### Background
- Phonetic accommodation
  - Contact-induced phonetic change
  - Phonetic convergence
  - Phonetic maintenance
- Phonetic divergence
- Affecting factors
  - Gender and talker roles (Pardo, 2006; Pardo et al., 2010)
  - Social attitudes (Babel, 2009, 2010)
  - Interlocutor language distance (Kim et al., 2011)
- Measurement of phonetic accommodation
  - XAB/AXB perception test
  - Social attitudes
  - Gender and talker roles
  - Contact

### Current Research
1. Do speakers accommodate to native and nonnative model speakers differently?
2. Can phonetic accommodation be measured at a global level with sentences?

### Materials and Measurements
- **Model Speakers**
  - 2 female native speakers of English (Dialect: US Midland)
  - 2 female Korean speakers of English (Proficiency: high)
- **Materials**
  - 64 English sentences
  - Acoustic Measurements
    - Types
    - Sentence duration
    - Fo range: Fo max–Fo min
    - Dynamic time warping cost
    - Mechanical holistic judgment
    - Full sentences
    - Hums (Fo contours extracted from full sentences and synthesized in Praat)
- **Dependent measure for convergence**
  - Change in distance towards model
  - (pretest-model)–(posttest-model) > 0 -> convergence
- **XAB Perception Test**
  - 40 native speakers of English heard three sounds in a row and selected between the second (A) and third (B) sounds for the better match to the first sound (X).
  - Posttest sample selection rate > 50 % -> convergence

### Materials

#### Sample sentences
1. The guys bought the big bed.
2. The cabin was made of logs.
3. The driver tuned the old radio.
4. The color of a lemon is yellow.

#### Sentence Duration (sec)
- Pretest: 1.7, 1.8, 1.9, 2, 2.1
- Posttest: 1.7, 1.8, 1.9, 2, 2.1
- Model: 1.7, 1.8, 1.9, 2, 2.1

### Results

#### Acoustic Analyses
- Fo Range (Hz)
  - N1: Maintenance
  - N2: Convergence in duration
  - NN1: Maintenance
  - NN2: Convergence in duration
- Hum DTW Cost
  - N1: Convergence in Hum DTW
  - N2: Divergence in Full DTW
  - NN1: Divergence in Ham DTW
  - NN2: Convergence in Hum DTW

#### Perceptual Judgment
- Posttest sample selection rate
  - Native 1: 0.50
  - Native 2: 0.50
  - Nonnative 1: 0.50
  - Nonnative 2: 0.50

### Summary
1. The relationship between language distance and patterns of phonetic accommodation is variable.
2. Phonetic accommodation is reflected in global measures of sentences.
3. Patterns of phonetic accommodation vary across different measures.
4. All acoustic measures are significantly positive predictors for phonetic convergence patterns measured by perceptual judgment.
5. Im(χab – duration + Fo Range + Full DTW + Hum DTW + (1)imitator + (1)listener + (1)sentence, data, family="binomial")

### Perceptual Exposure Experiment

#### Pretest and Posttest
- Exposure: Imitators were exposed to 9 repetitions of the materials for a closed-set identification test.
- Exp. groups heard the materials during the test read by one of the 4 model speakers.
- Control group saw the test written on the monitor.
- No shadowing, no explicit training or feedback

### Materials

<table>
<thead>
<tr>
<th>Model Speaker</th>
<th>Posttest Production</th>
<th>Pretest Production</th>
<th>Auditory Exposure to Model</th>
<th>Posttest Production</th>
</tr>
</thead>
<tbody>
<tr>
<td>Control Group</td>
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</tbody>
</table>

### Acoustic Analyses
- Duration: Sentence duration
- Fo Range: Fo max–Fo min
- Full DTW: Dynamic time warping cost
- Hum DTW: Mechanical holistic judgment

### Perceptual Judgment
- Posttest sample selection rate
- Native 1: 0.50
- Native 2: 0.50
- Nonnative 1: 0.50
- Nonnative 2: 0.50

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