Prosody vs. segments in laboratory learning of category-specific phonology
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I. Overview
(1) Category-specific phonology → Nouns, verbs can differ
(2) Cross-linguistic asymmetries (see Smith 2011 for a review)
   (a) Privilege: N → less neutralization, more marked
   (b) Phenomena: prosodic (stress, tone), not segmental
(3) Where do these asymmetries come from?
   (a) Are they innate?
   (b) Do they arise via acquisition, transmission?
(4) Ultimate research question: Can the laboratory-learning paradigm provide evidence for a learning bias?
(5) Goal of this poster:
   (a) Present initial findings
   (b) Solicit feedback on methodology, interpretation

II. Methodology
(6) Web experiment using Amazon Mechanical Turk
(7) Structure of stimulus words (auditory presentation):
   (a) CVCV; C from [p t k n m s l w ]
   (b) Vowels from [i e a o u ] or restricted to [i a u ]
   (c) Stress (x.), (. x) or restricted to (x.)
(8) Training phase: 3 conditions, 20 participants each
   (a) Control: N, V unrestricted
      NstrVseg: All N are (x.); all V have only [i a u ]
      NsegVstr: All N have only [i a u ]; all V are (x.)
   (b) Training words presented in blocks of 24 N, 24 V, and with Eng “translations”; audio 3x
      Blocks presented 2x each; order counterbalanced
(9) Vocabulary quiz — participants knew to expect this
   (a) Included to encourage attention to N/V meanings
   (b) 8 items: audio with choice of two “translations”
(10) Test phase — participants did not know to expect this
    (a) Minimally different word pair presented
       • Stress trial: (x.) vs. (. x) — all vowels [i a u ]
       • Vowel trial: [i e a o u ] vs. [i a u ] — all stress (x.)
    (b) Task: Select the noun or the verb
    (c) Predictions: If trained on N restriction, should pick unmarked form for N (likewise for V)
       • Control condition should provide a baseline

III. Results
(11) How to read the following graphs:
    (a) If training on N restriction leads to choice of N as unmarked option, the pink symbols should lie to the left of the green symbols
    (b) If the control condition gives a baseline, the black symbols should fall in the middle
(12) Overall results
    • Marginal effect for stress
      9/12 N>V | p=0.07300
    • No effect for vowels
      7/12 N<V | p=0.38721
    • Control condition does not look much like a baseline
(13) What happens if certain participants are excluded?
    • Stress: 11/12 | p=0.00317
    • Vowels: 7/12 | p=0.38721
    • Stress: 9/12 | p=0.07299
    • Vowels: 6/12 | p=0.61279
    (a) Vocab quiz might help diagnose which participants were paying more attention during word learning
    (b) Excluding the fastest participants not useful?

IV. Discussion
(14) Stronger effect for stress than for vowels
    (a) Methodological, or meaningful?
    (b) Related to N=trochee bias for English? (Kelly 1992)
(15) If control condition not a real baseline, how to measure effect size for N vs. V?
(16) What is the right way to interpret lab-learning results, given the nature of the training set? (Modifications?)

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