Aspectual Interpretations Across Generations: Pragmatically Conditioned Imperfectives in Heritage Russian

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Heritage grammars: The “Jazzy” area in linguistic research

- “divergent”, “reduced”, “incomplete” linguistic systems
- principled and rule-governed differences from the corresponding full-fledged ‘baseline’ varieties
- in measuring differences, emphasis tends to be placed on production errors
  - what do HS do incorrectly from the point of view of the baseline norm
  - errors as signs of restructuring
Heritage speakers (HS) as imperfect speakers

- “Loss of language-specific morphosyntactic structures, as well as the lexicon, is a hallmark of a ‘heritage language’” (Bar-Shalom and Zaretsky, 2008: 281)

- Yet, the heritage continuum (Polinsky, 1996, 1997; Polinsky and Kagan, 2007; cf. Silva-Corvalán, 1994) includes acrolectal (advanced, fluent) speakers
  - cf. creole continuum, a union comprised of related linguistic varieties (Bickerton, 1977: 49)

- \{ basilectal – mesolectal – acrolectal \} baseline
- Acrolectal HS: high-proficiency speakers, maximally close to a competent (full) native speaker
- Mesolectal HS: intermediate proficiency, middle of the spectrum
- Basilectal HS: lowest-proficiency speakers, maximally removed from native attainment
  - exhibit most dramatic surface deviations from the baseline
  - ‘ideal’ subjects for linguistic research
Acrolectal speakers: the phantom of the heritage continuum

- **Acrolectal HS**: high-proficiency speakers, maximally close to a competent (full) native speaker
- **Mesolectal HS**: intermediate proficiency, middle of the spectrum
- **Basilectal HS**: lowest-proficiency speakers, maximally removed from native attainment
  - exhibit most dramatic surface deviations from the baseline
  - ‘ideal’ subjects for linguistic research
Today, we will…

- be interested in **covert restructuring** – a systematic reorganization not manifested in overt production errors
- … but one that may yield principled and measurable shifts in the linguistic system overall
- focus on acrolectal speakers (no errors with aspect)
  - (i) consider data from Russian speakers in Russia (RR) to establish areas of convergence and divergence b/w the two aspectual systems
  - (ii) consider data from bilingual Russian-English speakers (including parents of heritage speakers) who arrived to the US as adults to evaluate the role of the linguistic input in aspectual restructuring
Covert Restructuring

- may not be easily detectible in spontaneous production
- may be manifested in emerging restrictions on the range of available linguistic options, distributional properties, rule-like preferences
- methodologically, involves evaluation of particular linguistic forms relative to contexts in which they do and do not occur
- particularly promising area of research with high-proficiency heritage speakers, often otherwise dismissed as target-like (in research but also the classroom setting)
A subset-superset relationship

Baseline Grammar

Heritage Grammar
WHAT WE ALREADY KNOW ABOUT ASPECT IN HERITAGE RUSSIAN
Aspect in HR: what we know

- Existing studies: focus on the lower end of the proficiency continuum (persistent errors with aspect)
- Polinsky (1996, 1997, 2009); Pereltsvaig (2002, 2007): the PFV-IMP opposition is lost in HR; verbs are retained in one form: either invariably PFV or invariably IMP (frequency or root semantics)
- No PFV-IMP aspectual system as such (“Without Aspect”), but aspectual contrasts may be expressed by other means (e.g., periphrastic constructions, light verbs BE/BECOME)
Bar-Shalom and Zaretsky (2008) challenge the lexicalization hypothesis for HR

- Investigate the use of aspectual forms in storytelling (15 HS compared to age-matched monolinguals)
- Main finding: no differences between monolingual and heritage speakers on aspect
- Numerous lexical and morphosyntactic errors, but no aspectual errors (semantically or derivationally)
- Explanation: the higher end of the proficiency continuum is not affected by the restructuring of aspect; “preservation” of the aspectual system.
Summary so far

- Basilectal varieties (examined most extensively) are characterized by **a total loss** of PFV-IMP opposition; verbs no longer stored as aspectual pairs.

