Bilingual perception of a third language

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Outline

• Models of L3 acquisition
• Previous L3 VOT studies
• The current study
• Analysis of results
• Implications
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Models of L3 acquisition

Absolute L1 transfer

• Just as in second language acquisition, the L1 will have the strongest influence L3 acquisition

L2 status factor
Bardel & Falk 2007

• L2 acts as a filter to the L1 grammar and will be the strongest source of transfer

Garcia-Mayo 2012; Garcia-Mayo & Rothman 2012
Models of L3 acquisition

**Typological Primacy Model**  
Rothman 2010

- Cross-linguistic influence (CLI) can come from any previously acquired language as constrained by actual or perceived typological proximity

**Recency Effects**  
Hammarberg 2001

- L3 is more likely to be influenced by an L1 or L2 that the speaker more recently used

Bayona 2009; Garcia-Mayo 2012
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Voice Onset Time (VOT)

- Word-initial consonants such as $k/g$
- Timing between the articulation of the consonant and the beginning of vibration of the vocal folds (voicing) associated with a following vowel
- Relatively later vibration of vocal folds is associated with voiceless consonants, and earlier with voiced consonants
Categorical Perception of VOT

- Discrimination
- Identification

Proportion perceived as voiced/different

Timing between consonant and vibration of vocal folds (VOT)
Multilingual VOT

- Languages such as English and Spanish differ in where they place VOT boundaries
- Individuals who are fluent in more than one language can demonstrate multiple boundaries based on language mode
L3 VOT studies

• Previous studies suggest stronger influence from L2 than L1 in L3 VOT production (Llama, Cardoso, & Collins 2010; Wremble 2011)
  • Participants in these studies had some (if limited) previous L3 input
• No studies have investigated initial-state L3 VOT
L3 VOT studies

- The location of the VOT boundary in initial-stage L3 can give evidence for models of third language acquisition

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Initial-stage L3 VOT perception

Listeners

• English/Spanish and Spanish/English late bilinguals

General Procedure

• Three tasks in each of 3 languages: English, Spanish, and Russian
• L3 (Russian) always presented last
• Order of L1 and L2 counterbalanced
• Subjects complete all three tasks in one language before moving to the same tasks in the next language
L3 VOT Perception

Task 1: Inducing a language mode

• Stimuli
  • 15 words and phrases in each of the three languages, containing no stop consonants

• Procedure
  • Stimuli presented over headphones and written on screen
  • Subjects repeat each word or phrase into a microphone
L3 VOT Perception

Task 2: Phoneme identification

• Stimuli
  • Ranges of syllables /ba/-/pa/, /da/-/ta/, and /ga/-/ka/ in 5ms VOT steps

• Procedure
  • Stimuli presented one at a time in random order
  • Subjects identify the initial letter of each stimulus
L3 VOT Perception

Task 3: AX discrimination

• Stimuli
  • Ranges of syllables /ba/-/pa/, /da/-/ta/, and /ga/-/ka/ in 5ms VOT steps

• Procedure
  • Stimuli presented in pairs, with 20ms difference between VOT of two items in pair
  • Subjects indicate whether the two items are the same word or different words
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Results and Analysis

Finding the boundaries

• Results from phoneme identification fit to a logistic curve to determine the boundary point (where the function crosses the 50% mark)
• Boundary confirmed by results from discrimination task
Results and Analysis

- L3 (Russian) appears closer to L2 (Spanish)
- L3 (Russian) appears closer to L1 (Spanish)
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- Future work will examine perceived closeness and order of presentation
Acknowledgments

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References


