RE-LEARNING HERITAGE LANGUAGES: When L1 becomes L3

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A SPECIAL GROUP OF L3 LEARNERS

- Adult L3 learners who are re-learning their L1: heritage speakers
- A growing trend in American colleges

HERITAGE LANGUAGE SPEAKER

- A person who grows up listening to (and possibly speaking) a home language
- Can understand and maybe even speak it to some degree
- But now feels more at home in another, more dominant language
  - E.g., home language: Spanish
  - dominant language: German

BASELINE

- The language variety that a heritage speaker was exposed to as a child
- Important: baseline is different from the standard for a given language
  - A speaker exposed only Chilean Spanish cannot be expected to know "standard" Spanish
- Heritage speakers are competent in their variety but they are often not literate
A heritage Spanish speaker (born in Colombia) presents instructions on moving objects on a map (using the controlled production methodology developed in our lab—Gomez Gallo et al. 2010)

He wanted—he went—he took from zeh garbage a cigarette, and, and zeh he saw zeh police, said hello, and zeh he, just, em, just, frew zeh garbage can—can, zen, eh, zeh rabbit, em, how it’s called...flowered his flowers, and zeh he wanted to eat him, so he took a rope and went up, an- and zeh rabbit saw him, and he was wil scissors, so he cut ze—cut zeh rope, and zeh he fell into zeh police...’s car.

(So how did he notice the rabbit in the first place?)
Because eh, zeh rabbit wan- eh, wen—because he flowered zeh, his flowers, uh, one, on—two drops went on him.

(So where did the drops go?)
One on his cigarette, and zeh, zeh fire, eh...not burned...blew out? And one on his nose.

### SOME OBSERVATIONS

- Damaged morphology
- Missing functional elements (*a, the, be*)
- Multiple redundancies and repetitions
- Short segments, no embeddings
- Word order different from the baseline
- Problems with discourse coreference and general coherence

### WHY BOTHER WITH HERITAGE LANGUAGES?

- Features of language design are seen more clearly, because the language is stripped of material that is
  - rote-learned
  - driven by tradition
  - enforced by the norm
  - non-compositional
  - irregular
Features of language design are seen more clearly, because the language is stripped of everything that is
- rote-learned
- driven by tradition
- enforced by the norm
- non-compositional
- irregular
- induced by literacy

Heritage languages amplify phenomena and principles operational in the baseline.
Therefore, studying heritage languages is critical to our understanding of natural language design.
Heritage language re-learning offers a new window on L3 learning.

Heritage speakers as L1/L3 learners: Selective advantages
Main reasons for selective advantages
Can L1 → L3 learning be effective?
Overcoming selective disadvantages
Conclusions and outstanding questions
A growing trend in North America: learning one's heritage language as "L2" in college
Particularly apparent in the following languages:
- Korean
- Vietnamese
- Arabic
- Mandarin
- Cantonese
- Russian
- Spanish (less than we would like to see...)

Adult heritage speakers who have not used their heritage language for a while have a distinct advantage in re-learning it
- Phonological advantage
- Lexical advantage

Perception of contrasts in the heritage language
- Hindi—Tess & Werker 1984
- Korean—Oh et al. 2003
- Russian—Makarova 2008

Production of phonological contrasts
- Korean—Oh et al. 2003, Jun et al. 2006
- Spanish—Knightly et al. 2003
- Mandarin—Chang et al. 2009
- Armenian—Godson 2003, 2004
ARE THERE ADVANTAGES IN RE-LEARNING BEYOND PHONOLOGY?

- No apparent advantages
  - Russian, low proficiency: Polinsky 2008
- Small advantages in morphosyntax (Au et al. 2008), for speakers with better proficiency (childhood learners)

INTERIM SUMMARY

- Heritage speakers only show selective advantages in phonology and specific lexical areas
- Why are these advantages selective?

