

Bob or Bop? A Phonological Investigation into the Markedness Differential Hypothesis and Subset Principle

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Contextualizing the study

- ▶ **The field of second language acquisition (SLA) is**
 - ▶ “the attempt to understand the processes underlying the learning and use of a second language” (Gass, Behney, & Plonsky, 2013, p. 4)
 - ▶ Guided by several major approaches
- ▶ **Universal Grammar (UG)**
 - ▶ “The theory underlying UG assumes that language consists of a set of abstract principles that characterize core grammars of all natural languages” (Gass, Behney, & Plonsky, 2013, p. 160).
 - ▶ Invariable principles, variable parameters



Two approaches to parameter resetting

- ▶ The Markedness Differential Hypothesis (MDH) and Subset Principle (SP) offer two conflicting perspectives
- ▶ Interestingly, few studies have compared MDH and SP directly

Two approaches, continued

- ▶ Briefly, MDH, proposed by Fred Eckman in 1977, predicts that parameter resetting will be easier for learners who are moving from a more marked to less marked form
- ▶ SP, however, predicts that learners resetting from a subset (less marked) to superset (more marked) parameter will encounter less difficulty than superset to subset (O'Grady, Dobrovolsky, & Aronoff, 1997)



My guiding question

- ▶ Of these two conflicting predictions, which can best account for the directionality of difficulty learners encounter when resetting their parameters?
 - ▶ To examine this question, production of word-final voiced obstruent stops /b, d, g/ and fricatives /v, z/ by Indonesian learners of English was examined
 - ▶ Indonesian does not have voice contrasts in word-final positions (Andi-Pallawa & Alam, 2013); according to the Voice Contrast Hierarchy (VCH) (Eckman, 1977), English is more marked in this regard
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Prediction

- ▶ Based on previous studies of VCH and a deficit of research on SP and phonology, I hypothesized that MDH would be better able to explain the acquisition pattern of my subjects

Methodology

▶ Participants

- ▶ Eight adult Indonesian learners of English
- ▶ Three men, five women
- ▶ Unspecified proficiency levels
 - ▶ Age of onset: between 7 and 14 years
 - ▶ English learning environment: academic

▶ Procedure

- ▶ Participants read a short passage in English
- ▶ Speakers recorded individually in a quiet room
- ▶ My focus: word-final voiced obstruent stops /b, d, g/ and fricatives /v, z/



| Word | [+voice] | [-voice] | Deleted |
|------------|-----------|-----------|-----------|
| please | 1 (12.5%) | 7 (87.5%) | 0 |
| these | 1 (12.5%) | 7 (87.5%) | 0 |
| things (a) | 1 (12.5%) | 5 (62.5%) | 2 (25%) |
| things (b) | 2 (25%) | 4 (50%) | 2 (25%) |
| spoons | 2 (25%) | 5 (62.5%) | 1 (12.5%) |
| peas | 1 (12.5%) | 7 (87.5%) | 0 |
| five | 2 (25%) | 6 (75%) | 0 |
| slabs | 2 (25%) | 5 (62.5%) | 1 (12.5%) |
| cheese | 4 (50%) | 4 (50%) | 0 |
| Bob | 4 (50%) | 2 (25%) | 2 (25%) |
| l | 7 (87.5%) | 1 (12.5%) | 0 |

Results

▶ Voicing

- ▶ Correct production the majority of the time in words with voiced obstruent stops /b/, /d/, /g/ in words *Bob*, *need*, *red*, *frog*
- ▶ Correct production half the time with fricative /z/ in word *cheese* and stop /g/ in *big*

▶ Devoicing

- ▶ Fricative /z/ most difficult
- ▶ When located in consonant cluster, penultimate consonant also devoiced (*slabs* → *slaps*)
- ▶ Fricative /v/ produced as devoiced /f/ 75% of the time

▶ Deletion

- ▶ Deletion of word-final voiced consonants occurred in half of words analyzed
 - ▶ All but two instances occurred with plural –s
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Discussion

- ▶ Results mixed, but suggest that learners did have difficulty resetting their parameters since target-like production was only achieved some of the time
- ▶ Consistent with predictions put forth by MDH, at least on the surface
- ▶ Phonological nature of study adds further considerations
 - ▶ Influence of surrounding phones (devoicing of final consonant cluster in *slabs*)
 - ▶ Perception versus production



Conclusion

- ▶ Though the initial prediction seemed to be borne out in many ways, questions still remain
 - ▶ Study only examined one phonological parameter
 - ▶ Some of the strongest evidence for SP is the pro-drop parameter, which requires resetting of syntactic rather than phonological parameters
 - ▶ Could these two hypotheses be domain-specific?
 - ▶ Further research into perception and production may clarify why participant responses were so varied
 - ▶ Replicating the study with NES learners of Indonesian could further confirm (or weaken) the results



References

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