



**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)
 - Polinsky and Kagan (2007):
- { 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

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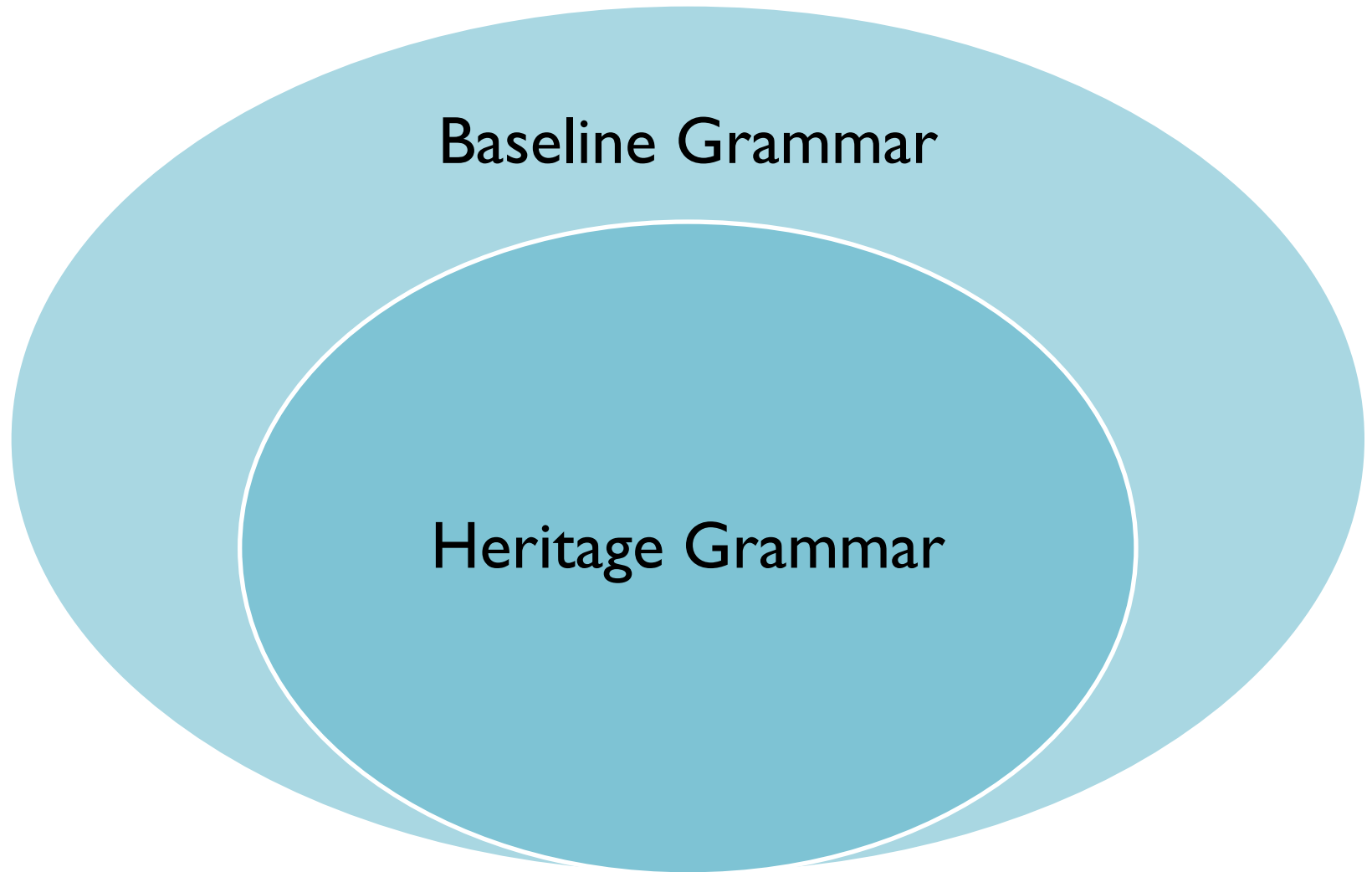
Today, we will...

- 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



Preliminaries



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)

However, ...

- 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. [unspecified value A, 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)

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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 (I)

- **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?'

Pragmatic Triggers of the IMP (3)

- **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 IMP 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

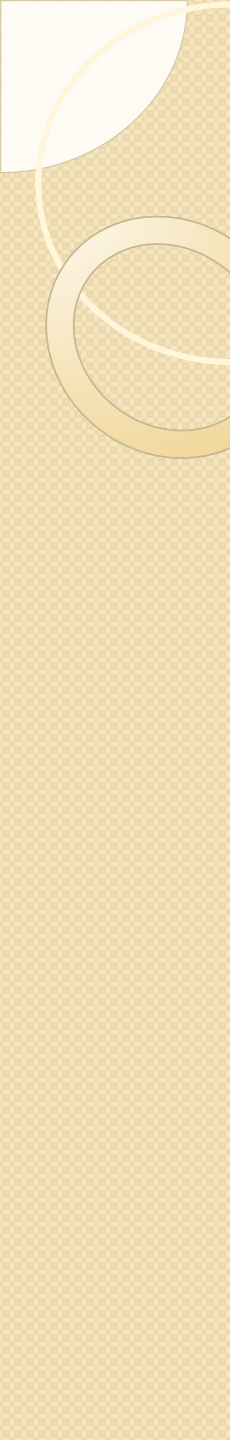
A bit of theoretical background

- 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).

