

# Grammars of Participle Agreement with Conjoined Subjects in Bosnian/Croatian/Serbian\*

Nermina Čordalija, Amra Bešić, Ivana Jovović, Nevenka Marijanović, Lidija Perković, Midhat Šaljić, Dženana Telalagić, and Nedžad Leko

*Abstract:* This paper shows that Bosnian/Croatian/Serbian (BCS), like Slovenian, has three distinct strategies for subject-predicate agreement when the subject consists of conjoined noun phrases: (i) agreement with the maximal projection, a Boolean Phrase (&P); (ii) agreement with the conjunct that is closest to the participle; (iii) agreement with the conjunct that is hierarchically the highest. In order to test the initial hypothesis that there are three agreement strategies, a controlled experimental study of the morphosyntactic agreement between conjoined subjects and participles in BCS was conducted, consisting of three experiments: an oral-production experiment, a written-production experiment, and an acceptability-judgment task. The experiments showed a high presence of default agreement and closest-conjunct agreement. Of the preverbal conjoined phrases, 50% elicited default masculine agreement, while 95% of postverbal conjoined noun phrases elicited closest-conjunct agreement. However, the bulk of the analysis was focused on the possibility of treating highest-conjunct agreement (HCA) as a legitimate agreement strategy. The agreement forms in the preverbal-subject (SV) examples showed HCA 7% of the time. Moreover, acceptability-judgment results showed that scores for HCA examples ranged between 2 and 3 (1 = weakly acceptable; 5 = strongly acceptable). Last-conjunct agreement (LCA) for postverbal-subject (VS) examples, on the other hand, occurred only in 1% of the examples in the corpus, and these examples were mostly rated weakly acceptable by native speakers (1.5/5 on average). For this reason, they were classified as performance errors, eliminating LCA as an agreement strategy. The overall results go against Bošković (2009), who does not acknowledge HCA as a legitimate strategy, but they confirm the findings of Marušić, Nevins, and Badecker (2015).

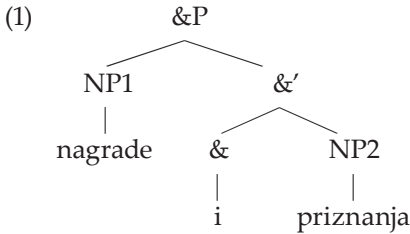
## 1. Introduction

In Bosnian/Croatian/Serbian (BCS) the agreement forms of the participle in the predicate may be realized in three different ways depending on the phi

---

\* We are grateful to Jana Willer-Gold, Andrew Nevins, Boban Arsenijević, Rosemarie Connolly, and the anonymous reviewers for their help, advice, and corrections of earlier drafts of this paper.

features of these noun phrases.<sup>1</sup> The participle may agree in number and gender with the conjoined subject phrase as a whole (agreement with the maximal projection, i.e., projection of the conjunction & as the head of a conjoined phrase &P), or it may agree with the hierarchically highest noun phrase (NP1), or it may agree with the noun phrase closest to the participle (NP2), as represented in (1) for the conjoined phrase *nagrada i priznanja* 'awards<sub>F</sub> and recognitions<sub>N</sub>':



The three agreement patterns are illustrated in (2a–c):

- (2) a. Nagrade i priznanja su uručeni studentima.  
 awards<sub>F</sub> and recognitions<sub>N</sub> AUX handed<sub>M</sub> students  
 'The awards and recognitions were handed to students.'
- b. Nagrade i priznanja su uručena studentima.  
 awards<sub>F</sub> and recognitions<sub>N</sub> AUX handed<sub>N</sub> students
- c. Nagrade i priznanja su uručene studentima.  
 awards<sub>F</sub> and recognitions<sub>N</sub> AUX handed<sub>F</sub> students

The masculine form (*uručeni*) in (2a) illustrates agreement with the maximal projection (&P) in (1), which is a projection of the conjunction head *i* 'and'. The conjoined phrase (&P) is masculine in gender by default, and consequently,

<sup>1</sup> As far as agreement with simple NPs is concerned, finite verbs and auxiliaries agree in person and number with the subject (no gender agreement):

