First International Conference on Heritage/Community Languages

Why bother with heritage speakers?

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Which heritage speakers?

• Broad definition: language learners with a heritage motivation driven by their family history, cultural background, etc.

• Narrow definition: speakers who grew up exposed to a given language and may be relearning it later in life
WHY BOTHER WITH HERITAGE SPEAKERS?

• They know very little and they will never be as good as true native speakers; no need to spend time on them

• They are good enough, definitely better than L2 learners; no need to spend time on them
MAIN POINTS FOR TODAY

• Heritage speakers have a number of advantages and with some effort can be brought to a near-native level

• but in order to do that, we need to know what it is that they are missing
HERITAGE SPEAKERS CAN BECOME (NEAR-)NATIVE SPEAKERS
• Heritage speakers are bilinguals
• Heritage speakers need more time to become better bilinguals
Heritage speakers have all the advantages of bilingualism

- Linguistic and metalinguistic benefits
- General cognitive benefits
- Less likelihood of dementia
  (Kave 2008; Bialystok 2008)
- Access to multiple cultures
- Future advantage in the job market
LINGUISTIC BENEFITS

- Notice language differences and think more about how language works
- Pay attention to systematic differences
- Have good word-concept differentiation
- Have advantage in L3 learning
- Have an easier and faster time learning to read
FROM LINGUISTIC BENEFITS TO COGNITIVE BENEFITS

Recent findings suggest that switching between languages does not affect language areas, but parts of the brain associated with executive control.

Same area is implicated in nonverbal multitasking, thus switching of codes or languages evokes a non-language-specific response.

(Abutalebi & Green 2008)
DORSO-LATERAL PREFRONTAL CORTEX
COGNITIVE BENEFITS

- Advantages in executive control:
  - Switching between tasks and between languages
  - Flexible reasoning
- These advantages persist over the lifespan even if a second language is not used

(Bialystok & Senman 2004)
EXAMPLE: BABIES IN TRIESTE

(Kovacs & Mehler 2009)

- Three groups of 7-mo olds: monolingual Italian, monolingual Slovenian, bilingual Italian-Slovenian
- Habituation: a puppet appears on the left saying some made up words
- Change: at some point, the puppet's location changes
- Bilingual babies are significantly faster at adapting to the new condition
EXAMPLE: SUN AND MOON

• Suppose we all get together and decide to call the sun the moon, and the moon the sun. What will be in the sky when we go to bed at night?
• The sun.

• Bilingual children are better at flexible reasoning because they understand that only the names changed.
METALINGUISTIC AWARENESS

Unconsciously, we are aware of the structure of our language.

Metalinguistic awareness allows us to make this knowledge more explicit.

Balanced bilinguals are known to be more aware of language differences and structures than monolinguals.

Heritage speakers often need an extra push to activate such awareness, but it is already there.
**BY WAY OF ILLUSTRATION: wanna**

When do you want to be taken home? →
*When do you wanna be taken home?*

Which driver do you want to take you home? →
*Which driver do you wanna take you home?*
wanna

English speaking children have the awareness of wanna contraction as early as 2;6

Crain 1991: a child helps the experimenter talk to a puppet which is too timid to talk to an adult
This bear looks hungry. I bet he could eat something. Ask Bear what he wants.

What do you wanna eat?
Adult: The bear decides who does what. One of the puppets goes for a walk, one gets to take a nap, and one gets to eat a cookie. So one gets to take a walk. Ask Bear who he wants.

Child: What do you want to take a walk?
wanna KNOWLEDGE AT 3:0

What do you wanna eat? 56%
Who do you wanna walk? 0%
## Heritage Speakers Need More Time

<table>
<thead>
<tr>
<th></th>
<th>Child learner</th>
<th>College language class learner</th>
</tr>
</thead>
<tbody>
<tr>
<td>Utterances/day</td>
<td>5,000</td>
<td>400 (in class?)</td>
</tr>
<tr>
<td>Utterances over a year</td>
<td>Over a million</td>
<td></td>
</tr>
</tbody>
</table>

How many hours of HL exposure does this person have?
SO MANY THINGS TO LEARN, SO LITTLE TIME

Making choices in what needs to be taught to heritage speakers

• Building on what they have—developing metalinguistic awareness

• Filling in what they don't have—we need to know what they are missing
WHAT IS MISSING?
BY WAY OF EXERCISE

The woman who was seen by my neighbor that stopped by last night speaks Spanish
  – The woman stopped by
  – The neighbor stopped by
The woman who was seen by my neighbor that stopped by last night speaks Spanish
  – The woman stopped by
  – The neighbor stopped by

