1. Background

- Palatalisation of /N/ in complex onset clusters (obstruent + lateral) in the absence of a following palatal segment that could have triggered the change.
- Attested in a variety of Romance dialects, Thai dialects [1] and elsewhere.

- Palatalisation of /N/ in /k/, /g/ is far more widespread than in /p/, /b/.
- Dialects with dark /l/ realisations such as Eastern and Balearic Catalan and Val d`Aran dialects [2] are not affected by the phenomenon.
- On the other hand, labial + yod clusters develop an epenthetic /N/ in the history of Slavic [10] and sporadically in Romance dialects [11].

**Traditional explanations:**
- Articulatory explanation: palatalisation as place assimilation in /k/, /g/ clusters;
- Subsequently spread of palatalisation onto /b/, /d/ through analogical change (e.g. [9]).

**Sound change through misperception:**
- Eugenius (and non-corrected) perception of the speech signal leads to sound change [9].

\[ – \text{palatalisation} \approx \text{a more similar} \approx \text{slightly different} \approx \text{plosive} \]

2. Hypotheses

(a) The place of articulation of the preceding consonant has a significant influence on the palatalisation process, as predicted by the dialectological data;
(b) The degree of darkness/clearness of /l/ has an influence on this palatalisation process, more specifically dark laterals hinder palatalisation more than clear laterals do.

3. Method

a) Subjects

- 2 male speakers of Lengadocian Occitan (clear /l/ dialect).
- 1 male speaker of Eastern Catalan and 1 male speaker of Western Catalan (dark /l/ dialects).

b) Experiment design

Speakers read non-words (fig. 1) presented in random order. Each token occurred 8 times. The 5 best realisations were selected for further analysis.

![Fig. 1: tokens used in the experiment (in Catalan and Occitan orthography) (1)](image)

4. Results

a) Summary of ANOVA table (4 subjects)

![Table 1: Summary of ANOVA table (4 subjects) (1)](image)

b) t-tests (p < 0.01)

<table>
<thead>
<tr>
<th>Factor</th>
<th>Catalan</th>
<th>Occitan</th>
</tr>
</thead>
<tbody>
<tr>
<td>Place</td>
<td>Glides</td>
<td>/l/</td>
</tr>
<tr>
<td></td>
<td>/l/</td>
<td>/l/</td>
</tr>
<tr>
<td>/l/</td>
<td>/l/</td>
<td>/l/</td>
</tr>
<tr>
<td>/l/</td>
<td>/l/</td>
<td>/l/</td>
</tr>
<tr>
<td>/l/</td>
<td>/l/</td>
<td>/l/</td>
</tr>
<tr>
<td>/l/</td>
<td>/l/</td>
<td>/l/</td>
</tr>
</tbody>
</table>

5. Discussion

Hypothesis (a): Velar plosives favour palatalisation of /l/ in onset clusters more than labial plosives do. As shown by the results in Fig. 3 and as suggested by dialectological evidence, velar + lateral and velar + yod clusters may resemble each other during the first few milliseconds of the sound for the Occitan subject with clear /l/, with the consequence that listeners may easily confuse them.

6. Conclusions

While acoustic evidence for the sound change of /l/ palatalisation in the complex onset could be provided, further research is needed to address the two hypotheses about palatalisation of clear /l/ in the velar + lateral clusters from both an articulatory/aerodynamic and perceptual perspective.

7. References


Interspeech 2009 Brighton