BACKGROUND

In sound change, laterals frequently change into rhotics, and rhotics change into laterals. Cross-linguistic historical changes and dialectal variation suggest that in general the tendency for laterals to rhoticise is greater than for rhotics to lamdbacise.

Specifically, do some varieties of rhotics or laterals undergo change more frequently than others?

EXPERIMENT

Subjects: 15 native listeners of Greek

Speakers: 2 male native speakers of Greek

Presentation: Forced multiple-choice test (to avoid a range effect bias, cf. Benders & Escudero 2010). Depending on syllable position, number of available choices ranged between five and eight.

Stimuli containing laterals:

- Two durations: 60 ms (average duration in spontaneous speech, Müller 2011) and 30 ms (closer to tap duration)

Stimuli containing rhotics:

- Three rhotic qualities: two-closure trill, tap, approximant
  - Trills retained their original duration.
  - Taps were normalised to 20 ms closure duration (svrvarabhakti vowels were not normalised).
  - Approximants were created by deleting the svrvarabhakti vowel, lengthening the tap closure to 45 ms, and raising the intensity level to that appropriate for a lateral (figure 1).

Figure 1: Left side: stimulus /kara/ with a lateralised tap (20 ms duration); right side: stimulus /kara/ with a lateralised approximant (45 ms) created from the lateralised tap.

All stimuli were 250 ms long.

REFERENCES


HYPOTHESES AND RESULTS

HYPOTHESIS 1

Short duration enhances the tendency to rhoticisation for all laterals.

HYPOTHESIS 2

Lateralised rhotics are more than rhotics lamdbacise.

HYPOTHESIS 3

Approximant rhotics are more prone to lambdacisation than taps.

3 L-responses are more likely to occur with approximants than with taps ($\chi^2 = 236, p < .0001$) (figure 4).

4 Out of 1066 tokens containing trills, only 8 times (0.8%) did subjects give a response containing a lateral. In 986 cases (92.5%), subjects responded with “r” to trills.

HYPOTHESIS 4

Trills are almost never mistaken for laterals.

HYPOTHESIS 5

Lateralisation only has a greater effect in perception in the longer approximants than in the shorter taps.

LISTENER VARIABILITY

Listeners varied significantly with respect to the number of different proposed answers they chose for the same stimuli over nine repetitions during the multiple-choice perception test (figure 7) ($\chi^2 = 28.429, p < .05$), but post-hoc comparisons showed that only subject “VP08” differed significantly from subjects “VP03” and “VP06” ($\chi^2 = 3.459, p < .05$ and $z = 3.459, p < .05$, respectively).

ACKNOWLEDGEMENTS

This research was made possible by an LMU Research Fellowship awarded to Daniela Müller. We wish to thank all our subjects.

Daniela Müller & Ulrich Reubold
Institut für Phonetik und Sprachverarbeitung, Ludwig-Maximilians-Universität München
daniela | reubold | @phonetik.uni-muenchen.de