THREE MAIN REASONS FOR SELECTIVE ADVANTAGES

- BASELINE difference: the language taught in the classroom is different from the baseline HSs were exposed to in the home
  - Why are the differences less apparent in phonology?
- INCOMPLETE ACQUISITION: The grammatical system has not been fully learned
- ATTRITION: The grammatical system undergoes attrition

POSSIBLE REASONS FOR SELECTIVITY
The answer depends on the relationship between the baseline a heritage speaker was exposed to and the standard/norm used in an instructional setting:
- Heritage Vietnamese is based on the southern dialect, Standard Vietnamese, on the central
- Heritage Spanish
  - Most of the materials are on Iberian Spanish
  - Heritage Spanish speakers in the US have no connection with that variety

- Understanding where heritage speakers come from
- Engaging heritage speakers in the comparison between their baseline and the classroom standard
  - Establishes regular correspondences between the two varieties
  - Helps develop HSs’ metalinguistic awareness
  - Empowers HSs by recognizing their dialect

- Do child learners (future heritage speakers) and adult heritage speakers have the same morphosyntactic deficits?
  - If a child and an adult deviate from the baseline in the same way, the feature has not been acquired
  - If a child and an adult perform differently, the feature has been acquired but lost/reanalyzed
INCOMPLETE ACQUISITION: A CHILD IN THE HEAD

Adult heritage language = fossilized child language, with the level of fossilization roughly corresponding to the age of interruption?

RUSSIAN NOUNS IN PALATAL CONSONANT (Cʲ)

- Standard child language error:
  - feminine nouns are interpreted as masculine, up to age 7;0 (Gvozdev 1961)
  - independent of frequency

RUSSIAN: CORRECT AGREEMENT WITH FEMININE AND MASCULINE NOUNS IN Cʲ

- Gender of feminine nouns in palatal consonant is acquired late and poses a problem for monolingual and heritage children alike
- This incompletely acquired feature then persists in HL adults
**ADULT HERITAGE GRAMMAR IS DIFFERENT**

Adult incomplete grammar undergoes attrition and is different from the “initial state” represented by heritage child grammar.

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**RELATIVE CLAUSES**

- Acquired early (2;0-2;6)
- Universal preference for subject relatives
- Error rate (wrong head choice), ages 4-6:
  - English: 10%-13% (multiple studies)
  - Indonesian: 13% (Tjung 2006)
  - Mandarin Chinese: 3.9% (Hsu et al. 2006, 2009)
  - Turkish: 4% (Slobin 1985)
  - Russian: 3.7%-4.2% (Fedorova 2005, Polinsky 2008, 2011)

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**OBJECT RELATIVE CLAUSE COMPREHENSION: % TOKENS CORRECT, KOREAN**

- HL children perform on par with age-matched monolingual controls and significantly outperform HL adults
- The syntax of relative clauses undergoes a reanalysis across the lifespan and presents a case of attrition
SEPARATING THE EFFECTS

- Same HL with a different dominant language: minimize the effect of transfer
- Structuring the tests in such a way that we could go against the transfer
  - (Russian relative clauses, Polinsky 2011)

Distinguish heritage speakers from heritage language learners
- So far, no direct comparison between heritage speakers “in the wild” and HL re-learners
  - Many subjects of HL studies are drawn from HL classes (a self-selected group), i.e. L3 learners

CAN L1 → L3 RE-LEARNING BE EFFECTIVE?

OUTLINE OF THE SECTION

- General observations: Short term exposure
  - A case study
  - Emerging imaging results (so far for L2)
- Some practical thoughts: Tools for developing metalinguistic awareness
**A CASE STUDY: POLISH RE-LEARNING**

- Heritage Polish subject, SP
  - Born in Los Angeles, Polish only till 4;5, rapid switch to English by 5;2 (self-reported)
  - Comprehension only at 21; impeded as tested in lexical decision, picture matching, and rating tasks
  - Re-exposure at 24: went to Warsaw for a year

