

First Language Attrition Across Three Different Generations

Rawan Hanini & Dr. Laura Spinu

Department of Communications & Performing Arts- Kingsborough Community College

Introduction

First language attrition/change in bilinguals:

A loss or gradual decline in L1 proficiency mainly caused by interference from a second language (Schmid & Köpke, 2007).

Different aspects of linguistic system can undergo attrition:

- Lexicon
- Grammar

Phonology & Phonetics

What is gemination?

Geminates are long consonants

Length is contrastive in some languages, e.g.

Arabic, Italian, Farsi

EXAMPLES FROM ARABIC:

عَلَّمَ /ʕal:am/ he taught عَلَمَ /ʕalam/ flag
مَسَاحَةٌ /mas:a:ħah/ eraser مَسَاحَةٌ /masa:ħah/ space

Gemination in English is phonetic rather than phonemic

(Abercrombie, 1967; Trask, 1996; Kreidler, 2004; Kaye, 2005; Oh & Redford 2012)

EXAMPLES FROM ENGLISH:

Night time /naɪt taɪm/
Makes sense /meɪks sɛns/

Phonological attrition and phonetic shift:

Examples

1. Difference in F1 and F2 values of German lateral phoneme /l/ in German-English bilinguals drifting from native German towards L2 (Mennen & Scobbie, 2012)
2. Geminate perception of English-Lucchese immigrants less accurate comp. to monolinguals (Celata & Cancila, 2010)
3. Geminate-singleton C length contrast changed across 3 different generations of Farsi-English (Rafat et al., 2017) & Syrian Arabic-English bilinguals (Alkhudidi et al., to appear)

Factors affecting L2 geminate production:

Manner of articulation, voicing, and stress affect L2 geminate consonant production (Alkhudidi et al., to appear, Soriano, 2014)

Methodology

Compare 3 groups of Palestinian Arabic speakers, following Alkhudidi et al. (to appear)

Hypotheses:

- I. Geminate production will change in Arabic-English bilinguals living in U.S. Specifically, geminates will become shorter across late bilingual and heritage speakers compared to monolinguals (Rafat et al. 2017).
- II. Consonant type, voicing, and place of articulation will modulate geminate duration across generations.

Participants: Sixteen 20-42 y.o. Palestinians (mean age 25)

- 5 monolinguals: had always lived in Palestine
- 4 first generation (late bilinguals): immigrated to US after puberty
- 7 second generation (heritage speakers): Palestinian descent, born in US

Tasks: 1. Language background questionnaire (proficiency varied).
2. Delayed word repetition task (Bassetti, 2017)

Stimuli and Procedure:

60 bi- syllabic/ tri- syllabic Arabic minimal and near- minimal pairs e.g. /sadaq/ “he said the truth” vs. /sad:aq/ “he approved” – each participant recorded individually

Target Consonants:

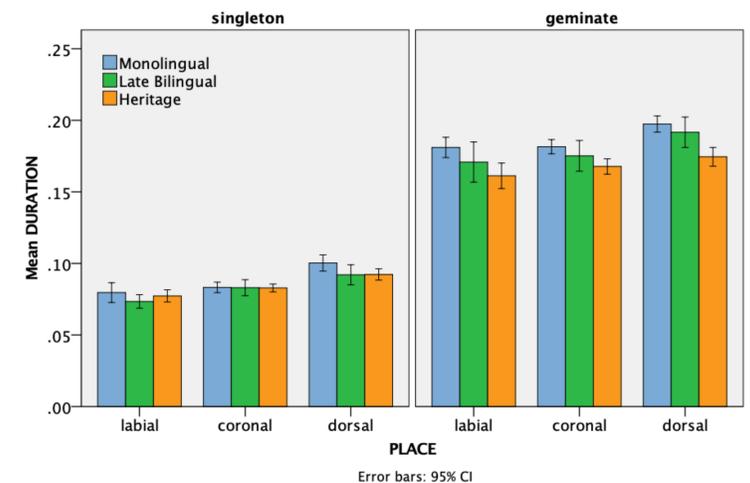
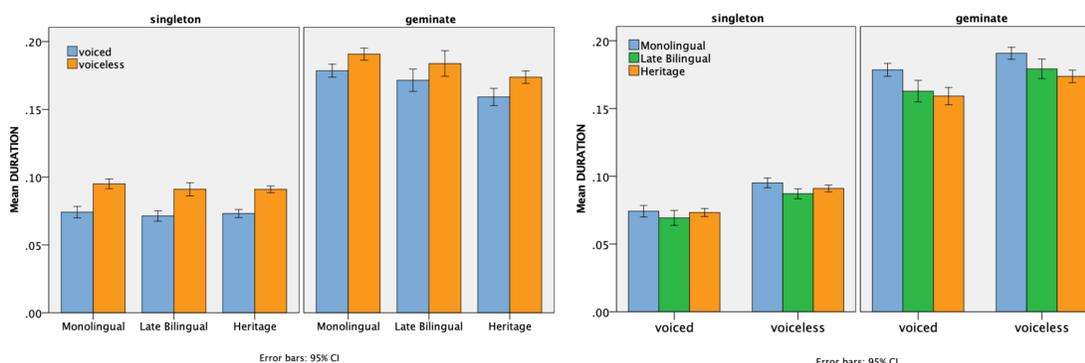
Stops /b, d, t, k, ʔ, q/

Analysis:

Stops manually aligned and labeled.
Durations extracted using Praat script.

Results

UNIVARIATE ANOVA: significant effects of Speaker (monolingual, late bilingual, heritage), Consonant Type (single/geminate), Place (labial/coronal/dorsal, and Voicing (voiced/voiceless) on duration ($p < .001$ ATB).



Summary & Discussion

- Geminate consonants: shorter across generations of Arabic-English bilinguals living in the United States, with heritage speakers (second generation, born in the US) producing significantly shorter geminates compared to monolinguals from Palestine
- The transition is gradual, with the first generation of immigrants not differing significantly from either the monolinguals or the heritage speakers
- Consonant type, voicing, and place all had an effect on duration
- Consistent with earlier findings on Syrian Arabic (Alkhudidi et al., to appear) and Farsi-English bilinguals (Rafat et al. 2017)

Future Work

- Examine the effect of individual consonants
- Compare heritage speakers with L2 learners
- Explore individual variation

Corresponding Author: rawanhanini197@gmail.com

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