When 'ship' is 'sheep' and 'pat' is 'pot'

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Background

•Perceiving and producing certain L2 contrasts can be hard, even for people who have considerable experience with the L2 [1-4].

•What consequences does poor perception of L2 phonetic categories have on learners underlying phonological representations?

- Are the underlying phonological representations for minimally contrastive L2 words distinct for non-native speakers?

Test: 2 Experiments, medium-distance priming, AX discrimination

Pallier et al (2001)

•Spanish-dominant Spanish-Catalan bilinguals treat minimal pairs containing Catalan-specific contrasts as homophones.

•Similarities between these bilinguals' L1 and L2 (i.e. rhythmic class, cognates, etc) may make it difficult for participants to suppress their L1 (Spanish) in the presence of Catalan input.

Design

Can we replicate Pallier et al's finding with highly proficient Spanish-English bilinguals?

Factors

Language Group [NS vs NNS]
Condition [repetition vs. minimal pair]
Contrast [common /o-u/ vs. Eng. specific /a-æ/ & /i-ɪ/]
Lexical Status [word vs. nonword]

Predictions

•If Spanish-English bilinguals have distinct phonological representations for minimal pairs containing English-specific vowel contrasts, then they should show repetition effects for repetitions but not minimal pairs.

•If Spanish-English bilinguals do not have distinct phonological representations for minimal pairs containing English-specific vowel contrasts, then they may show repetitions effects for repetitions as well as minimal pairs distinguished by English-specific categories.

Brown (2000)

•Feature availability predicts segment acquirability

Additional predictions for English-specific contrasts:

/a-æ/ (i.e pot-pat) Spanish lack /æ/, but has feature [+/-bk]
/i-ɪ/ (i.e. sheep-ship) Spanish lacks /ɪ/, as well as [+/-tense/lax] feature

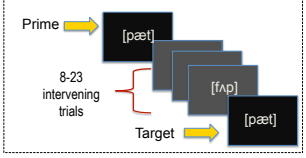
Methods

Experiment 1: Medium-lag repetition priming paradigm

Participants
•28 English native speakers
•28 Spanish-dominant late learners of English

Materials
•48 word pairs (16 pairs per contrasts)
•48 nonword pairs (16 pairs per contrast)
•64 fillers

Procedure
Standard auditory lexical decision task



Materials cont'd
All monosyllabic (CVC) & phonotactically legal in both English and Spanish.

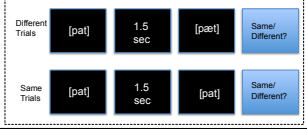
4 counterbalanced lists

Prime	Target
"pat"	"pat"
"pat"	"pot"
"pot"	"pot"
"pot"	"pat"

Experiment 2

Participants
Same as Exp.1

Procedure
Standard AX Discrimination task

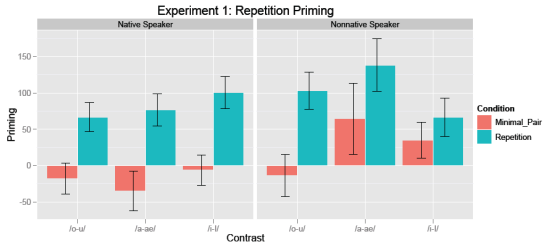


Materials
Same as Exp. 1

Results

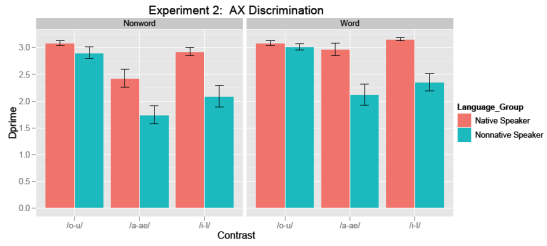
Experiment 1

Main Effect (p<.05): Condition, No significant interaction effects.



Experiment 2

Main Effects (p<.05): Native speakers better than Nonnative speakers, Words better than Nonwords.
Interaction Effects (p<.05): Native speakers equally good /o-u/and /i-ɪ/, worse on /a—æ/.
Nonnative Speakers better on native /o-u/, equally bad on /i-ɪ/and /a—æ/.



Summary of findings

Experiment 1:
Unlike common contrasts, highly proficient Spanish-English bilinguals do not have distinct phonological representations for minimal pairs contrasted by English-specific vowel contrasts.

No difference between English-specific contrasts.
- No reduction of minimal pair priming for the /a-æ/ contrast relative to the /i-ɪ/ contrast.

Experiment 2:
Unlike common contrasts, highly proficient Spanish-English bilinguals do not demonstrate native-like sensitivity for minimal pairs contrasted by English-specific vowel contrasts.

No difference between English-specific contrasts.
- Sensitivity to /a-æ/ contrast not greater than sensitivity to the /i-ɪ/ contrast.

Conclusion

•Consistent with Pallier et al (2001), we show that Highly proficient late learners of English appear to represent difficult non-native contrasts as homophones.

•Suggests findings are generalizable beyond similar L1-L2 pairs.
Spanish-English bilinguals perform much like Spanish-dominant Spanish-Catalan bilinguals of Pallier et al's study.

•No support for Brown's (2000) predictions.
We suspect this may be due to factors external to the experiment.
We are currently considering alternative methods and contrasts for testing Brown's predictions.

References

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Acknowledgements

Thanks to Jeff Lidz, Colin Phillips, Norbert Hornstein, Wing Yee Chow, SoOne Hwang, Matthias Scharinger, Annie Gagliardi, Ewan Dunbar, Pedro Alcocer, Brian Dillon, Dave Kush for thoughtful discussion. This work was supported in part by the University of Maryland's NSF-IGERT training program in language (DGE-0801465, "Biological and Computational Foundations of Language Diversity").