

## Language-internal reanalysis of clitic placement in Heritage Bulgarian reduces the cost of computation

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Object clitics are well maintained in heritage languages, but their placement sometimes diverges from the baseline (Polinsky & Scontras, 2020). Heritage speakers of European Portuguese overgeneralized enclitics in various syntactic contexts, without discriminating among the syntactic triggers of their placement, which was attributed to reduced experience with formal registers (Rinke & Flores, 2014). In this paper we present evidence that such behavior is more pervasive and occurs also in languages where clitic placement is driven by a combination of syntactic and prosodic factors. Generally, heritage speakers have target-like control of prosodic cues (Chang, 2021), but little is known about clitic placement in heritage languages where prosody plays a role. In Bulgarian, clitic placement is subject to the Strong Start prosodic constraint which prohibits unstressed items (clitics) at utterance onset (Harizanov, 2014), and thus, makes it an ideal test case for the issues outlined here.

In our pilot study of object clitics (OCs) in Heritage Bulgarian (HB), we suggest that the hypothesized divergence between baseline and HB in the processing and acceptability of clitic placement could be due to (a) language-internal reanalysis, or (b) transfer from English, with OCs reinterpreted as object pronouns not subject to the same prosodic constraints and syntactic dependencies as OCs in Bulgarian. Our results support (a).

In a self-paced listening task 22 monolingual ( $M_{age}=30$ ) and 13 English-dominant highly-proficient Bulgarian speakers ( $M_{age}=25$ ) listened to the sentences (1)-(4) word-by-word on the online platform *FindingFive*. Context introduced relevant antecedents for the OCs. The target placement of the OC *him* in Bulgarian (1) is before the verb. OCs can appear post-verbally to satisfy Strong Start, but in that case, no other material appears before the verb (see the \*V-CL order, (2)). The CL conditions (1) and (2) are compared to the NP conditions (3) and (4), where the ?N-V order is infelicitous. The measures included RTs and Likert-scale ratings. The HB speakers rated their proficiency in reading (Mean score 3.15) and speaking (Mean score 3.00) on a scale from 1 to 4 (4 = fluent). Follow-up comprehension questions revealed lower accuracy in HL speakers compared to the baseline (79% vs. 90%).

**On-Line Processing (RTs).** LMM analysis did not show any effects in RTs for OC (Fig. 1) or NP conditions (Fig. 2).

**Acceptability Judgments.** The analysis of ratings showed no Group effect in the grammatical conditions, but a significant Group effect in the ungrammatical ones (OCs:  $t = -9.067$ ;  $p < 0.001$ ; NPs:  $t = -8.375$ ;  $p < 0.001$ ). In contrast to the baseline, HB speakers did not distinguish between the grammatical CL-V and ungrammatical \*V-CL position of OCs although they did so for NPs (Fig. 3), which rules out a 'yes' bias in their ratings.

In sum, HB speakers do not differ from the baseline in real-time processing of OCs and in their ratings of grammatical OC placement but they do rate all clitics contexts equally high unlike the baseline. Taken together, these results mean that HB speakers have retained Strong Start but have overgeneralized its operation to cover both clitic positions. We suggest that this change does not impact the integrity of the HB clitic system but might help reduce the cost of OCs computation.

### References:

- Chang (2021).** Phonetics and phonology. In Montrul & Polinsky (Eds.). *The Cambridge Handbook of Heritage Languages and Linguistics*.
- Harizanov (2014).** The role of prosody in the linearization of clitics: Evidence from Bulgarian and Macedonian, in *Formal Approaches to Slavic Linguistics 22*
- Polinsky & Scontras (2020).** Understanding heritage languages, *BLC 23*
- Rinke & Flores (2014).** Morphosyntactic knowledge of clitics by Portuguese heritage bilinguals. *BLC 17(4)*.

### Examples

Condition	Subject	Pre-V Obj	Verb	Post-V Obj	Post
(1) CL-V			go (CL)	-----	
(2) *V-CL	Včera slučajno Ivan		vidja	go (CL)	v parka.
(3) ?N-V			Petar (NP)	-----	
(4) V-N				Petar (NP)	

'Yesterday Ivan accidentally saw him/Petar in the park.'