Laleko, 2010

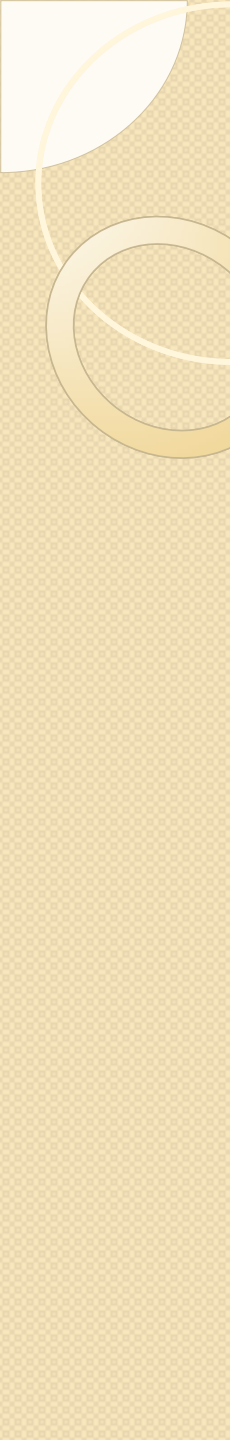
- Aspectual computation proceeds in stages
 - VP-level: Asp. values are calculated syntactically based on the verb and the properties of its direct object, in a Verkuylian system (\pm SQ = specified quantity)
 - { read + A BOOK_[+SQ] } = Telic \rightarrow PFV
 - { read + BOOKS_[-SQ] } = Atelic \rightarrow 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 (... → IMP):
 - operators PROG, HAB (de Swart, 1998)
 - negation, modals, etc. (see Schoorlemmer, 1995)
 - Sentential perfectivizers (... → 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 I: Production

- Question: do acrolectal 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



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otets pokrasil dom na proshloj nedele

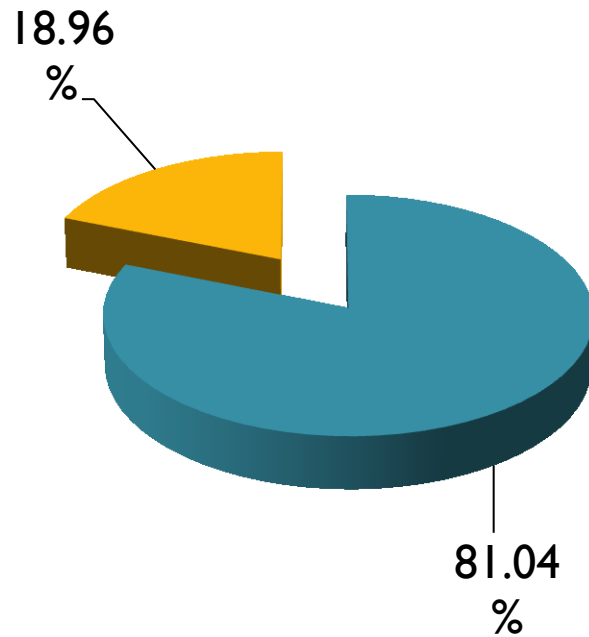
- my father painted our house on last week

- Infelicitous use of null/overt subjects

- Overuse of overt elements (overmarking) – M. Polinsky
- Overuse of empty elements

Fig. I Production: Results (HR)

TELICVP: [+SQ]



ATELICVP: [-SQ]

