

## Distributed Agreement Account for Gender Resolution in Sandwiched Coordination: Evidence from Bosnian/Croatian/Serbian

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In Bosnian/Croatian/Serbian (BCS), as in other Slavic languages, coordinated subjects trigger different subject-predicate agreement patterns: default masculine agreement DEF (1a), closest conjunct agreement CCA (1b), and highest conjunct agreement HCA (1c). This is shown in coordinated phrases (&P) when surrounded by verbal elements, in the case of pluperfect in BCS:

- (1) a. Za danas su bili nagrade i priznanja pripremljeni.  
*for today AUX PI Were M PL award E-PI and acknowledgments N-PI prepared M PL* DEF  
'Awards and acknowledgments were prepared for today.'
- b. Za danas su bile nagrade i priznanja pripremljena.  
*for today AUX PI were F PL award E-PI and acknowledgments N-PI prepared N PL* CCA  
'Awards and acknowledgments were prepared for today.'
- c. Za danas su bile nagrade i priznanja pripremljene.  
*for today AUX PI were F PL award E-PI and acknowledgments N-PI prepared F PL* HCA  
'Awards and acknowledgments were prepared for today.'

Irregular patterns observed in such constructions (*bili M* [F&N] *pripremljeni M*, *bile F* [F&N] *pripremljena N*, *bile F* [F&N] *pripremljene F*), where surrounding verbal elements agree with the highest conjunct, each of the closest conjuncts or display default masculine agreement, raises the question how agreement is computed in grammar. Of relevance for the current work is the fact that each of the conjuncts needs its  $\phi$ -features to be valued for licensing the Agree operation. Surrounding elements act as Probes and conjuncts as Goals. What happens if the two Probes do not share their Goal? When differing in one of their  $\phi$ -feature values, surrounding verbal elements in sandwiched configurations show different subject-predicate agreement patterns. The distributed agreement account (Marušić & Nevins, 2020) considers two-step Agree operation, namely Agree-Link and Agree-Copy. Moreover, it requires the Probe to peak inside &P to search for Goal (Peeking grammar in Marušić, Nevins & Badecker 2015). Considering Peeking grammar, the verbal elements that do not agree with the same (single) conjunct are modeled if the two probes act independently.

To expand their work, I show experimental data from BCS, seeking to cover more data following this approach. The aim is to provide support to predictions from their account. Generalization is that resolution is grammar external, not syntactic mechanism alone. Grammatical properties of coordination influence resolution, with linear order being one of them (at PF level).

**Experiment.** Grammatical judgments (Likert Scale 1-5) were collected from twelve BCS speakers (N=12) participated in the experiment (11 female), age range 35-68 (average age 51.1), of different dialect/variant regions. Answers were collected from eleven participants (N=11, 10 female). One participant was excluded as reported BCS was not their first language. The rest eleven participants stated to be BCS native speakers. Experimental items included declarative sentences of coordinate subjects placed between participles, that were controlled for gender and number features, namely Feminine+Neuter Plural (F+N PI). The most informative gender feature combination is F+N, as it displays

agreement patterns other than masculine default (DEF). All nouns were kept inanimate, no mass nouns were included. Manipulated agreement configurations: acceptable double HCA, double CCA, HCA+DEF, unacceptable double LCA, double DEF, DEF+CCA. Controls: Preverbal (PreV) CCA, Preverbal (PreV) Simple, Sandwiched Simple, Postverbal (PostV) DEF. Total number of 10 conditions. Five sentences per condition makes total of 50 items. Sentences were counterbalanced in length and organized in the factorial design. Each participant saw one sentence of each condition in random order per experiment. Fillers used in the experiment (total of 20 items) were taken from both Croatian and Serbian sources, namely “Priče iz davnine” by Ivana Brlić Mažuranić and Serbian translation of the novel “Nineteen Eighty-Four” by George Orwell, and customized for the grammatical and ungrammatical conditions.

Similar to Slovenian, BCS exhibit all three possible agreement patterns, namely CCA, HCA and DEF. Unlike Slovenian, BCS shows DEF agreement pattern in preverbal (PreV) configuration acceptable, therefore the same was compared to sandwiched agreement patterns, alongside CCA agreement pattern, in order to scale and define their acceptability. This served as motivation for the replicated acceptability judgment experiment of Marušič & Nevins. CCA agreement pattern was predicted to be judged equally good as DEF in PreV, which favors the distributed agreement account.

**Results.** HCA+DEF agreement pattern is judged positive on average, and judged equally well or close to well in PreV CCA and DEF. It showed to be indistinguishable from PreV CCA. Results are shown in Table 1.

Table 1. Average ratings per condition

Condition		Average rating
PreV DEF (control)	FN V <sub>M</sub>	4.5
PostV DEF (control)	V <sub>M</sub> FN	4
Sand. Simp (control)	V <sub>F</sub> F V <sub>F</sub>	3.71
PreV CCA (control)	FN V <sub>N</sub>	3.33
HCA+DEF	V <sub>F</sub> FN V <sub>M</sub>	3.28
Double CCA	V <sub>F</sub> FN V <sub>N</sub>	3.2
Double DEF	V <sub>M</sub> FN V <sub>M</sub>	2.4
Double HCA	V <sub>F</sub> FN V <sub>F</sub>	2
DEF+CCA	V <sub>M</sub> FN V <sub>N</sub>	1.66
Double LCA	V <sub>N</sub> FN V <sub>N</sub>	1

Experimental data demonstrate that gender features can not be systematically determined but rather make use of resolution (cf. distributed agreement account by Marušič & Nevins, 2020). Data showed positive ratings for configurations resulting in different agreement patterns, that fits nicely within the model of the two probes acting independently (Peeking grammar in Marušič, Nevins & Badecker 2015). Each Probe can agree with the closest conjunct from &P (Goal), or they can display default agreement pattern, regardless of the conjunct gender. What experimental data did not confirm was the claim that each Probe can agree with the same (highest) conjunct from &P (Double HCA). At this stage, motivation for the study was to find people’s judgments. For the next stage is the qualitative difference between magnitude of judgments.

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