Stress and Accent in Tunisian Arabic

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Abstract

Arabic, whether Modern Standard or the various dialects, has a consonant and vowel quantity distinction. Generally, long Arabic vowels are considered twice as long as short ones and length in most Arabic dialects is phonemic. North African Arabic is said to be prone to short vowel deletion in open syllables resulting in various consonant clusters and complex syllabic structure. As far as lexical stress patterns are concerned, the placement of lexical stress varies from standard to the dialect and from one dialect to another, but it is generally fixed stress conditioned by syllabic weight. In Tunisian Arabic (TA), for example, word- level stress falls on the last syllable when it is long and on the penultimate in all other cases (Ghazali, 1973). In certain cases, lexical stress is phonemic in this dialect. The acoustic correlates of word-level stress in TA were thought to be duration, intensity, and fundamental frequency (F0) (Ghazali, 1973). However, due to the confusion in the literature between the terms "stress" and "accent", the acoustic correlates associated with them have been confounded, too. The present paper reports results of phonetic experiments on the acoustic correlates of "lexical stress" and "phrasal stress or "accent", as two separate concepts, in this Arabic dialect. Stress, here, is considered a structural linguistic property that specifies which syllable in the word is the most prominent (Sluijter and Van Heuven, 1996). Accent, however, is considered as a property of the utterance that is present in all languages and provides a means for the speaker to express his or her communicational intentions (Baart, 1987). The parameters measured, in this study, are duration, fundamental frequency, intensity, spectral balance, and vowel quality. The methodology consists in having native speakers of TA utter target words (near minimal pairs of the kind ˈbɛ̲dɛl/bɛ̲dˈɛlt) in focused and non-focused conditions. When no focus is placed on the target word, hence, the target syllable, the acoustic correlates of word- level stress are measured independently of phrase-level accent. However, when focus is placed on the target word, this latter is considered accented (i.e. receiving the pitch accent), allowing thus, to measure the acoustic correlates of phrase-level accent. Measurements of the five acoustic parameters explored were obtained through speech analyser software (Praat). Results, which were statistically checked for significance, revealed that unlike many other languages of the world, duration, in TA, is not a correlate of lexical stress. It is, rather, a correlate of accent. In fact, in the absence of focus on the target words, the only phonetic characteristics of lexical stress that come in the foreground are, F0, spectral balance, and F1 lowering (gradient vowel height). Intensity is not a cue to stress in TA, either. However, in the presence of a pitch accent on the target words, results showed that Tunisian speakers use four cues to signal accent, which are, duration, F0, intensity, and spectral balance.

References

Baart, J. L.G. (1987). Focus, syntax and accent placement: towards a rule system for the derivation of pitch accent patterns in Dutch. *PhD thesis*, Leiden University

Ghazali, S (1973). TA and French interference with English: word stress and the phoneme /h /. *Unpublished, M .A. dissertation*, University of Texas, at Austin

Sluijter, A.M.C., & Van Heuven, V. (1996). Spectral balance as an acoustic correlate of linguistic stress. *Journal of the Acoustic Society of America*, 100(4), 2471-2485.