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Toward a New Approach to Emphasis: The Case of Aswan Arabic

This paper aims to highlight a better approach to analyzing the variation in Arabic vowels using Aswan as an example. In the context of emphatic consonants such as /t^ʕ, d^ʕ, s^ʕ, z^ʕ/, surrounding vowels become significantly more backed in Arabic (Jongman et al., 2011). /æ:/, the sociophonetic variable of this study, exemplifies the vowel that contains the most perceivable difference between its plain [æ:] and emphatic [ä:] allophones.

Many Arabic linguists working on emphasis have elicited their data from speakers utilizing carrier sentences and word lists to investigate the differences between emphatic and plain vowels without describing them (Al-Masri and Jongman 2004, Jongman et al. 2007; 2011; AlMbark, 2008). Royal (1985) employs sociolinguistic interviews but also relies on relative measurements and ratios of only F2 and F2 transitions. Thus, the vowel space a particular phoneme occupies remains hazy and often intra-allophonic variation is overlooked because these studies are only concerned with the differences between plain and emphatic vowels. This is especially problematic in Arabic dialectology since many dialects lack even basic acoustic descriptions of the vowel systems. This study consequently utilizes a descriptive approach to individually analyze the variation in plain [æ:] and emphatic [ä:] in an under-documented dialect.

Aswan, lying some 600 miles south of the Egyptian capital of Cairo, is primarily inhabited by two ethnic groups. The largest group, the Şa‘īdīs, report that they speak Arabic “stronger” than their Arabic speaking Nubian counterparts. Similarly, consultants state that it is only acceptable for women to speak with more fronted vowels like the Cairene accent. Participants indicate that older generations speak differently than the young. However, all consultants purportedly perceive no difference between emphatic and plain vowels in Aswan Arabic. Thus, this paper tests these claims by comparing formant frequencies with each allophone of /æ:/, the speakers’ ethnicity, age, and sex.

This study uses data from the sociolinguistic interviews of 33 speakers of Aswan Arabic from 2012-2015 (following Labov, 1984). Each vowel was auditorily encoded as plain or emphatic. Only stressed vowels were measured at the center of the steady-state portion (following Thomas, 2011). Vowels were only measured in open syllables before voiced consonants for consistent vowel duration and quality (following Leddy-Cecere, 2015). All of the tokens were then vowel extrinsically normalized and scaled (following Lobonov, 1971). The data were then statistically analyzed in mixed-effects general linear models that were stepped (following Tagilamonte and Baayen, 2012).

The results reveal that Aswan Arabic’s plain and emphatic vowels are better described as centralized [æ:] and [ä:]. Nubians produce a significantly more backed emphatic [ä:] than the Şa‘īdīs. Speaker sex shows no significant results, however significant interactions between sex and ethnicity illustrate that the female Şa‘īdīs are pronouncing a Cairene-like fronted [æ:]. Age also shows no main effect but it does interact with speaker ethnicity and sex. The younger male Şa‘īdīs approximate the female Şa‘īdīs fronted pronunciation of the plain [æ:]. Young Nubian women and men are also pronouncing a more centralized emphatic [ä:] like the Şa‘īdīs. In summary, the decision to analyze each allophone separately is an approach to emphasis in Arabic that unveils

more nuanced and descriptive variation that would otherwise remain undiscovered in an under-documented dialect of Arabic.

References

- Al-Masri, M. and A. Jongman. (2004). Acoustic Correlates of Emphasis in Jordanian Arabic: Preliminary results. In Agwuele, A. et al. (eds.), *Proceedings of the 2003 Texas Linguistics Society Conference*, 96-106. Somerville, Massachusetts: Cascadilla Proceedings Project.
- AlMbark, R. (2008). *A Sociophonetic Study of Emphasis in Syrian Arabic*. Unpublished MA thesis, The University of York, New York, New York.
- Jongman, A., W. Herd, M. Al-Masry, J. Sereno, and S. Combest. (2011). Acoustics and perception of emphasis in Urban Jordanian Arabic. *Journal of Phonetics* 39, 85-95.
- Jongman A., Herd, W., and Al-Masry, M. (2007). Acoustic Correlates of Emphasis in Arabic. *International Congress of Phonetics Sciences*, XVI, 913-916.
- Labov, W. (1984). Field Methods of the Project on Linguistic Change and Variation. *Language in Use: Readings in Sociolinguistics*, ed J. Baugh and J. Sherzer, 28-53. Englewood Cliffs, NJ: Prentice-Hall.
- Lobonov, B. (1971). Classification of Russian Vowels Spoken by Different Listeners. *Journal of the Acoustic Society of America* (49), 606-608.
- Leddy-Cecere, T. (2015). *Phonetic Effects of Diglossic and Style Shifting in Arabic*. Presented at the 44th New Ways of Analyzing Variation conference, Toronto, Canada.
- Royal, A. (1985). *Male/female Pharyngealisation Patterns in Cairo Arabic: A Sociolinguistic Study of Two Neighborhoods*. Unpublished Ph.D. dissertation, University of Texas at Austin.
- Tagliamonte, S. and H. Baayen. (2012). Models, Forests, and Trees of York English: Was/Were Variation as a Case Study for Statistical Practice. *Language Variation and Change*, 24:135-178. Cambridge University Press.
- Thomas, E. (2011). *Sociophonetics: An Introduction*. New York: Palgrave Macmillan.