**Analytic Bias in Phonotactic Learning: Extension of an Obstruent Voicing Contrast**

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**Background**

- To what extent does analytic (synchronic) bias shape the phonological typology?
- Complexity bias: bias against formally complex patterns ([1] [2])
- Naturalness bias: bias against phonetically unnatural patterns ([4] [5])
- Research question: Does phonetic naturalness bias phonotactic learning?
- Approach: Test whether learners reproduce a phonetically-motivated phonotactic implicational in an artificial grammar learning experiment
- The implicative: Word-final obstructive voicing contrast → word-initial voicing contrast, but not necessarily vice versa ([3])

**Method**

- 72 training items, half fillers (with images)
- 72 test items (same for all conditions): #T, #D, T#, and D# items, one third fillers (no images)
- Task: Say whether each word could also be a word of the language heard in training (Yes/No)
- 3 types of critical test item:
  - Familiar Conforming: voicing and position conform to trained pattern, and item heard in training (e.g. *pimir* in InitialContrastT)
  - Novel Conforming: voicing and position conform to trained pattern, but item not heard in training (e.g. *pirum* in InitialContrastT)
  - Novel Nonconforming: voicing and position combination not heard in training (e.g. *nimádb* for InitialContrastT)

**Predictions: Acceptance of Novel Nonconforming Items**

<table>
<thead>
<tr>
<th>DFinalContrast (#T)</th>
<th>TFinalContrast (#D)</th>
<th>InitialContrastD (#T#)</th>
<th>InitialContrastT (#D#)</th>
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<tbody>
<tr>
<td>#T</td>
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<td>T#</td>
<td>D#</td>
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**Discussion**

- More support for complexity bias: evidence emerged in Exp. 1 and Exp. 2
- But why should difference in learnability between simple and complex constraint emerge only in word-final position and not word-initial position?

**References**


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**Exp. 1 Results**

**Exp. 2 Results**

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