- (i) Muškarac/ Žena/ Dijete plače.  
 man<sub>M.SG</sub>/ woman<sub>F.SG</sub>/ child<sub>N.SG</sub> cries<sub>3SG</sub>  
 vs. Muškarci/ Žene/ Djeca plaču.  
 men<sub>M.PL</sub>/ women<sub>F.PL</sub>/ children<sub>N.PL</sub> cry<sub>3PL</sub>

In complex tenses, lexical verbs appear in a participle form that agrees in number and gender with the subject:

- (ii) Linijar/ sveska/ šiljalo je kupljen/ kupljena/  
 ruler<sub>M.SG</sub>/ notebook<sub>F.SG</sub>/ sharpener<sub>N.SG</sub> was bought<sub>M.SG</sub>/ bought<sub>F.SG</sub>/  
 kupljeno u knjižari.  
 bought<sub>N.SG</sub> in bookstore

the participle in (2a) agrees with the maximal projection (&P). The neuter form (*uručena*) in (2b) illustrates agreement with NP2 (*priznanja*) which is linearly closest to the participle. Finally, the feminine form in (2c) illustrates agreement with NP1 (*nagrade*) which is hierarchically in the highest position in this conjoined phrase.

These data point to the existence of three distinct strategies of subject-predicate agreement when the subject consists of conjoined noun phrases. Participles may agree in gender and number with the subject phrase as a whole (that is, agreement with the maximal projection &P), or with the conjunct that is closest to the participle, or with the conjunct that is hierarchically the highest. In presenting the results of our experiments, which show that BCS employs these three strategies, we wish to point out that similar research conducted for Slovenian and reported in Marušič, Nevins, and Badecker (2015) showed that Slovenian also has three strategies of agreement.

In order to test the presence of these agreement strategies, we conducted an experimental study of the morphosyntax of agreement between conjoined subjects and participles in BCS, which consisted of three parts: an oral-production experiment (OPE), a written-production experiment (WPE), and an acceptability-judgment task (AJT). The first experiment was a computer-assisted oral experiment in which the participants were first given a test sentence, such as *Poklon je uručen na pozornici* 'The gift was presented on stage', and then a conjoined noun phrase, such as *nagrade i priznanja* 'awards and recognitions'. Their task was to insert the conjoined noun phrase in place of the noun *poklon* 'present', triggering a change of the participle agreement form. Participial agreement was tested in two sentence configurations, subject preceding the participle (SV order), as in *Poklon je uručen na pozornici* 'The gift was presented on stage', and participle preceding the subject (VS order), as in *Na pozornici je uručen poklon*. As is obvious from these examples, the subject *poklon* 'gift' may precede or follow the participle *uručen* 'presented'.

The second experiment was a written experiment which was conducted after the oral experiment. The WPE was based on the material used in the OPE. It contained a model sentence, and the participants' task was to insert the conjoined phrase into the model sentence, which would trigger a change in the participle form. However, the examples in the WPE were not randomised for every participant as they were in the OPE; for all participants they were ordered identically. Finally, the acceptability-judgment task was conducted one month later with a different group of participants. It contained a subset of the material used in the OPE and WPE.

The paper is organized as follows. In section 2 we briefly discuss previous accounts of predicate agreement with conjoined-subject noun phrases. In section 3 we present the experimental methodology and the results. In section 4 we provide an analysis of production errors; and in sections 5 and 6 we summarize our main results.

## 2. Previous Accounts

Predicate agreement with coordinated subject noun phrases has been intensively studied, particularly in the Slavic languages. These studies can contribute to a wider discussion about the role of agreement in grammar (see, for example, Benmamoun, Bhatia, and Polinsky 2010, Munn 1999, and Bhatt and Walkow 2013), as well as to experimental investigations of attraction phenomena (as discussed, for example, in Bock and Miller 1991, Franck et al. 2006, Franck, Frauenfelder, and Rizzi 2007, and Franck 2011). Investigations of agreement phenomena in Slavic languages are dominated by two approaches. One is exclusively syntactic, in which the syntactic analysis of agreement phenomena is based on native-speaker intuitions or theoretical predictions, taken in Bošković 2009, Franks and Willer-Gold 2014, and Puškar and Murphy 2015. The second may be characterized as multicomponent, or “distributed,” on the assumption that in addition to the syntactic component, agreement processing also involves another, postsyntactic, component, where at PF (Phonetic Form) linear order is available for purposes of Agree. This approach is taken by Marušič, Nevins, and Saksida (2007) and Marušič, Nevins, and Badecker (2015).

