

A Comparison of Geminate Attrition in the Speech of Arabic and Italian Immigrants Living in the United States

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This study explored the phenomenon of language attrition (Schmid & Kooke, 2007, Celata & Cancilla, 2010; Chang, 2012; De Leeuw, Tusha & Schmid, 2017); which can be seen in any part of the linguistic system. But yet, most research before has focused on the lexicon and the grammar of the L1 (Köpke & Schmid, 2004) and less on the phonetics of L1 (Flege, 1987; Major, 1992; Guion, 2003; Mayr, Price; & Mennen, 2012), and even less on its phonological attrition (Köpke & Schmid, 2004; Celata & Cancila, 2010; Rafat, Mohaghegh & Stevenson, 2017; Alkudidi, 2018). In this study, we explored the acoustic properties of consonant gemination across three groups of Italian and Palestinian Arabic speakers: (1) monolinguals i.e. native speakers born and raised in either Italy or Palestine and who have lived there their entire life, (2) late bilinguals i.e. speakers who emigrated to the US during their teens, and (3) heritage speakers i.e. speakers born in the US to late bilingual parents and who speak both English and either Italian or Palestinian Arabic in their daily lives. All speakers were in their mid-20s. The participants were tested using a delayed word repetition task, following Alkudidi, A. et al (2018). The stimuli comprised 60 bi-syllabic minimal and near-minimal pairs in either Arabic or Italian including long and short stops (e.g. for Italian, /fato/ ‘fate’ vs. /fatto/ ‘done’, for Arabic, /sadaq/ ‘he said the truth’ vs. /sad:aq/ ‘he approved’). We controlled for stress and syllabic position. Distractors were also included.

The acoustic analysis consisted of manually aligning the target consonants using the Praat software (Boersma & Weenink, 2012). We extracted the mean consonant duration, and compared it statistically across the different groups using univariate ANOVAs. Preliminary findings have found significant main effects of Group (monolingual / late bilingual / heritage speaker), Voicing (voiced / voiceless), and Consonant Type (singleton / geminate) on Duration in both languages. Figure 1 displays the duration results. Speakers from both language backgrounds were similar in displaying significantly longer durations for geminates across all groups, and showing a decrease in mean values for the groups of speakers living abroad. Nevertheless, language differences were also observed: the decrease in mean durations between monolinguals and the other two groups was more pronounced in Italian speakers compared to Arabic speakers. Furthermore, while there was a slight tendency for Arabic heritage speakers to shorten their geminates compared to the late bilinguals, this was not the case for Italians. Finally, the Italian heritage speakers' singleton consonants were longer than those of late bilinguals and thus more similar to those of monolinguals. Significant main effects of voicing and place of articulation were found on duration as well. Voiced consonants tended to be shorter across the

board. Geminate consonants were longer for monolinguals in Arabic, while Italian late bilinguals and heritage speakers produced shorter consonants compared to monolinguals almost across the board. Also, for Arabic, geminate consonants had a gradual decrease in duration for all places of articulation, while for Italian, geminate consonants were longer for monolinguals compared to the other two groups, except for coronals. Additional analyses, currently underway, include an examination of voicing, aspiration, and adjacent vowels' formant transitions. We are also going to address the question whether universal phonetic factors have an effect on the degree of attrition by specifically comparing consonants from different voicing categories and places of articulation (Flege 1987).

Our findings reveal the existence of universal tendencies in language attrition regardless of language or cultural background. At the same time, they raise questions regarding the role played by sociolinguistic factors in the maintenance of a linguistic contrast. The fact that there were more similarities between heritage (second generation) and monolingual speakers in Italian, whereas Arabic monolingual speakers were more similar to late bilinguals (that is, first generation immigrants) appears to suggest that the two cultures may be characterized by different patterns of intergenerational interaction.

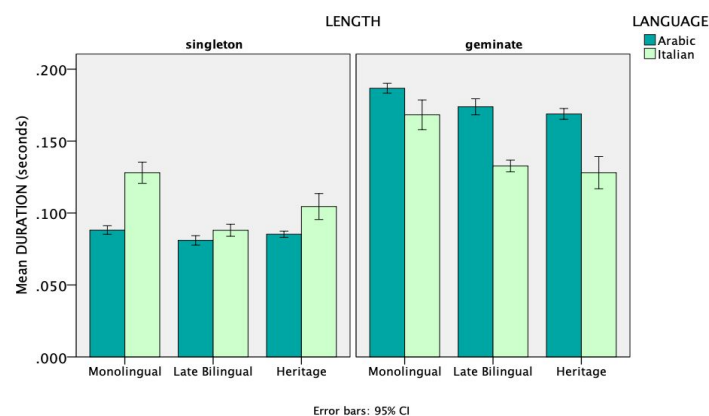


Figure 1. Mean consonant duration for the two languages across each group of speakers.

Overall, our study adds to the body of work on phonological attrition by examining ongoing change in two bilingual communities living in the United States. Our findings are similar to those of similar studies conducted in Canada (Alkhubidi, et al. 2018, & Rafat, et al 2017).

Selected References

- Alkhubidi, A., Rafat, Y., & Stevenson, R., (2018). Geminate Attrition in the Speech of Arabic-English Bilinguals Living in Canada. *Heritage Languages*, 17(1), 1-37.
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