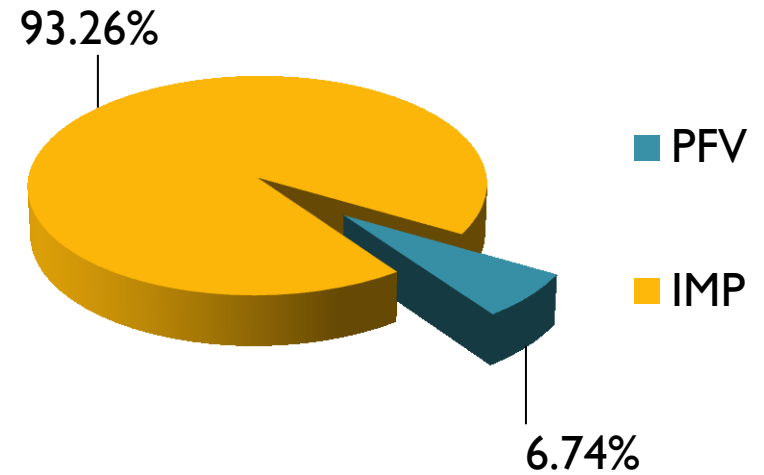


Fig. 2 Production: Results*

*HR = Heritage Russian, RR = control group

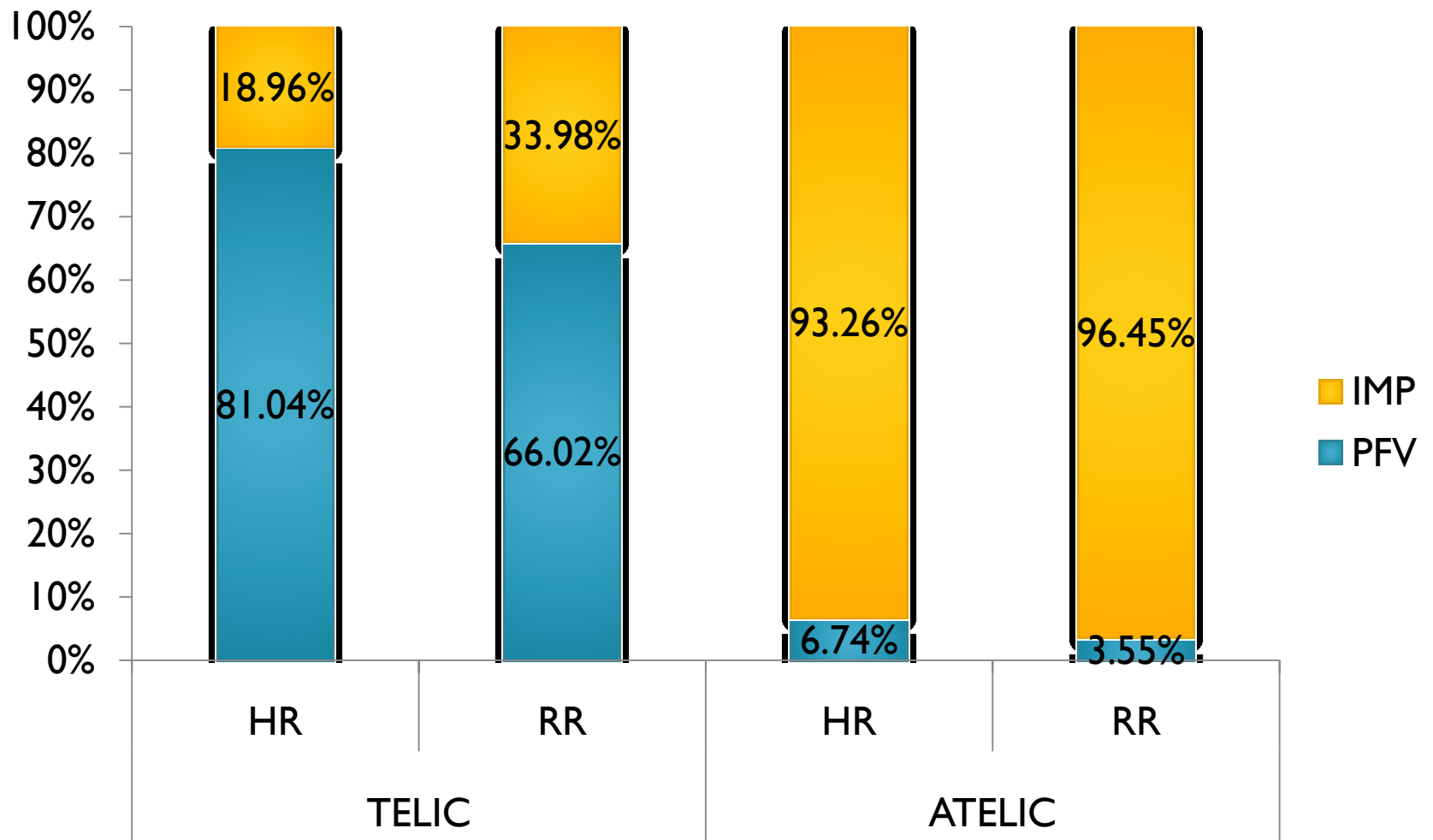
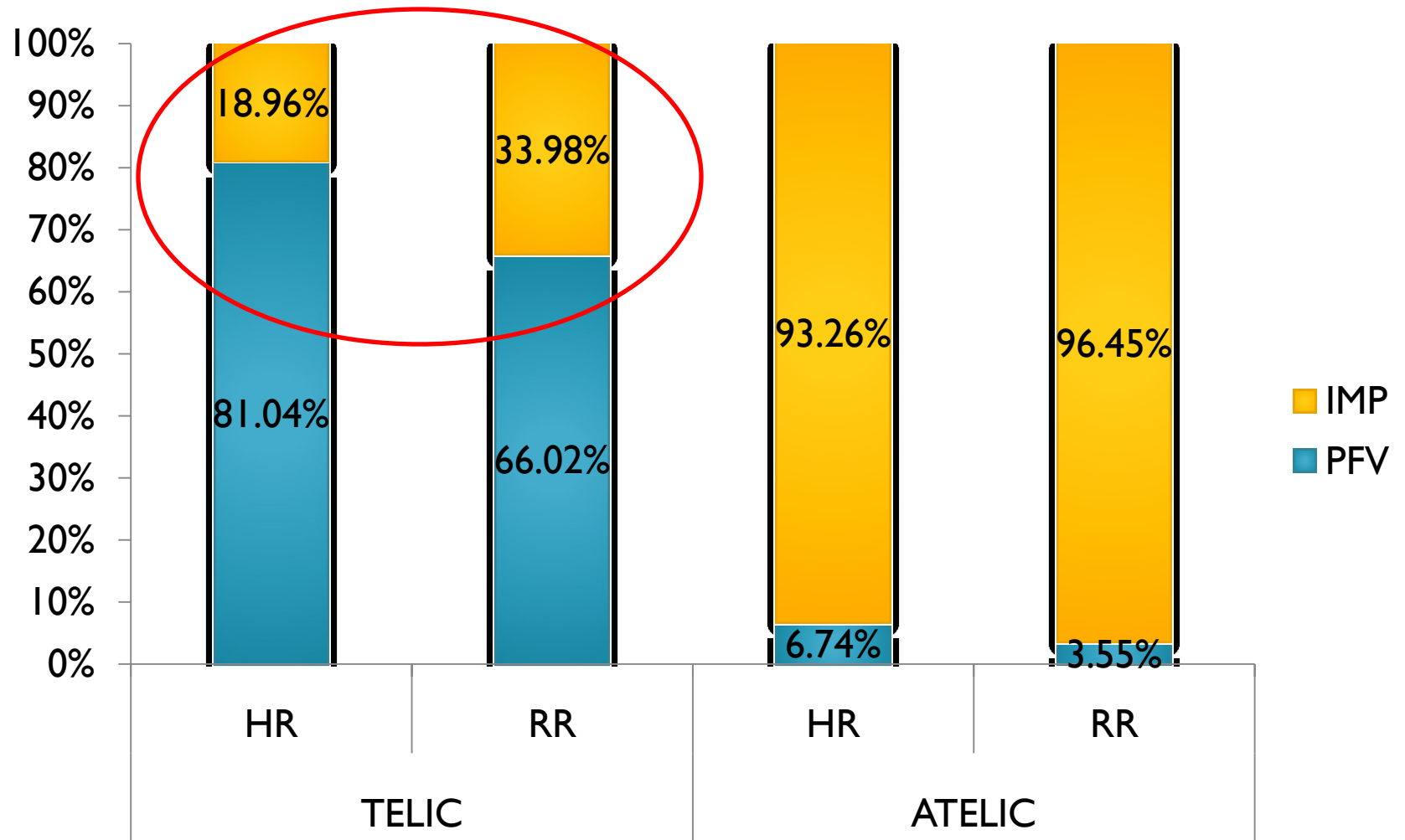


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Discussion of Results

- 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)

