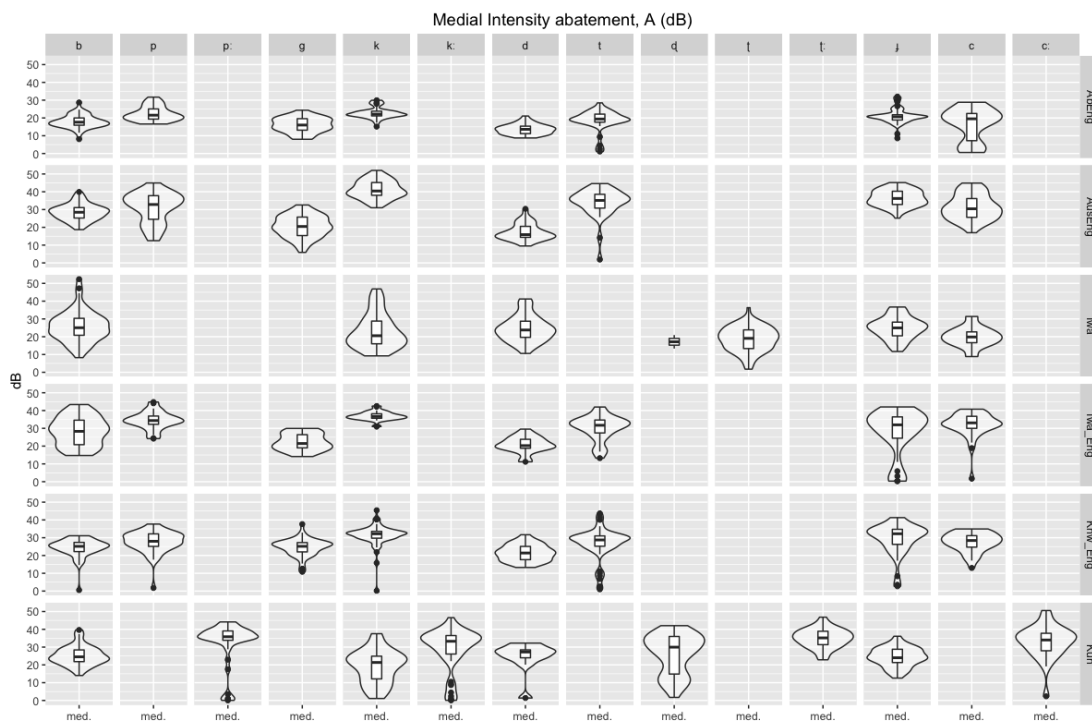


Figure 1: Intensity abatement (lenition) in medial position in all samples (AbEng = monolingual English sample from Croker Island; AusEng = monolingual sample from Western Sydney; Iwa = Iwaidja sample from bilingual Iwaidja-English speakers; Iwa_Eng = English sample from bilingual Iwaidja-English speakers; Knw_Eng = English sample from bilingual Kunwinjku-English speakers; Kun = Kunwinjku sample from Kunwinjku-English speakers)

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