

Gender Agreement with Exclusive Disjunction in Slovenian

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Intro: Slavic languages play an important role in the investigation of agreement with coordinated DPs. The rich set of options in conjunction agreement contribute to the research of agreement on both empirical and theoretical grounds (Bošković 2009; Marušič & Nevins 2010; Marušič et al. 2015; Willer-Gold et al. 2016; Murphy & Puškar 2018 a.o.). In contrast to conjunction, agreement with disjunction has been looked into on a much smaller scale (Morgan 1972; Smith et al. 2018), despite the unique contribution disjunction agreement can make. This paper experimentally probes into gender agreement with disjointed subjects in Slovenian and accounts for its similarity to and differences from the conjunction agreement patterns.

Background: Slovenian has been reported to allow resolved agreement (RA), closest conjunct agreement (CCA), and highest conjunct agreement (HCA) when a participle agrees with conjoined subjects (for experimental evidence see Marušič et al. 2015; Willer-Gold et al. 2016). As is shown in (1) for example, three patterns are possible: Feminine (F) results from HCA, Neuter (N) from CCA, and Masculine (M) from RA. While HCA and CCA are considered to result from agreement with one of the conjuncts, RA has been argued to be agreement with the ConjP itself.

- (1) Knjige in peresa so se podražil-i/-e/-a.
books.F.PL and pens.N.PL AUX.PL REFL become.more.expensive-M.PL/-F.PL/-N.PL
'Books and pens have become more expensive.'

Our research questions include: Are CCA, HCA, RA observed under exclusive disjunction in Slovenian? If they are, how differently each option is distributed compared to agreement with conjunction and why?

Experiment: To address these questions, we conducted an experiment using the spoken elicitation task. On each trial, the participant sees a model sentence on the screen (2a), with a masculine singular noun phrase as the subject. The participant then sees a new replacement noun phrase at the bottom of screen (2b), and their task is to produce an utterance in which they replace the subject of the model sentence with the new noun phrase. To rule out possible inclusive interpretations, exclusive disjunction construction *ali...ali pa...* 'either...or...' is used for the disjointed subjects. Eight combinations of gender features are included in the experiment: FORF, FORM, FORN, MORF, MORM, MORN, NORM, NORN (8 conditions). The 9th possible combination NORF was not included in the experiment due to a coding error. The subjects precede the verb in all trails and all the DPs in the subjects are in plural. Conditions are randomized, and the experiment contains irrelevant fillers with no disjunction in the replacement noun phrase. Responses were digitally recorded and tabulated afterwards according to their agreement endings. The experiment consisted of 91 items including 6 practice items, 45 filler items, and 40 test items (5 items per condition).

- (2) a. Oreh bo posajen za hišo. b. Ali grmi ali pa večje rože
walnut AUX planted.M.SG behind house or shrub.M.PL OR PA bigger flowers.F.PL
'Walnut will be planted behind the house.' 'either shrubs or large flowers'

Results: 13 native speakers participants were tested and all of them scored above 89% on the filler items, so all 13 were included in the results. Table 1 shows how many times the agreement options were chosen as well as their ratio. We used t-distribution to determine that the **bolded** numbers are statistically different from 0, therefore not errors but actual results. Figure 1 plots the ratio of the agreement patterns in each condition (see next page).

Discussion: 1. It is clear that CCA is a stable agreement option in all conditions. Unambiguous cases include: F in MORF = 53.97%, N in MORN = 59.68%, N in FORN = 73.85%. CCA can potentially result from a clausal ellipsis analysis (3a) and/or a conjoined subject analysis (3b). Recent experimental evidence has shown that former cannot be the only possible analysis of conjunction agreement (Arsenijević et al., 2019). Whether CCA in disjunction agreement requires both analyses remains an open question. Comparing with conjunction agreement, CCA takes a larger portion of the responses under disjunction, this can be accounted for if the ellipsis analysis is chosen more often with disjointed subjects.