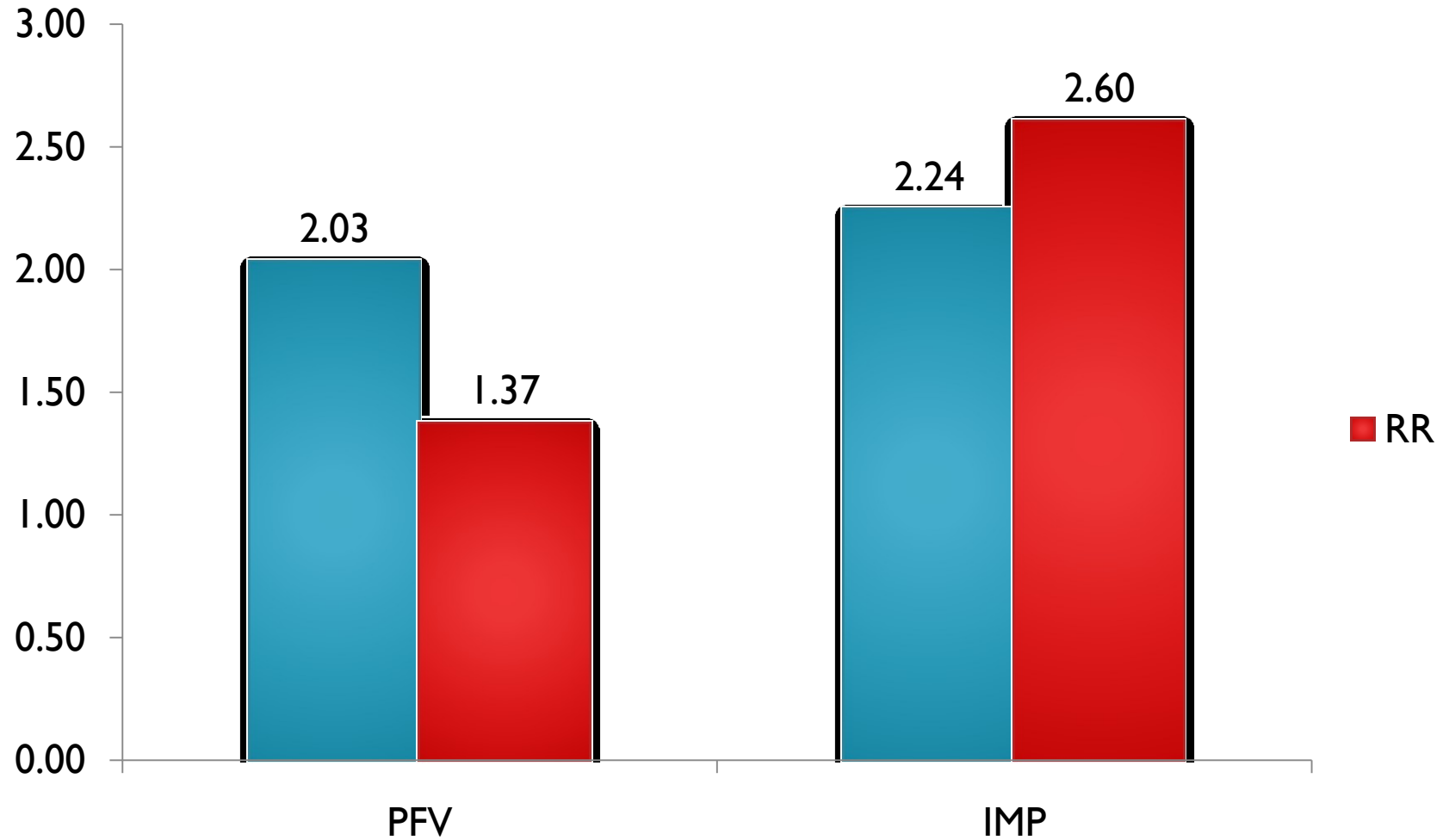
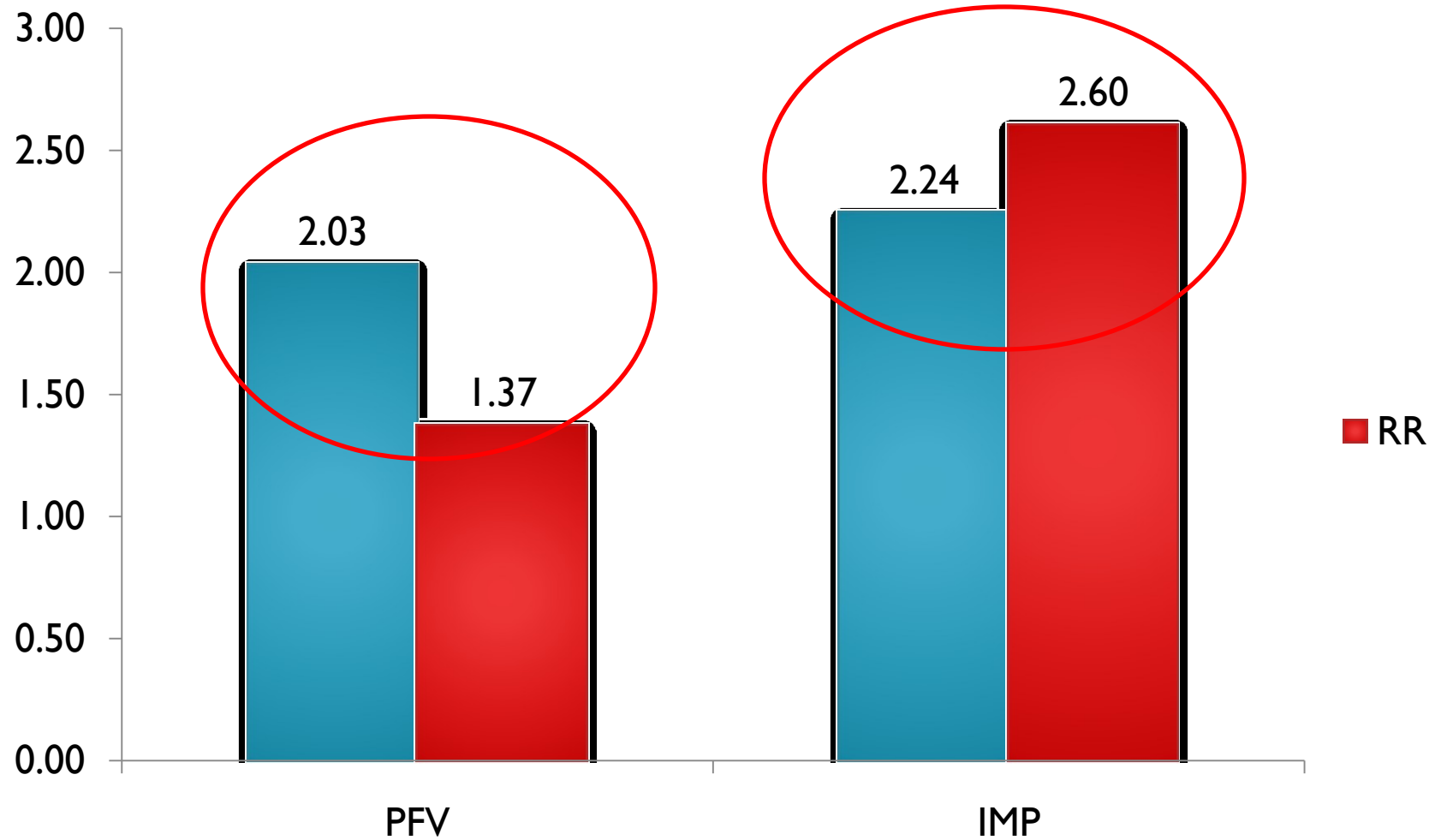


Fig.3 Scaled judgments: Results (Mean ratings)



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; Tsimpli et al., 2004; Tsimpli 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 took.IMP book in library
'Maxim got the book from the library'
 - a. Kniga seichas u Maxima.
book now at Maxim's
'The book is now in Maxim's possession'
 - b. Kniga seichas v biblioteke.
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b. Kniga seichas v biblioteke.
book now in library
'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....