- Acrolectal speakers exhibit **fully target-like** behavior with respect to aspectual marking, measured by absence of overt errors in production.
  - Low-proficiency HS ............ High-proficiency HS
    - [total loss of aspect] [total preservation of aspect]
Questions

- If a continuum is “a constant succession of restructurings of the original system” (Bickerton, 1977), then…
- How does the reorganization of the aspectual system proceed from a total lack of errors to a complete disappearance of aspect as a category?
- Is error-analysis the right approach for acrolectal speakers? I.e., is the aspectual system in these varieties fully equivalent to the corresponding baseline system, or could there be signs of covert reorganization, not (yet) manifested in errors?
- Answers could be important for determining the mechanism, nature, and directionality of grammatical development in a HLA context across the sectors of the continuum.
Empirical Data

- Advanced heritage speakers (no errors with aspect, no/few errors on other structural variables incl. case, gender, number, agreement)

- Demographic data:
  - Heritage speakers (HR): N = 23, mean age = 21, mean age of arrival to the US = 5.5, time in the US = 15.9, mean Russian use 23%, tested in the US
  - Control group (RR): N = 22, mean age = 30, mean Russian use 100%, tested in Russia

- 3 experimental tasks
  - Production: sentence construction
  - Scaled acceptability judgments
  - Interpretation (forced choice matching)
Aspect

- “Studying aspect [is like entering] a dark and savage forest full of obstacles, pitfalls, and mazes which have trapped most of those who have ventured into this much explored but poorly mapped territory…” (Binnick, 1991: 135).

- Scholar beware!
The preview

- Restructuring **selectively** affects the aspectual system instantiated in acrolectal varieties of HR (locus of change: **the syntax-pragmatics interface**, aka the c-domain)
- In the absence of errors with aspect, HS differ on use, acceptability ratings, and accuracy of interpretation of the **pragmatically conditioned IMP** with completed actions (total single events)
- This leads to a gradual shift in the type of aspectual opposition from **privative** (baseline) to **equipollent** (HR)
Theory of binary oppositions

- **PRIVATIVE opposition** = a binary opposition where one member is **marked** by the presence of a feature and the other member is **unmarked** with respect to that feature.
  - $+A$ vs. $[\text{unspecified value } A, \text{ or } +/- A]$  
    - Slavic aspect as a privative opposition (Jakobson, 1932; 1957; Forsyth, 1970; Comrie, 1976; Binnick, 1991, inter alia)
    - Perfective is defined with respect to totality/completion
    - Imperfective is underspecified: interpretation determined by contextual cues and pragmatic inferences

- **EQUIPOLLENT opposition** = a binary opposition where one member is marked by the **presence** of a feature and the other member is marked by the **absence** of that feature.
  - $+A$ vs. $-A$
Aspect: The ABCs

- **PFV:** *pro-chital*
  - completed event (‘finished reading’)
- **IMP:** *chital*
  - on-going process (PROG) ‘was reading’
  - series of repeated events (HAB) ‘used to read’
  - completed event (various translations depending on context)
Aspect: The ABCs

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  - completed event (various translations depending on context)
Aspectual Competition

- Completed events may be marked with either PFV or IMP, creating conditions for **aspectual competition**
  - I read.PFV *War and Peace* in college.
  - I read.IMP *War and Peace* in college.

- The competition is **contextually resolved** in favor of the IMP when the relevant discourse-pragmatic conditions are met.

- The general-factual IMP (Forsyth, 1970):
  - statement of fact
  - thematicity / backgrounding of the predicate
  - annulled result
Pragmatic Triggers of the IMP (1)

- **Statement of fact**
  - The “declarative” function of the IMP (Forsyth, 1970); “statement of existence” IMP (Leinonen, 1982)
  - E.g., a declaration (assertion) that the action denoted by the predicate did in fact occur.
    - I read.IMP “War and Peace” in college.
Pragmatic Triggers of the IMP (2)

- **Thematicity of the predicate**
  - Theory of information structure (oversimplified): utterances consist of elements that represent **OLD** (presupposed) and **NEW** (asserted) information
    - What did you have for dinner? *I had FISH for dinner.*
    - When did you have fish? *I had fish FOR DINNER.*
    - Who had fish for dinner? *I had fish for dinner.*
  - The IMP form can be used to mark the verb as a thematic (old, presupposed) element in the utterance, when the emphasis (which tends to be on the new stuff) is located elsewhere (cf. Forsyth, 1970; Leinonen, 1982).
A: I went to bed late last night because they were showing a really interesting documentary about WW2. The film ended around midnight.

