Background

- Do infants have a domain-specific a priori bias [1] for phonetically-motivated phonological processes? Such processes are:
  - Cross-linguistically common
  - Easier for adults to learn in artificial grammar learning studies [4]
  - Correlated with the progression of infant articulatory development [4]
- Previous studies e.g., [5] test learning of processes or patterns, not unlearned biases
- Exception is [2]: without training, infants prefer triad sequences with articulatorily-motivated nasal assimilation [un, ber]—[umber] compared to unassimilated clusters [un, ber]—[umber].
  - Results consistent with presence of an a priori bias. But perhaps these are reactions to individual components, not the phonological process
- Our approach:
  - Test young infants for an a priori bias in favor of a phonological process motivated by ease of articulation, without training
  - Include control experiments to rule out possibility that infants simply respond to phonotactics of syllables rather than the process as a whole

Methods

Headturn Preference Procedure [3]
- Training phase replaced by instrumental music
- Test phase of 12 trials, 20 seconds maximum each
- Triad paradigm (i.e., [pi, fi, pivi]) represents inputs and outputs of phonological processes [4]:
  - Input: [pi, fi, pivi]
  - Output: [pi, vi, pifi]
- 4.5-month-old subjects
  - Youngest to reliably control head movement [3]
  - Too young for influential articulatory experience
  - English-only input
  - Normal hearing

4.5-Month-Olds’ Phonotactic Knowledge

Poster

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Conclusions

4.5-month-olds:
- Show no preference for phonetically-motivated phonological patterns
- But, may be biased to learn processes differently, even after only a few seconds of exposure

Subsequent work in progress:
- Test older infants on Process Input Fricatives to determine when language experience effects surface
- Plans for future work:
  - Add training phase to experiments

References


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...but Possible Learning Effect:

Infants in the Full Processes experiment (not Process Input Fricatives Only) show possible evidence of a bias as a function of the first trial:

- Voicing first: growing listening preference
- Devoicing first: no reliable preference

[Block 1] [Block 2] [Block 3]

Voicing Condition
Devoicing Condition

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