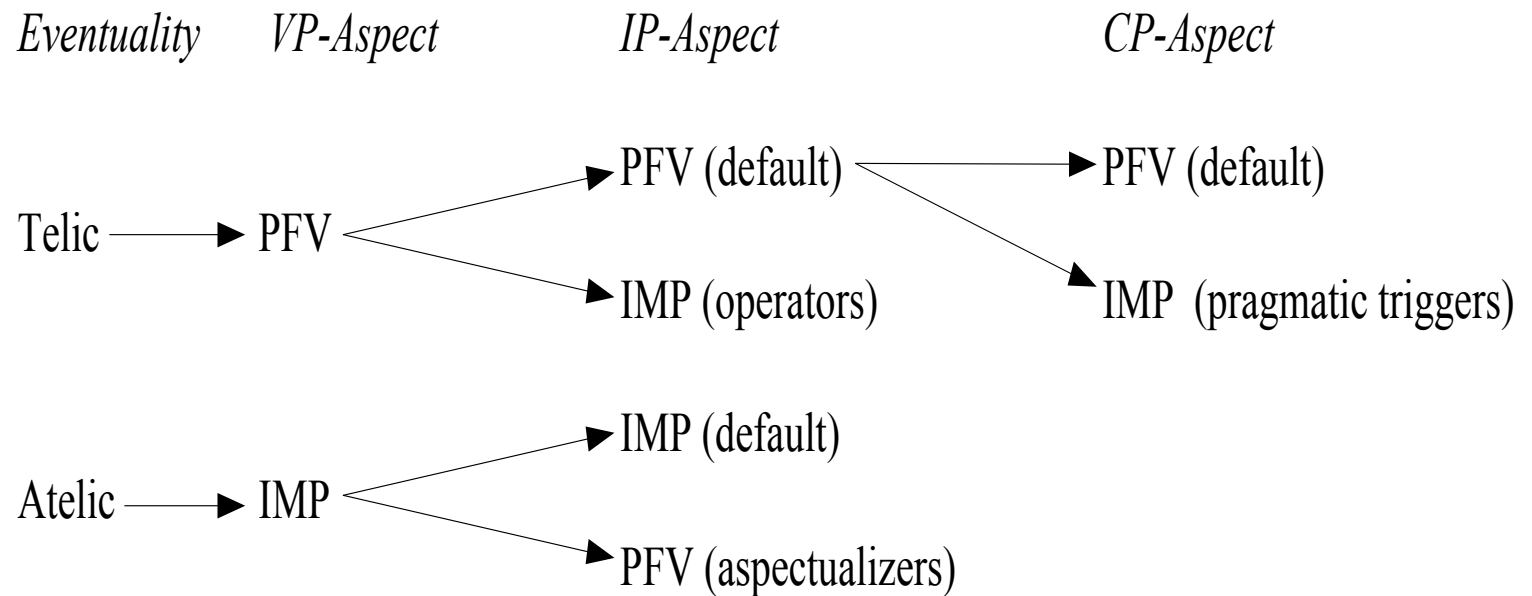
- Sorace and Keller (2005) “Gradience in Linguistic Data”
- Hard vs. soft constraints in linguistics
 - **Hard:** purely structural/syntactic; trigger categorical judgments.
 - **Soft:** involve the mapping between syntax and lexical semantics, syntax and pragmatics, syntax and information structure; 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