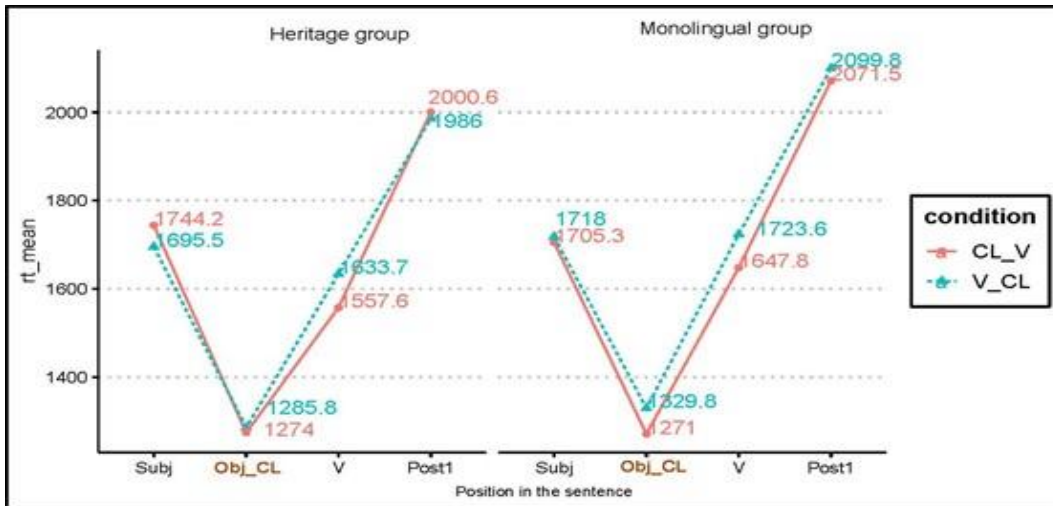


Fig. 1. Heritage vs. baseline mean RTs for OCs

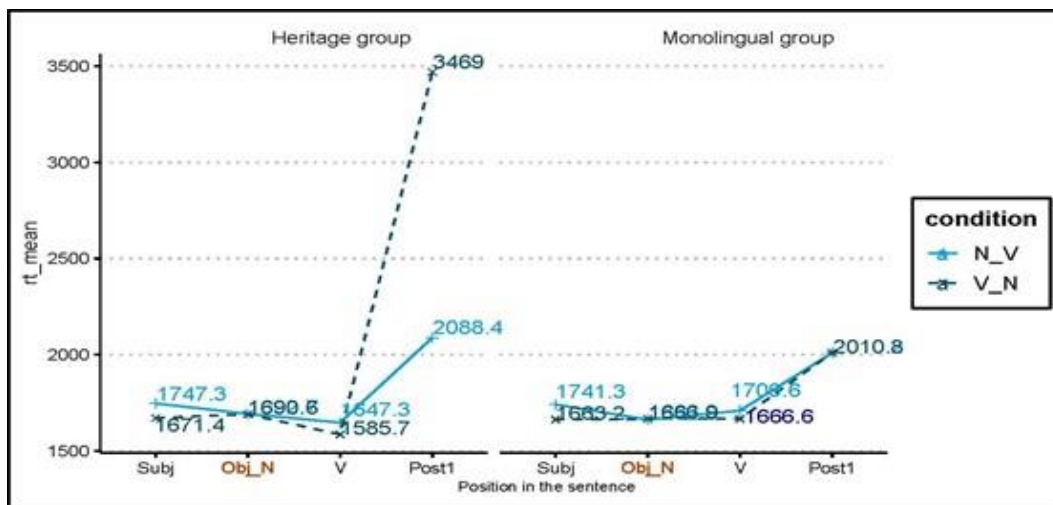


Fig. 2. Heritage vs. baseline mean RTs for NPs

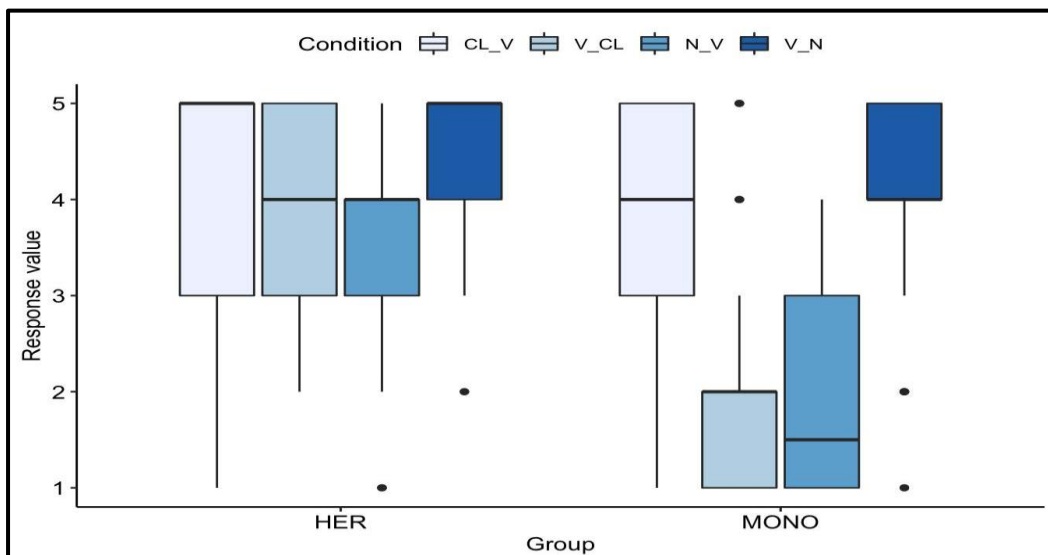


Fig. 3. Heritage vs. baseline ratings of OCs and NPs