### 2.1. Bošković (2009)

Bošković (2009) offers a uniform account of first- and last-conjunct agreement based on the operation Agree. According to Bošković, with postverbal subjects, participles in Serbo-Croatian<sup>2</sup> always exhibit first-conjunct agreement (for gender), and with preverbal subjects, only last-conjunct agreement (also for gender) is exhibited. His basic assumption is that agreement is handled exclusively in the syntax by the operation Agree. He proposes that the probe responsible for participial agreement searches for a goal to value its number and gender features. Since the Conjunction Phrase (&P) is specified only for number, the probe finds disjoint valutors, &P for number and the first conjunct for gender. This happens in cases of first-conjunct agreement (with postverbal subjects). Bošković claims that the probe is a single probe (as opposed to approaches which argue for separate probes).

However, in the structure that shows last-conjunct agreement, the participle (Part) probes for phi-features, matching &P for number and NP1 (the first conjunct) for gender. Since Part has an EPP feature, a phrase must move to SpecPartP. But the problem is that there are two valutors, one requiring pied-piping of &P and the other requiring pied-piping of NP1. Since both &P and NP1 are in principle pied-pipable in Serbo-Croatian (a language which

---

<sup>2</sup> We use the term Serbo-Croatian instead of BCS in this section because Bošković uses that term.

allows left-branch extraction [LBE]), Bošković suggests that this kind of ambiguity prevents pied-piping, and consequently the valuation itself is blocked. The participial probe then initiates a second probing operation within a larger search space that includes NP2 (the second conjunct). The second conjunct can value the gender feature of the probe, and since it is in principle immobile, it is not a candidate for movement. Consequently, a valuator that will undergo pied-piping can be unambiguously determined. The Agree operation is then followed by movement of &P to SpecPartP. This happens in the case of last-conjunct agreement (with preverbal subjects). Bošković predicts (or at least provides judgments to the effect that) HCA is disallowed in preverbal-subject contexts, and testing this was in fact one of the aims of our experiment as well.

## 2.2. Marušič, Nevins, and Badecker (2015)

Marušič, Nevins, and Badecker (2015) present three agreement strategies in Slovenian on the basis of five experimental studies. Agreement can target one of three feature-bearing controllers: Conj<sub>1</sub>, Conj<sub>2</sub>, or &P. This means that the locality criterion does not only mean the choice between the hierarchically highest or linearly closest conjunct. It can also mean agreement with the hierarchically and linearly closest phrase (XP) of the relevant type (&P). The computation of the gender feature is affected by the fact that masculine is the unmarked gender in Slovenian (as in BCS).

In one of the Slovenian agreement grammars that they consider, the operation Agree targets the &P and does not probe the individual conjuncts. In their view, since a Conj head cannot compute its own gender value, what we have is the default insertion of the masculine value into the phi-features on the participle.

In another possible grammar of agreement, Agree targets the &P first. However, as it finds no gender value, rather than inserting the default masculine values it continues to probe within the &P. Which conjunct will be the source for gender features is a matter of locality: it will be either the hierarchically highest or linearly closest conjunct. The process of linearization whereby the &P structure is flattened affects the choice here. There is variable ordering in the set of postsyntactic operations of linearization and Agree-Copy. Hence, variation between speakers comes not from syntactic differences, but from differences in the postsyntactic component. Specifically, if the Agree-Copy operation takes place before conjunct flattening, the hierarchically closest conjunct will be the gender-agreement controller. However, if Agree-Copy takes place after the &P structure has been flattened, the linearly closest conjunct will be selected by the Probe.

Marušič, Nevins, and Badecker assume that the operation Agree is carried out in two steps: Agree-Link and Agree-Copy. Agree-Link always applies in narrow syntax, but Agree-Copy can apply either in the syntax or postsyntac-

tically. In addition, the authors assume that its order of application can vary with respect to linearization (i.e., the flattening of &P).