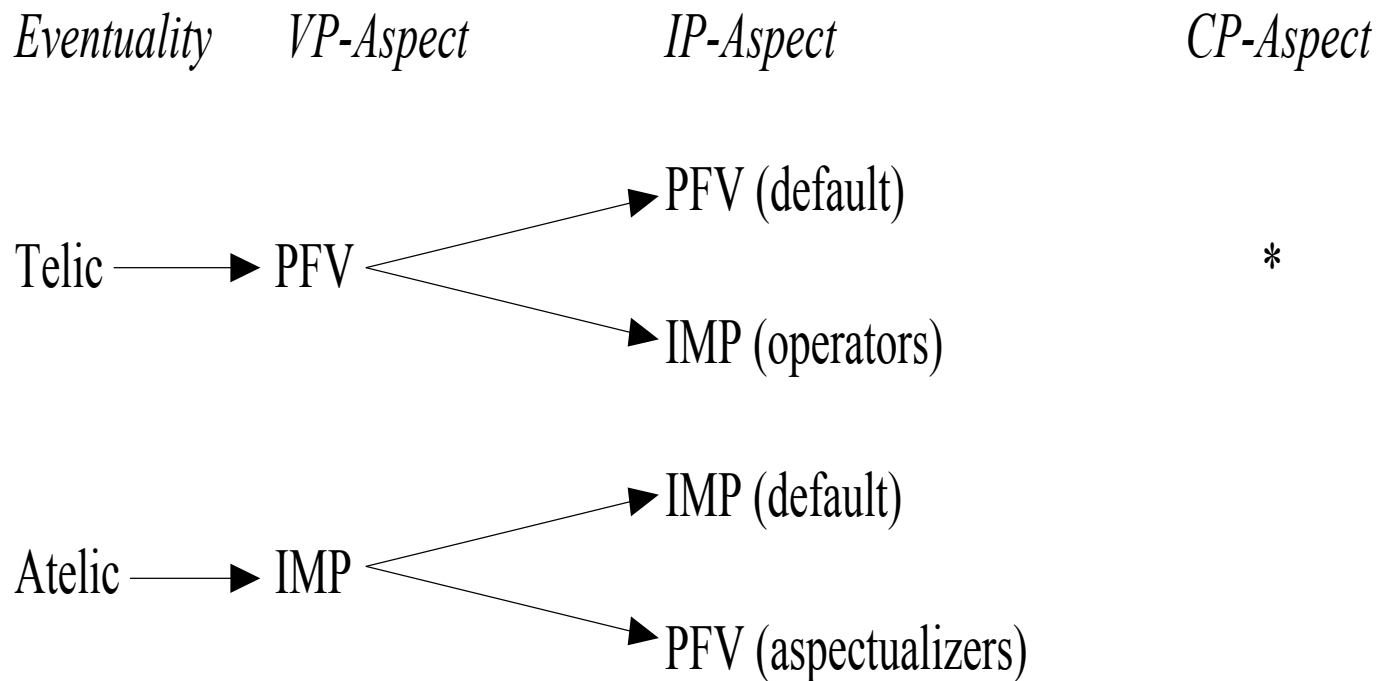
Model of Aspect in Baseline Russian

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



Model of Aspect in Heritage Russian

- Optionality in the C-domain





**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

Speaker Type	N	Current age (mean)	Age of arrival (mean)	Time in US (mean)	MLS	Russian Use (percent)	On a 10-point scale, how well do you....			
							understand spoken Russian	speak Russian	read in Russian	write in Russian
HR	23	21	5	16	7.08	23.18	8.37	6.74	4.79	3.42
BR	20	32	22	10	8.17	61.05	9.94	9.50	9.94	9.50

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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.”

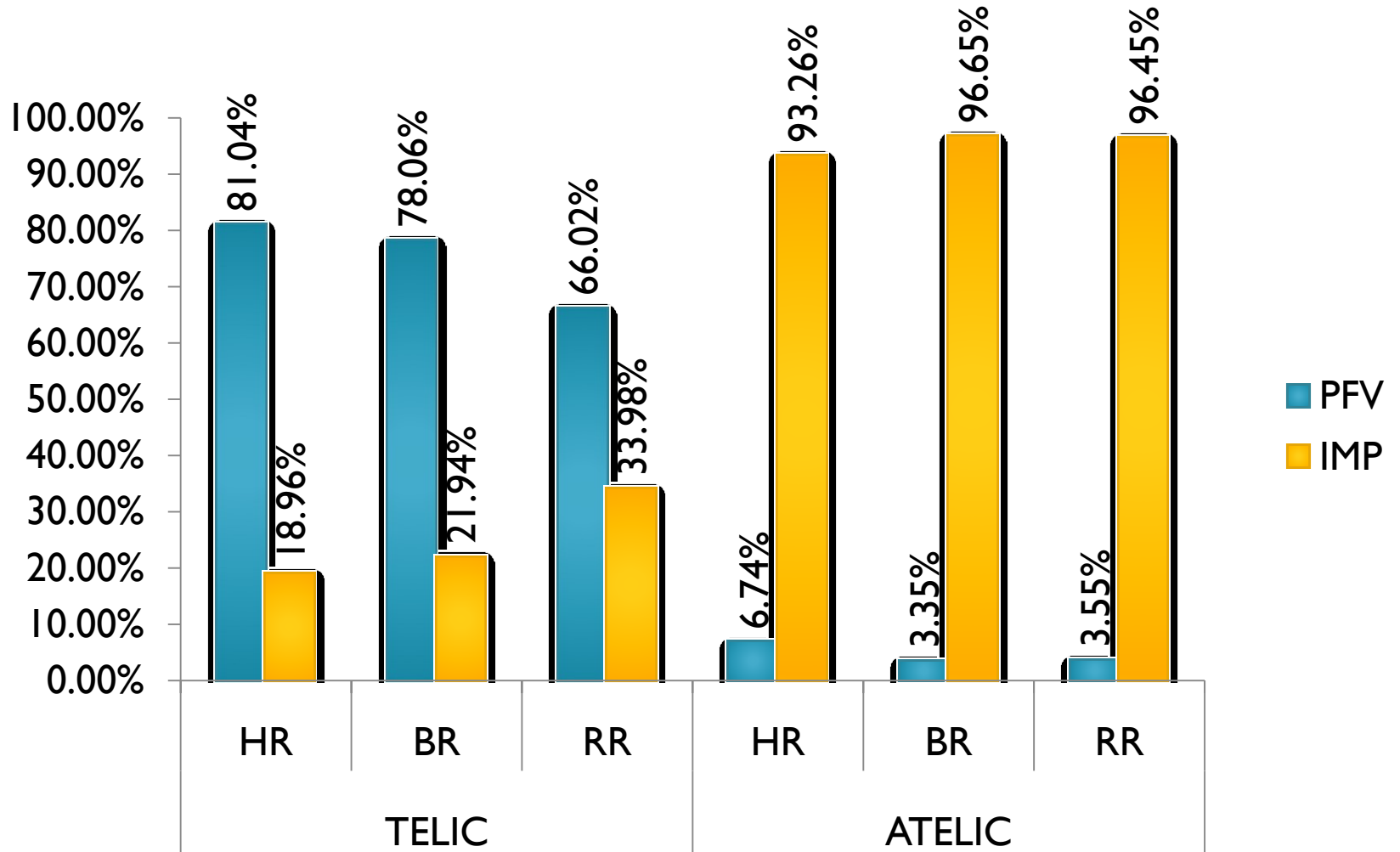
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- “Every so often I catch myself using English words in a Russian sentence and/or structuring Russian sentence in English way.”
 - I'm setting 9 in writing because I may sometimes misspell some words when I'm writing in Russian and because I noticed 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).