B: Po kakomu kanalu vy ego smotreli?
    on which channel you it watch.IMP
    ‘Which channel did you watch.IMP it on?’
Annulled result implicature

- aka “reversed action” or “two-way action” (Forsyth, 1970; Leinonen, 1982).
- designates actions with results that have subsequently been “undone”
  - Someone opened the window (pragmatic implicature: it’s currently closed)
General-factual IMP: the vulnerable domain for acrolectal HS

- **PFV:** *pro-chital*
  - completed event (‘finished reading’)

- **IMP:** *chital*
  - on-going process (PROG) ‘was reading’
  - series of repeated events (HAB) ‘used to read’
  - completed event (general-factual)
THE DATA
Experiment 1: Production

• Aspect beyond the verb
  ❖ Recall that previous studies have shown that (non-acrolectal) HR speakers make aspectual choices on a verb-by-verb basis.

Does other material within the sentence, besides the verb itself, have any bearing on the aspectual form?

➢ the VP
➢ the IP
➢ the CP
A bit of theoretical background

- Minimalist assumptions about clause structure (Chomsky, 1995; Rizzi, 1997):
  - $[CP \ [IP \ [VP]]$
- VP + IP = the I-domain (grammatical information within the sentence)
- CP = the C-domain (“closes” the I-domain, i.e. links grammatical information at VP and IP levels to discourse-pragmatic context) (Rizzi, 1997; Platzack, 2001)
- C-group: early L1, L2, SLI, Broca’s aphasia (Avrutin, 1999; Platzack, 2001).
Aspectual computation proceeds in stages

- **VP-level**: Asp. values are calculated syntactically based on the verb and the properties of its direct object, in a Verkuylian system ($\pm SQ = \text{specified quantity}$)
  - $\{\text{read + A BOOK}_{[+SQ]}\} = \text{Telic} \rightarrow \text{PFV}$
  - $\{\text{read + BOOKS}_{[-SQ]}\} = \text{Atelic} \rightarrow \text{IMP}$

- **[+SQ]**: numerals, determiners, quantifiers (*this big table, two letters, a girl with the flower*)
- **[-SQ]**: bare plurals, mass nouns (*tables, milk*)
IP-level: Sentential material can override the contribution of telicity-based VP-level aspect.

Sentential imperfectivizers (... \(\rightarrow\) IMP):
- operators PROG, HAB (de Swart, 1998)
- negation, modals, etc. (see Schoorlemmer, 1995)

Sentential perfectivizers (... \(\rightarrow\) PFV):
- Aspectualizers: modifying (external/superlexical) prefixes above the VP impose a boundary via temporal delimitation (cf. *sing songs* vs. *sing songs for a little while*)
  - e.g., *po-, ot-, za-
CP-level: Discourse-pragmatic and contextual factors come into play

- The general-factual imperfective (… → IMP)
  - statement of fact
  - thematicity/backgrounding
  - reversed action implicature
Experiment 1: Production

• Question: doacrolectal speakers pattern with baseline speakers on all levels?
• Hypotheses and predictions:
  ◦ (i) V-aspect hypothesis: If HS encode aspect on a verb by verb basis, no aspectual variation is expected
  ◦ (ii) VP-aspect hypothesis: If HS are sensitive to VP-level telicity, we expect compositionally telic predicates [+SQ] to occur in the PFV and compositionally atelic predicates [-SQ] in the IMP
  ◦ (iii) Sentential aspect hypothesis (IP and CP levels): if HS are fully target-like, grammatical and pragmatic factors beyond/above the VP should be able to override the contribution of VP-level telicity.
Methodology: sentence construction (N=20)

- Compositionally telic predicates [+SQ]
  - write two letters, drink a glass of wine

- Compositionally atelic predicates [-SQ]
  - write letters, drink milk
The data

- HR: 460 sentences, MLS= 7.08; aspectual errors = 0
- RR: 440 sentences, MLS= 8.3; aspectual errors = 0
- Some sociolinguistic observations: HS remain in their linguistic “comfort zone”
  - thematically, sentences produced by HS revolve around home and family: family members (mothers, fathers, siblings, grandparents) involved in basic everyday activities and domestic routines
  - for comparison, RR sentences show a wider range of contexts and themes: professional activities, references to events at work and school, literary and movie characters, historical figures, events in popular culture, socio-political discourse
Additional observations:

- Few/no grammatical errors, but a range of interesting phenomena can be observed in the HR data:
  - Emergence of overt determiners/ article-like elements
    - Moj otets pokrasil nash dom na proshloj nedele
    - my father painted our house on last week
• Additional observations:
  ◦ Few/no grammatical errors, but a range of interesting phenomena can be observed in the HR data:
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Additional observations:

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  - Emergence of overt determiners/ article-like elements
    - otets pokrasil dom na proshloj nedele
      - my father painted our house on last week
  - Infelicitous use of null/overt subjects
    - Overuse of overt elements (overmarking) – M. Polinsky
    - Overuse of empty elements
Fig. 1  Production: Results (HR)

TELIC VP: [+SQ]

- 18.96%
- 81.04%

ATELIC VP: [-SQ]

- 93.26%
- 6.74%
Fig. 2  Production: Results*

*HR = Heritage Russian, RR = control group

<table>
<thead>
<tr>
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<th>HR</th>
<th>RR</th>
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<td>18.96%</td>
<td>33.98%</td>
</tr>
<tr>
<td>ATELIC</td>
<td>81.04%</td>
<td>66.02%</td>
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IMP

PFV

0% 10% 20% 30% 40% 50% 60% 70% 80% 90% 100%
Fig. 2  Production: Results*

*HR = Heritage Russian, RR = control group

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<td>ATELIC</td>
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<tr>
<td>PFV</td>
<td>6.74%</td>
<td>3.55%</td>
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HR = Heritage Russian, RR = control group
Discussion of Results

- **Atelic condition**
  - no differences (IMP as a marker of VP atelicity)

- **Telic condition**
  - HS exhibit significant reduction in the use of the IMP (one-tailed paired t-test, p < 0.01)

- Recall that IMP in the telic condition can be due to two factors:
  - Grammatical (IP-level) triggers
  - Discourse-pragmatic (CP-level) triggers
Discussion of Results

- Analysis of sentential contexts in which IMP occurred in the telic condition:
  - RR speakers: IP and CP triggers
    - 33.98% IMP = 21.84% (HAB, PROG) + 5.34% (gram.) + 6.80% (general-factual)
  - HR speakers: IP, but no CP triggers
    - 18.96% IMP = 11.85% (HAB, PROG) + 7.11% (gram.)
    - 0% general-factual
Summary

- But wait… could this be an avoidance strategy? Or are we dealing with truly reduced competence?
Exp. 2: Acceptability Ratings

Methodology:
- 10 short stories in Russian, missing verb, two verb forms (PFV and IMP) provided, N=20
- task: rate each candidate on a 4-point scale relative to context: “perfect,” “okay,” “awkward,” “unacceptable”
- condition: telic predicates (completed actions) placed in the context which would favor IMP for pragmatic reasons, resolving competition in favor of IMP
  - statement of fact, thematicity/backgrounding contexts

Predictions: HS will…
- (i) rank the IMP forms lower than the Russian controls
- (ii) rank the PFV forms higher than the Russian controls
Fig. 3  
Scaled judgments: Results (Mean ratings)
Fig. 3  Scaled judgments: Results (Mean ratings)

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<tr>
<td>Rating</td>
<td>2.03</td>
<td>2.24</td>
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<tr>
<td>RR</td>
<td>1.37</td>
<td>2.60</td>
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Discussion

- Aspectual competition does not get resolved for HS in a target-like way; contextual IMP triggers not salient for HS
- **Interface Vulnerability Hypothesis**: Interface domains, and especially the interface b/w syntax and discourse-pragmatics, are more vulnerable in acquisition and attrition (Sorace, 2005; Tsimperi et al., 2004; Tsimperi and Sorace, 2006; Argyri and Sorace, 2007; Rothman, 2009; Sorace and Serratrice, 2009)
- Instability in bilingualism (Hulk and Müller, 2000; Müller and Hulk, 2001; Montrul, 2004);
- Monolingual optionality/variability (Sorace and Serratrice, 2009 and references therein)
  - integrating various types of knowledge across domains: coordination b/w language and external cognitive systems (external interface) is more costly than coordinating b/w language modules (internal interface)
  - cause greater processing difficulties
  - require more linguistic exposure to be acquired
Exp. 3: Aspectual Interpretations

- A comprehension experiment (the reversed action implicature).

- Maxim *bral* knigu v biblioteke.
  
  ‘Maxim got the book from the library’

a. Kniga seichas u Maxima.
  
  ‘The book is now in Maxim’s possession’

b. Kniga seichas v biblioteke.
  