La donna fermata dalla vicina che e' venuta a farmi visita ieri parla spagnolo
  – The woman stopped by
  – The neighbor stopped by
BY WAY OF EXERCISE

The woman who was seen by my neighbor that stopped by last night speaks Spanish
  – The woman stopped by
  – The neighbor stopped by

La donna fermata dal vicino che e' venuto a farmi visita ieri parla spagnolo
  – The woman stopped by
  – The neighbor stopped by
BY WAY OF EXERCISE

La donna fermata dal vicino che e' venuto a farmi visita ieri parla spagnolo

– The neighbor stopped by
The woman who was seen by my neighbor that stopped by last night speaks Spanish
- The woman stopped by
- The neighbor stopped by

La donna fermata dal vicino che e' venuta a farmi visita ieri parla spagnolo
- The woman stopped by
- The neighbor stopped by
La donna fermata dal vicino che e' venuta a farmi visita ieri parla spagnolo

– The woman stopped by
WHAT WAS THIS ABOUT?

Maintaining a long-distance dependency
  – Structure: recognizing an antecedent—gap relationship
  – Memory: holding the antecedent in working memory

Admitting ambiguity and complexity
  – Resolving the ambiguity with the help from small details
Small things have a big role—the ending on the Italian participle was all that one needed to resolve the ambiguity.

Small things are functional elements that tie big things together.
MISSING PIECES

Heritage speakers don’t notice the small stuff and pay dearly for that:

• They have relatively poor control of morphology
• The morphological deficits are both in production and comprehension
DO HERITAGE SPEAKERS PRODUCE MORPHOLOGY?

Montrul and Bowles 2008, Montrul 2008: heritage speakers of Spanish have a problem with a personal

They do not seem to have a problem with heavier prepositions and particles
DO HERITAGE SPEAKERS HEAR MORPHOLOGY?

Sekerina 2005: eye-tracking study of structural ambiguities in Russian monolinguals and heritage speakers
DO HERITAGE SPEAKERS HEAR MORPHOLOGY?

Put the horse that’s on the plate in the box

Put the horse on the plate in the box
DO HERITAGE SPEAKERS HEAR MORPHOLOGY?

Položite lošadku na tarelku i v korobku

*put* horsey. *on to the* *and* *Into the box*

Položite lošadku na tarelke v korobku

*put* horsey. *on the plate* *Into the box*
DO HERITAGE SPEAKERS HEAR MORPHOLOGY?

Heritage speakers’ adversaries:

• Inflectional endings
• Light connectors such as *i, a*, etc.
• functional elements in general
DO HERITAGE SPEAKERS HEAR MORPHOLOGY?

Polinsky 2007: heritage speakers of Russian do not recognize gender agreement endings in adjective and ignore word-final gender cues on nouns;

– the sensitivity deteriorates when the endings are unstressed
– end-stressed neuter nouns are preserved at about 70%, end-unstressed neuter nouns are reanalyzed as feminines
KOREAN DOUBLE NOMINATIVE

Cascading effects: Korean double nominative

Minswu-ka chinku-ka khu-ta
Minswu-NOM friend-NOM big-DEC
‘Minswu’s friends are tall.’

The structure requires semantic (and syntactic) subordination:

Minswu-uy chinku-ka khu-ta
M-GEN friend-NOM big-DEC
Instead of interpreting the structure as subordinating, the subjects interpret it as coordinate (‘Minswu and friends are tall’), thus:

\[
\begin{align*}
X\text{-}ka & \ Y\text{-}ka \quad \Rightarrow \quad X\text{-}uy & \ Y\text{-}ka \\
X\text{-}ka & \ Y\text{-}ka \quad \Rightarrow \quad X\text{-}kwa & \ Y
\end{align*}
\]
MISSING SMALL STUFF

Functional elements ("small stuff") are difficult across a number of populations including heritage speakers

Why? Two possible explanations:

– Salience: they just don’t notice it
– Lack of automatic access: they have no time to process it and therefore ignore it
MISSING SMALL STUFF

In either case, heritage speakers show incomplete acquisition of functional elements, including inflectional morphology.

Similar deficits in other populations:
- young L1 learners
- speech impaired subjects
- aphasics
CONSEQUENCES

Morphological deficits force speakers into the easiest parsing available:

– Default parsing (pragmatically plausible)
  • Usually works but breaks down under ambiguity….