	M	F	N
MORM	62 (100.00%)	0 (0.00%)	0 (0.00%)
FORF	3 (4.76%)	60 (95.24%)	0 (0.00%)
NORN	4 (6.45%)	0 (0.00%)	58 (93.55%)
MORN	24 (38.71%)	1 (1.61%)	37 (59.68%)
NORM	59 (93.65%)	0 (0.00%)	4 (6.35%)
MORF	29 (46.03%)	34 (53.97%)	0 (0.00%)
FORM	59 (93.65%)	2 (3.17%)	2 (3.17%)
FORN	11 (16.92%)	6 (9.23%)	48 (73.85%)

Table 1: Results and ratio. t-distribution was used to determine whether a form is statistically different from 0. The bolded numbers are significantly different from 0.

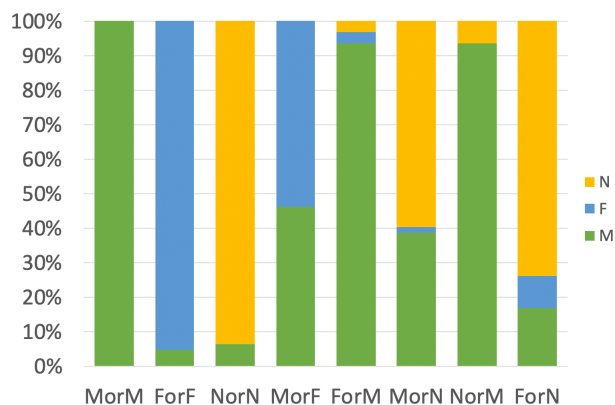


Figure 1

- (3) a. [either shrubs_M will be planted_M behind the house] or [large flowers_F will be planted_F behind the house].
b. [either shrubs_M or large flowers_F] will be planted_M behind the house.

2. Unambiguous cases of HCA are observed to a much lesser extent: N in NORM = 6.35%, F in FORM = 3.17%, F in FORN = 9.23%. Among them, only F in FORN is significantly different from 0. This echoes the finding in conjunction agreement that HCA is the weakest option and that the conditions including M have less HCA. The general low ratio of HCA could be due to the increased preference for CCA discussed in point 1. This hypothesis is further supported by the comparison between FANDN and FORN in (4). While M remains the same, CCA (N) in disjunction agreement increases as HCA (F) reduces.

- (4) comparing F+N under conjunction and disjunction
a. FANDN: M = 20%, F = 22%, N = 52% (Marušič et al. 2015)
b. FORN: M = 16.92%, F = 9.23%, N = 73.85%

3. Regarding RA, based on the substantial M agreement in FANDF, NANDN, NANDF, and FANDN shown in (5), Marušič et al. (2015) propose that the Conj is specified as M in Slovenian and agreeing with the ConjP is the source for RA. However, data from disjunction in (6) does not show the same pattern. our statistics analysis shows that, among non-M conditions, M is attested only in FORN and not in ForF or NorN. This indicates that unlike the Conj head, the disjunction head is not specified with the default M.

- (5) a. M in FANDF = 14%
b. M in NANDN = 16%
c. M in FANDN = 20% (Marušič et al. 2015)
- (6) a. M in FORF = 5%
b. M in NORN = 6%
c. M in FORN = 17%

Where does M in FORN in (6c) come from? Following Willer-Gold et al. (2016), we propose that there is a feature resolution operation which resolves mismatching features. Contrary to their resolution rules where N and F is resolved to N, we propose that N and F is resolved to M in (7), which is compatible with prescriptive grammars. This would account for the M agreement in FORN in (6c).

- (7) Resolution rules: a. F+F = F; b. N+N = N; c. all other combinations = M

Moreover, M in MORN (38.71%) and MORF (46.03%) are more frequent than F in FORM (3.17%) and FORN (9.23%) as well as N in NORM (6.35%). M in NORM (93.65%) and FORM (93.65%) are more frequent than F in MORF (53.97%) and N in MORN (59.68%) and FORN (73.85%). This pattern would be surprising if the sole source of M in these cases is HCA or CCA. It is predicted, however, by the resolution in (7).

RA is thus observed across the board under disjunction, like CCA. The existence of RA indicates that clausal ellipsis cannot be the **only** structure for disjunction in Slovenian, similar to CCA in conjunction (Arsenijević et al., 2019). The structure of disjunction illustrated in (3b) must be an option.

Selected references: Arsenijević, Boban et al. 2019. Syntax. Marušič, Franc, Andrew Nevin, and William Badecker. 2015. Syntax. Willer-Gold, Jana et al. 2016. Journal of Slavic Linguistic.