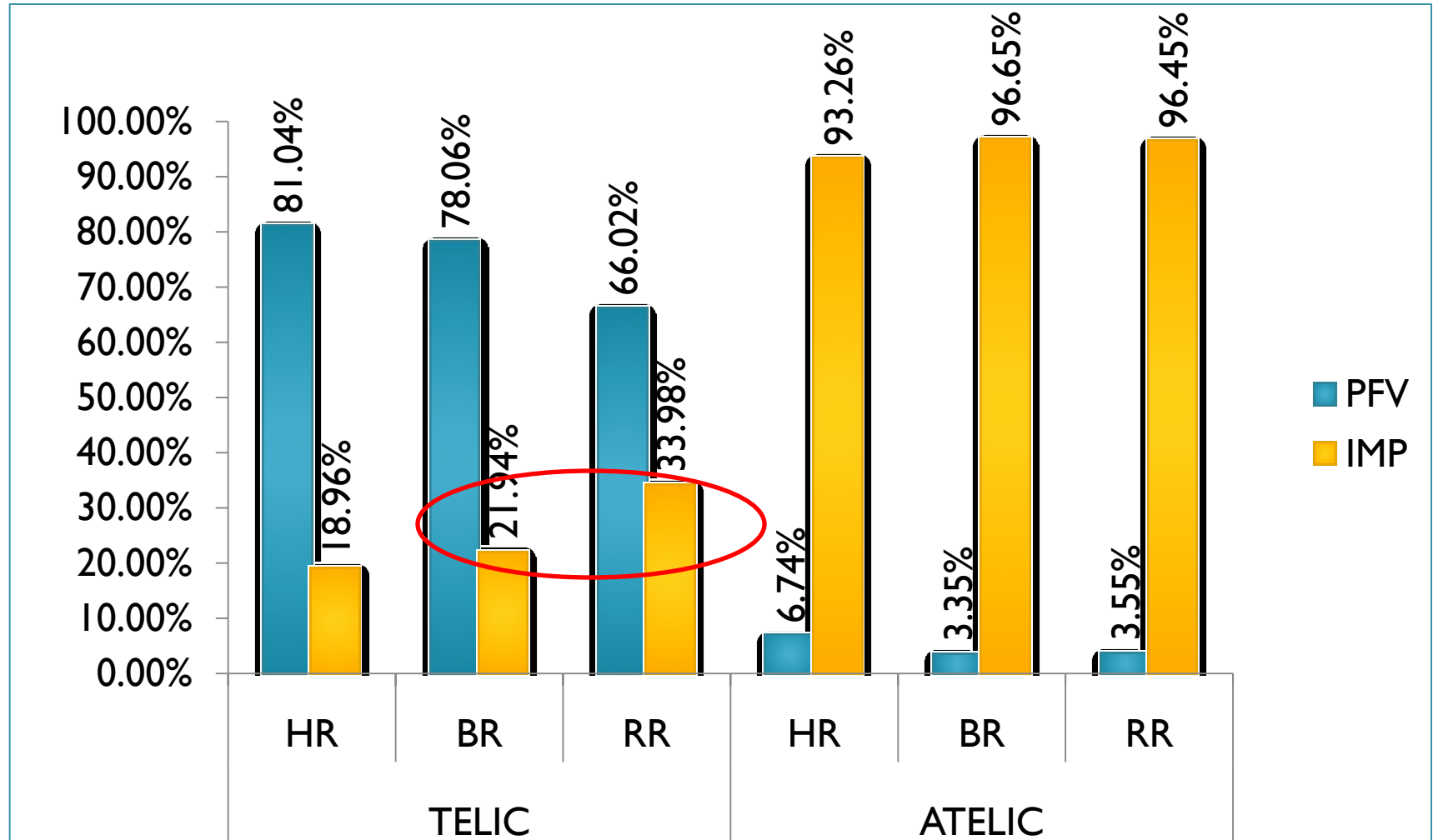
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- Although I am obviously quite fluent in Russian, as a bilingual person, I have noticed that I have started forgetting Russian words. For example, sometimes I struggle to find the right word. Also, I have noticed that I have been out of touch with 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.”

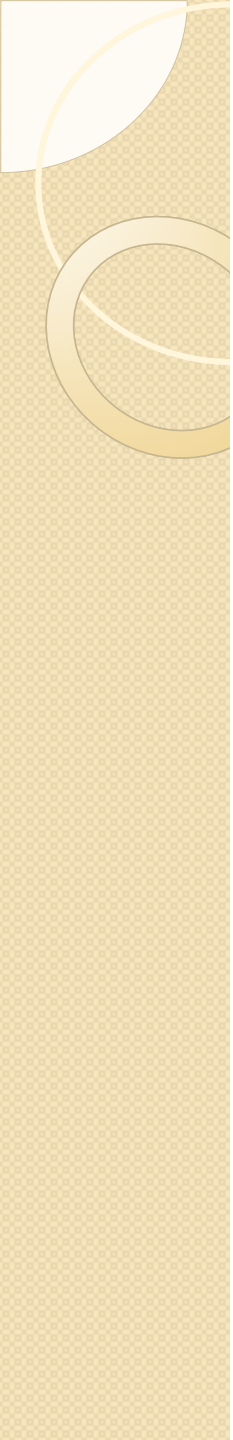
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- “I speak Russian to my son, who is 2.5. Which makes me feel that it's a bit limited use of Russian, since I am communicating with a child. Also, having lived in US for 10 years, I feel that I have forgotten a lot of words and expressions that I normally 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 I: Production

