**Perceptual dissimilation of /l/ and /n/**

Bianca Godinez, Megan Walsh, Sarah Garcia, Araceli Carmona, Nancy Hall

CSU Long Beach Dept. of Linguistics, CSU Long Beach Dept. of Speech-Language Pathology

### What is dissimilation?

The phenomenon that sounds become less like nearby sounds

For example: If a word contains 2 /l/’s a speaker may drop one of them

*ful(1)fil*  *multip(1)ication*  *optha(l)imologist*

### What causes dissimilation?

- Repeated articulations are difficult to produce
- Repeated articulations are difficult to mentally serialize

**Traditional Views**

- Certain sounds, such as liquids and nasals, have long-range coarticulatory effects, causing ambiguity as to how many instances of the sound are present
- Listeners may perceptually hypercorrect for coarticulation, causing dissimilation

**Ohala 1993:**

Ohala 1993: Certain sounds, such as liquids and nasals, have long-range coarticulatory effects, causing ambiguity as to how many instances of the sound are present

### What is our goal?

We test whether dissimilation of repeated /l/ or /n/ can be produced in a perceptual task, through manipulating presence of a later ‘trigger’ /l/ or /n/

Prediction: presence of a later /l/ or /n/ will contribute to perceptual masking of earlier /l/ or /n/

### Results

Target /l/ and /n/ were dropped or substituted significantly more when followed by a trigger /l/ or /n/, respectively:

/l/ comparison:

<table>
<thead>
<tr>
<th>Trigger condition</th>
<th>Target /l/ substituted or dropped</th>
<th>Target /l/ realized</th>
</tr>
</thead>
<tbody>
<tr>
<td>1 /l/</td>
<td>52</td>
<td>541</td>
</tr>
<tr>
<td>1 /n/</td>
<td>23</td>
<td>574</td>
</tr>
</tbody>
</table>

/n/ comparison:

<table>
<thead>
<tr>
<th>Trigger condition</th>
<th>Target /n/ substituted or dropped</th>
<th>Target /n/ realized</th>
</tr>
</thead>
<tbody>
<tr>
<td>1 /l/</td>
<td>34</td>
<td>566</td>
</tr>
<tr>
<td>1 /n/</td>
<td>10</td>
<td>588</td>
</tr>
</tbody>
</table>

However, the effect for /n/ relies on a single pair (23 drops/substitutions in [moˈlɛkjuntɪn] vs. 3 in [moˈlɛkjuntɪf]). If this pair is excluded the /n/ dropping is not significant.

/l/ dropping is more evenly distributed across items

### Discussion

As far as we know, this is the first demonstration of /n/ and /l/ dissimilation in a lab setting

Perceptual dissimilation occurred in /l/ more than /n/. In real words, American sometimes dissimilate /l/, but rarely or never /n/. This suggests that perceptual dissimilation is a possible cause of actual sound change

We believe that perceptual hypercorrection is a plausible source of /l/ dissimilation in words like *ful(l)fil, multip(l)ication, and ophtha(l)imologist*

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### References
