

## Two novel methodological perspectives on Modern Greek lateral palatalization

We examine a seminal feature of Modern Greek phonological variation employing two novel methodological perspectives. The phenomenon of lateral palatalization in Modern Greek dialects is well-known, as it was first described by Newton (1972), but its distribution and characteristics are not fully understood. For example Papazachariou (2004) and Pappas (2006, 2008) report the existence of both palatal and palatalized /l/ before /i/, whereas more recently Baltazani et al. (2016) argue that non-standard Modern Greek dialects do not have palatalized variants of /li/, only palatal ones.

Our research provides some crucial insights into this question by examining recordings of Greeks who immigrated to Canada as adults (*Immigrec* project Anastassiadis et al. 2017). The particular dataset is constructed from the interviews of 51 participants (male and female) with basic education from seven different dialect areas of Greece. Since these speakers emigrated at least two decades before palatalization emerged as a stereotype, the effects of stigmatization should be minimized.

The second innovation is that these transcribed recordings have been automatically annotated using a Greek model for the Montreal Forced Aligner (McAuliffe et al. 2017). We analyzed 12,803 tokens of /l/ in four different environments: before a glide (/lj/), before the high front vowel (/li/), before the mid-front vowel (/le/) and before non-front vowels (/la/, /lo/, /lu/). F1 and F2 values were extracted at the midpoint in Praat, and the difference F2-F1 calculated in order to determine the degree of palatalization (Sproat and Fujimura 1993). The difference was entered as the dependent variable in linear mixed effects models with post-lateral segment (/j/, /i/, /e/ or /a-o-u/), home region in Greece and gender as fixed effects, and speaker and word-root as random ones. The analysis shows that there is significant interaction between region and post-lateral segment (Df: 18,  $\chi^2 = 44.05$ ,  $p < 0.001$ ). As shown in Table 1, Post hoc (Tukey) tests show that the four phonetic environments are distinct in Athens, Central Greece, Crete, the Ionian islands and the Peloponnese, but in Northern Greece and Thessaly, there is no distinction in the pronunciation of the lateral if the following segment is /i/ or /j/. This is a clear indication that there are different levels of lateral palatalization among the different varieties of Modern Greek.

Table 1. Tukey post hoc tests on F2-F1 according to region and post-lateral segment

Region	F2-F1 (non-front)	F2-F1 (/le/)	F2-F1 (/li/)	F2-F1 (/lj/)	# distinctions
Athens	1087.48	1262.54	1395.17	1556.23	4
Central Gr	1085.36	1424.25	1556.00	1704.45	4
Crete	907.73	1186.09	1280.29	1580.83	4
Ionian	1083.32	1282.73	1466.24	1650.24	4
Northern Gr	981.41	1324.40	1475.44	1412.37	3: li ~ lj
Peloponnese	904.08	1182.72	1412.12	1557.36	4
Thessaly	1083.80	1332.87	1467.92	1477.88	3: li ~ lj

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