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Voice quality of emphatics in comparison with non-emphatics in Morrocan Arabic

Karim Shoul
Lab. LPP UMR 7018 CNRS, 19, rue des bernardins, 75005 Paris, France

Based on acoustic and physiological data, this study examines the voice quality of emphacized (also called pharyngealized) vowels in Moroccan Arabic. The aim is to determine whether, as argued by some authors (Heath 1987, Fre woldu 1986), these vowels are creaky or glottalized. For this purpose, the /a/ vowel is considred in syllables after initial and intervocalic /t, d, s/ and their emphatic counterparts for an acoustic study as well as a physiological one (Fourcin's EGG 1974). The cues axamined inculde F0 values, duration and amplitude of the acoustic and glottalic signals, as well as the open quotien (0q) (as seen by Henrich 2001). Results of the acoustic analysis show no significant differences between emphacized and non-emphacized vowels as far as F0 values, duration and amplitude of the acoustic signal are concerned. The same absence of difference is observed from the EGG experiment, which indicate that 0q represents half of the whole glottal phase. These findings sugget that emphacized vowels, juste like the corresponding non-emphacized counterparts, are caracterized by a modal voice quality. They imply that 'secondary' pharyngealization does not require a narrowing of the supra-glottic cavity which would affect the mode of vocal-fold vibrations.