**RE-LEARNING UP... AND DOWN**

**ADOLESCENT SHORT-TERM L2 LEARNERS (Stein et al. 2010)**

- 10 English-speaking learners of German in Switzerland
  - 16.5 – 18 years old (mean 17.5)
- Tested
  - After three weeks (following an introductory course)
  - Five months later
- Test performance correlated with increase in gray matter density

**ADOLESCENT SHORT-TERM L2 LEARNERS (Stein et al. 2010)**

- Increase in gray matter density over five months correlated positively with difference in proficiency (measured by improved test scores) in
  - Left inferior frontal gyrus (IFG)
  - Left anterior temporal lobe (ATL)
Gray matter density in language-related areas increases in as little as five months of instruction in country (even with a huge dialect difference)

This increase correlates with the amount learned

This again suggests brain growth stimulated by effective interaction with the second language
Even a small amount of input in the target language changes its neurological representation and may also have behavioral consequences.

This is just a first step; what we need next:
- Similar study of heritage speakers after re-exposure
- Longitudinal studies

### FROM BEHAVIOR TO BRAIN
- ERP measures: brain/behavior dissociations
- Grammar
- University students learning Spanish for the first time

## TOKOWICZ & MACWHINNEY (2005)
- Violations of tense (similar to English)
  - Su abuela *cocinando/cocina muy bien
  - His grandmother *cooking / cooks very well
- Violations of gender (no parallel in English)
  - Ellos fueron a *un/una fiesta
  - They went to a party
- Violations of number (English has it, but not here)
  - *Ellos niños están jugando
  - The boys are playing
University students again showed a brain/behavior dissociation:
- Their acceptability judgment responses were at chance
- But their brain responses reliably differentiated grammatical from ungrammatical sentences
- In this respect, their brain responses looked like those of native speakers
- This effect can only get stronger in heritage learners
### BUILDING ON HLLS’ ADVANTAGES

- Given cognitive and linguistic advantage enjoyed by HLLs, it is natural to capitalize on these benefits in the classroom

- Capitalizing on linguistic/metalinguistic benefits: introduce linguistic reasoning in the HLL classroom

### LINGUISTIC PROBLEM SETS IN HLL CLASSROOMS

Precedent: Linguistic problem sets have been used in the past to teach other subjects

- Honda & O’Neil (1995) use linguistic exercises to teach the scientific method to middle- and high-school students.
- O’Connor (1980) uses linguistic-based phonology exercises to improve the English pronunciation of non-native English speakers by giving them a fuller sense of the underlying rules governing the patterns and distributions of sounds.

### LINGUISTIC PROBLEM SETS IN HLL CLASSROOMS: GOALS

- To develop and enhance analytical thinking about their language, in and outside the classroom
- To serve as a lead-in to the naturalistic literature, which is crucial in HL classrooms
- To play to the HLLs’ strengths in metalinguistic awareness
- To help HLLs overcome deficits by including them in the exercise material

### LINGUISTIC PROBLEM SETS IN THE TEACHING OF HERITAGE SPANISH


http://www.fas.harvard.edu/~herpro/site/Research.html
WHAT WORKS

- Re-exposure
- Explicit metalinguistic instruction
- How well do they work?
  - Even short term exposure seems to have an effect
  - The perseverance of language improvement is yet to be explored

IN CONCLUSION

- Heritage speakers constitute a special group of L3 learners: their L3 partially overlaps with their L1
- Based on incipient data, heritage language re-learning overlaps with L2 learning only partially
  - Heritage speakers have distinct advantages in phonology and lexicon
  - Heritage speakers have no advantage in morphosyntax

OUTSTANDING QUESTIONS

- Does the knowledge of a heritage language facilitate L3 learning of a closely related language in the same way as L1 and L2 do?
  - e.g., Heritage Japanese speakers learning Korean
- What are similarities and differences between the re-learning of a heritage language and “clean slate” L3 learning?

IN CONCLUSION

- Heritage speakers have no advantage in morphosyntax, which should be the focus of L3 re-learning
- Heritage speakers seem to benefit from explicit metalinguistic instruction