– First pass parsing (subject and predicate division without further subdivisions)
FIRST PASS PARSING

Subject

VP

DONE!
THE NEXT BIG QUESTION

Does shallow parsing lead to
true structural deficits
or just to the appearance of such deficits?
ADDRESSING THE BIG QUESTION

• optimize the conditions under which heritage speakers have to perform (e.g., give them more time, give them attentional support)
• degrade the conditions under which the controls (baseline speakers) have to perform (e.g., less time, noise, unrelated stressors)
• if there is an improvement for heritage speakers, then this is a timing problem
ADDRESSING THE BIG QUESTION

• pay more attention to comprehension
  • it is easy to focus on production errors
  • it is tempting to think that heritage speakers understand everything

• compare baseline and heritage languages with little/no morphology
SOME INITIAL EVIDENCE

... that heritage speakers’ performance does not improve under optimized conditions:

• Classifiers
• Relative clauses
• Lexical category recognition
• Reinterpretation of ambiguous case forms
Chinese classifiers

Zhangsan ba na-san-\textbf{ben/pian/ke} Zhangsan that three-\textbf{CL}book/\textbf{CL}article/\textbf{CL}tree houhoude shuxue \textbf{shu} buxiaoxin nong-zang-le thick math \textbf{book} by-accident make-dirty

‘Zhang ruined those three thick math books by accident.’

(Xiang, Polinsky, Zhang, in progress)
CLASSIFIERS:
ADULT VS. CHILD HERITAGE SPEAKER

N=21

N=17
RUSSIAN RELATIVE CLAUSES

sobaka₁ [kotoraja ₪ dogonjaet košku]
‘the dog that is chasing the cat’
OBJECT RELATIVE CLAUSE COMPREHENSION: TOKENS CORRECT

N=18/group

* p < .005
SOME PRELIMINARY ANSWERS

At least on some tasks, performance in adults does not improve under optimized conditions.

What starts out as an incompletely acquired system undergoes subsequent reanalysis and develops into a divergent grammar.
HERITAGE LANGUAGE ≠ FOSSILIZED CHILD LANGUAGE

Hypothesis: Adult heritage grammar = fossilized child language, with the level of fossilization roughly corresponding to the age of interruption.
WHERE DOES ADULT HERITAGE GRAMMAR COME FROM?

dult incomplete grammar undergoes reanalysis over the lifespan, based on the “reduced” evidence available to the heritage speaker.
ARE HERITAGE LANGUAGES WITHOUT MORPHOLOGY SAFE?
HERITAGE MANDARIN

• Classifiers, esp. at a distance
• Wrong placement of aspect markers
• Word order:

妈妈 切 西瓜 用 刀
mama qie xigua yong dao
mom cut water-melon use knife
Mom cuts water-melon with a knife.

(ongoing work by Boyan Zhang, Harvard U)
Okay, everybody always thought like I grown up in States, but actually no. I was born in States, and when I was four I moved back to Thailand with parents and I grown up in Thailand. So I definitely Thai. Everything, the culture, everything Thai. But I also know also American culture also because part of my family also in L.A.
SOME OBSERVATIONS

- High fluency...
- Damaged morphology
- Missing functional elements
- Multiple redundancies and repetitions
- Short segments, no embeddings
- Word order different from the baseline
- Problems with discontinuous constituents
If Heritage Mandarin and Heritage English are any indication, languages with little or no morphology also show attrition and reanalysis effects
INTERIM CONCLUSION

Heritage speakers show recurrent deficits in functional elements (morphology, ordering)

These deficits start appearing as heritage speakers overlook "small details"

but they gradually accumulate to such an extent that they force a grammatical reanalysis
Linguist’s question: what determines the shape of the divergent grammar in adult heritage speakers?

Educator’s question: if we know what is different or missing, can we change or bring it back?
WHY BOTHER WITH HERITAGE SPEAKERS?

Because if we give them enough exposure early enough they won’t develop a divergent grammar

What if they don’t get enough exposure to their baseline language early enough?
They still have significant cognitive and linguistic advantage

Understanding heritage speakers' deficits will allow us to address them more consistently

Understanding what heritage speakers do well will allow us to enhance their motivation
BACK TO OUR STARTING POINT

• Heritage speakers have advantages of other early bilinguals but they need more exposure

• Even passive exposure to heritage language (overhearing) is important because the amount of exposure matters
BACK TO OUR STARTING POINT

• Early exposure to heritage language is particularly important—it can happen before the divergent grammar is set

• Promoting heritage language teaching at school level is crucial for language planning and policies
PLEASE SPEND TIME ON HERITAGE SPEAKERS!

THANK YOU!