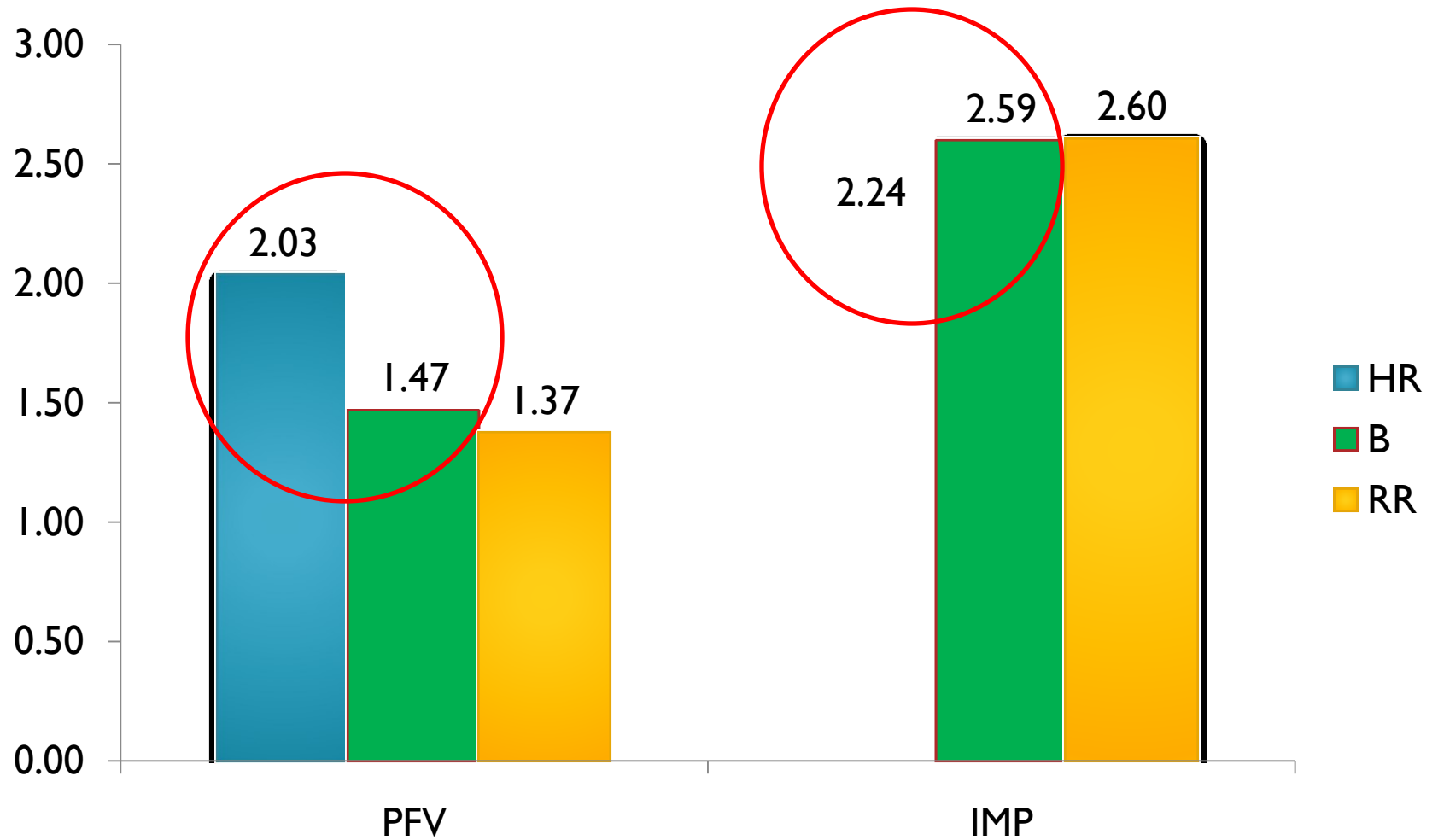


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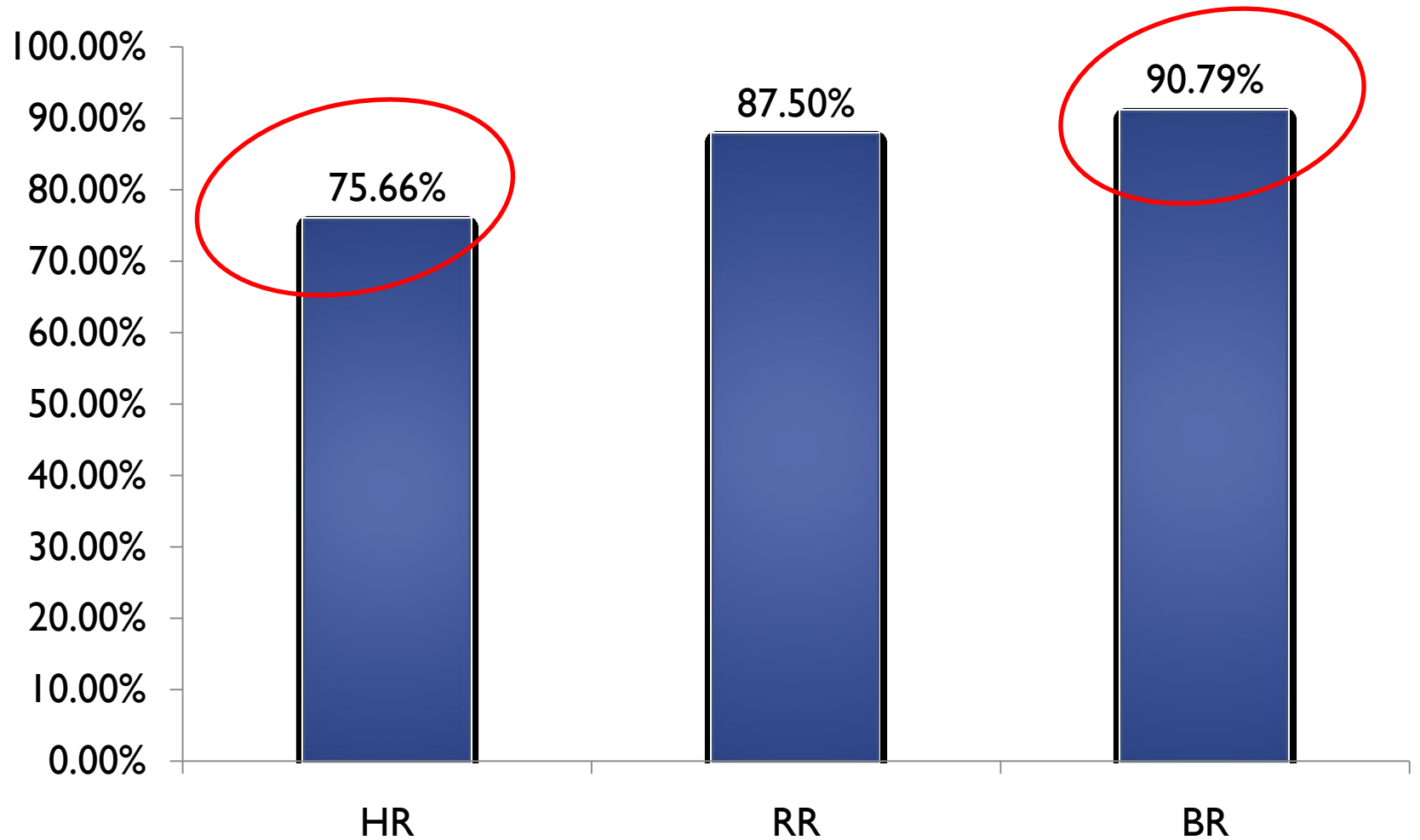


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- General-factual IMP:
 - HR: 0% < BR: 1.53% < RR: 6.80%

Experiment 2: Ratings



Experiment 3: Interpretations



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 chasto on **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 *prijezzhal*.IMP ‘came’)

Meso- and basi-

- IP-aspect sensitivity (?)
 - Examples from Polinsky (1996):

Moj djaja **chasto on** **prijexal** k nam v Brooklyn

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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

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 → **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!