  ‘The book is now at the library’
Exp. 3: Aspectual Interpretations

- A comprehension experiment (the reversed action implicature).
- Maxim бра́л книг ну́ ба́блио́теке.
  ‘Maxim took the book in the library’
  ‘Maxim got the book from the library’

  a. Кни́га сейча́с у Максима.
     ‘The book is now in Maxim’s possession’

  b. Кни́га сейча́с в ба́блио́теке.
     ‘The book is now at the library’
%IMP Interpretations

- RR: 87.50% > HR: 75.66%
- Paired one-tailed t-test p < 0.01
- Reversed action implicatures are less available to HS than to RR speakers (but note that RR are not at 100%)
Important to note....

- Hard vs. soft constraints in linguistics
  - **Hard**: purely structural/syntactic; trigger categorical judgments.
  - **Soft**: involve the mapping between syntax and lexical semantics, syntax and pragmatics, syntax and information structure; are context-dependent; violations result in mild unacceptability and trigger gradient judgments.
- SC are more problematic than HC in advanced grammars
Summary and Discussion

- The general-factual imperfective is the key argument for the privative status of the Russian aspectual opposition
  - IMP: wider contextual distribution
- HR: Statistically significant reduction in the range of discourse-pragmatic functions of IMP
  - Without the general-factual IMP, no contextually resolvable aspectual competition; asp. contrast mediated in the grammar; thus, the aspectual opposition shifts towards the equipollent type
Model of Aspect in Baseline Russian

- A layered structure, with aspectual calculation taking place in three stages: VP, IP, CP

```
Eventuality   VP-Aspect   IP-Aspect   CP-Aspect

Telic → PFV → PFV (default) → PFV (default)

Atelic → IMP → IMP (default) → IMP (pragmatic triggers)

IMP (operators) → IMP (default)

PFV (aspectualizers) → PFV (default)
```
Model of Aspect in Heritage Russian

- Optionality in the C-domain

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<th>VP-Aspect</th>
<th>IP-Aspect</th>
<th>CP-Aspect</th>
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COMPETENCE MEETS PERFORMANCE?

THE ROLE OF LINGUISTIC INPUT IN HLA
Input type in HLA

- C-domain phenomena are sensitive to input, both in terms of quantity and quality (Sorace, 2005; Sorace and Serratrice, 2009, *inter alia*).
- HR input is clearly diminished in *quantity*.
- What about *quality*?
- Primary source of ling. input: parents and Russian speakers in Émigré communities.
- Tsimpli et al., 2004: L1 attrition effects in adults on C-domain properties (null vs. overt pronouns, pre- vs. post-verbal subjects).
### Participants

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<tr>
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<th>Current age (mean)</th>
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<th>MLS</th>
<th>Russian Use (percent)</th>
<th>On a 10-point scale, how well do you....</th>
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<td>21</td>
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<td>16</td>
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Commentaries

“I am a native Russian speaker and I got my college education in Russia, having had intense courses of Russian in the College of Ministry of Foreign Affairs of Russian Federation. Thus, I believe I am a proficient Russian speaker, reader and writer. However, having lived in US for 10 years and having communicated mostly in English, I believe I have lost a lot of my ability to speak properly, my vocabulary is more limited now, though I try to read books in Russian to support it, it has not developed more since I left Russia. I find myself trying to remember simple words that I have forgotten because I have not been using them for a long time. That can be very frustrating and sometimes it makes me stutter! Reading in Russian is not a problem at all. However, my spelling and punctuation are suffering now, since I have not been writing in Russian for a long time, and because I am now more used to American punctuation style, I feel confused about correctness of my punctuation in Russian.”
“Every so often I catch myself using English words in a Russian sentence and/or structuring Russian sentence in English way.”

I'm setting 9 in writing because I may sometimes misspell some words when I'm writing in Russian and because I noticed that I form some sentences in the same manner I would in English.”
“I listen to Russian rock and pop music, and I sometimes read non-fiction in Russian. I rarely get a chance to speak Russian, and I speak with an American accent when I do. I sometimes run into people who are Russian speakers in stores and other places but do not use the Russian language with them unless first addressed/spoken to in Russian. I do speak Russian when I go to a Russian store every once in a while (once or twice a year).
Although I am obviously quite fluent in Russian, as a bilingual person, I have noticed that I have started forgetting Russian words. For example, sometimes I struggle to find the right word. Also, I have noticed that I have been out of touch with the modern Russian culture and thus sometimes I struggle to understand the new generations of Russians because I am not really familiar with their values and beliefs.”
“I speak Russian to my son, who is 2.5. Which makes me feel that it's a bit limited use of Russian, since I am communicating with a child. Also, having lived in US for 10 years, I feel that I have forgotten a lot of words and expressions that I normally would use, and find myself ‘translating’ American expressions from English into Russian, and sometimes I wonder if I speak Russian properly - but I try hard.”
Experiment 1: Production

![Bar chart showing the percentage distributions for different categories in TELIC and ATELIC datasets.](chart.png)
Experiment 1: Production

<table>
<thead>
<tr>
<th></th>
<th>TELIC</th>
<th>ATELIC</th>
</tr>
</thead>
<tbody>
<tr>
<td>HR</td>
<td>81.04%</td>
<td>93.26%</td>
</tr>
<tr>
<td>BR</td>
<td>78.06%</td>
<td>96.65%</td>
</tr>
<tr>
<td>RR</td>
<td>66.02%</td>
<td>96.45%</td>
</tr>
</tbody>
</table>

- **HR**: HR
- **BR**: BR
- **RR**: RR
- **TELIC**: TELIC
- **ATELIC**: ATELIC

**PFV** and **IMP** are represented in the chart.
General-factual IMP:

- HR: 0% < BR: 1.53% < RR: 6.80%
Experiment 2: Ratings

![Graph showing ratings for PFV and IMP](image)
Experiment 3: Interpretations

- HR: 75.66%
- RR: 87.50%
- BR: 90.79%
Summary and Discussion

**PRODUCTION:**
- bilingual speakers diverge from monolinguals and pattern together with heritage speakers

**COMPREHENSION:**
- bilinguals are fully target-like and diverge from the heritage group

In other words, extended exposure to a more dominant language in adulthood does not seem to affect competence, but some restrictions in performance do seem to emerge (reduced repertoire)
**Summary and Discussion**

- Adult L1 attrition and HLA are phenomena with **different linguistic outcomes**:
  - L1 attrition in adulthood **does not affect** linguistic representations, despite a significant reduction in the distributional range of given linguistic forms in production.
  - HLA creates conditions for a **divergent performance** along with a **reduced competence**.
Summary and Discussion

• “Competence meets performance” across generations
  ◦ The contact-based variety of Russian spoken by Émigré speakers is essentially what forms and feeds the linguistic representations formed in a HLA context
  ◦ heritage speakers form mental rules that comprise only a subset of those available to monolingual speakers
Implications

- Adding the acrolectal data to the mix yields possible model of the ‘succession of restructurings’ along the heritage continuum

- Implicational hierarchy:
  - V aspect < VP aspect < IP aspect < CP aspect
  - basilectal mesolectal acrolectal baseline
Meso- and basi-

- **IP-aspect sensitivity (?)**

  - Examples from Polinsky (1996):

    Moj djaja chaston \textit{prijexal} k nam v Brooklyn

    my.NOM uncle.NOM often he.NOM came.PFV to us.DAT in Brooklyn

    ‘My uncle often came to see us in Brooklyn’ (cf. RR \textit{prijezzhal}.IMP ‘came’)

Meso- and basi-

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  - V aspect < VP aspect < IP aspect < CP aspect
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Implications

- Differences between the heritage and baseline grammars do not always lead to overt errors in production (hard to detect)
- Absence of errors is not a guarantee of full convergence with the baseline \(\rightarrow\) methodological implications for future work on HLA, particularly on C-domain phenomena
  - reference
  - pro-drop, ellipsis, etc.
Implications

- **Sources** of heritage speaker competence divergence
  - attrition
  - incomplete acquisition / arrested development
  - influence of the ambient language (English)
  - **linguistic properties of the input:**
    - Rothman (2007), Pires and Rothman (2009) for BP
    - contact-based varieties, not fully equivalent to the monolingual standard often assumed as the baseline
    - input reduced in quantity, but also...
    - quality/range
    - adult attrition as input in HLA
Overall Implications

- **Pedagogical implications**: exposure to contextual factors is crucial for facilitating the acquisition and maintenance of the full range of functions of the IMP in Russian
- In the classrooms, emphasis needed on discourse-pragmatic context, rather than isolated phrases and sentences
- Provide learners with what they don’t get at home
- Corpus of input speech?
- Kim Potowski (Monday): involve parents?
  - HS: “I usually have to remind my parents to speak Russian to keep the language alive in my family”
Thank you!
Mahalo!