One of the five studies they conducted involved mixed-gender plurals in the preverbal position. We focus here on the [F + N] and [N + F] conjuncts, as the presence of a masculine conjunct as Conj<sub>1</sub> means that masculine agreement can be read either as default or highest-conjunct agreement. [F + N] and [N + F] conjuncts elicited three types of agreement: default masculine agreement, CCA, and HCA. The average percentages in the [N + F] condition are default masculine agreement (39%), CCA, (feminine, 26%), HCA (neuter, 26%), and in the [F + N] condition, default masculine agreement (20%); CCA (neuter, 52%), and HCA (feminine, 22%).

### 3. Experiments: Oral and Written Elicitation

The two theories arrive at different predictions with respect to the number of agreement strategies and in particular with respect to HCA (although both strongly reject LCA). Therefore we have set out to test two hypotheses: (i) that there are three agreement strategies in BCS and (ii) that HCA is an agreement strategy in BCS. The answer to the second hypothesis entails the answer to first. In order to prove them, we performed a controlled experiment on agreement between conjoined subjects and participles in BCS. The experiments were conducted at the University of Sarajevo as a part of the Experimental Morphosyntax of South Slavic Languages project (EMSS supported by the Leverhulme Trust and University College London).

Our research involved three experiments. The first and second experiments, oral elicitation immediately followed by written elicitation, were administered as part of a single session to the same group of participants. The third experiment was administered a month later in a separate session. It had a rather different design and was administered to another group of participants. All participants in all three experiments were students at the University of Sarajevo who are native speakers of BCS from Sarajevo.

The first experiment was a computer-assisted oral experiment. Participants were recorded and prompted by a computer screen to continue to the next sentence. The experiment was administered individually using the online software Ixex (Drummond 2011). It involved a self-paced reading and sentence-completion task. Participants read a model sentence appearing on the screen. They then saw a replacement noun phrase and were asked to replace the subject of the model sentence with this new noun phrase. Responses were recorded using Audacity and coded afterwards according to their agreement features. A biographical questionnaire along with a consent form were distributed at the beginning of the experiment. There were 30 participants. Equal gender distribution could not be attained, but the participants were all third-year students at the University of Sarajevo who had finished primary and sec-

ondary school in Sarajevo or the immediate region. The experimental design involved six examples for each of the following nine gender combinations of plural conjuncts: [M + M], [F + F], [N + N], [M + F], [M + N], [F + M], [F + N], [N + M], and [N + F].

Additionally, the experimental material involved fillers. There were three filler conditions: paucal (numerals 2, 3, 4) with a head noun in masculine singular, a hybrid noun<sup>3</sup> in feminine singular, and an object relative clause with a head noun in neuter singular. There were 54 fillers, which means there were 108 stimuli in total for each participant.

In the first experiment there were two sessions for each participant. In the first session they were tested on agreement forms of the predicate with a subject containing conjoined nouns preceding the predicate. In the second session the subject followed the predicate. These sessions were recorded over 15 days.

The second experiment was a written experiment conducted using a fill-in-the-blank questionnaire containing the same material as the oral experiment. Each example contained a model sentence and a stimulus—a conjoined phrase. Participants were instructed to write the form of the participle they felt was most appropriate with the conjoined phrase. As with oral production experiment, the written experiment did not impose any time limits and was administered immediately after the oral experiment to the same participants who had participated in the oral experiment.

Nine sets of examples (illustrating nine conditions), each containing six sentences plus fifty-four fillers were presented. In the first session, the sentences contained a conjoined subject preceding the predicate, and in the second session the order was reversed. This means that each participant was presented with 108 sentences in total.

Although we recognize that spoken language can better reflect native-speaker intuitions about language than can written language, as it does not allow for reflection on the *correctness* of an utterance, we conducted the written experiment to provide additional and clearer insight into agreement in BCS. We were aware of the fact that after being exposed to the examples in the oral experiment, the participants had already processed them when they encountered them for the second time in the written session. However, the written experiment was expected to contain fewer performance errors, since it gave the participants the possibility to skip examples or go back to them several times, which was not possible in the oral experiment.

<sup>3</sup> Hybrid nouns denote a plurality but have the form of a singular noun, e.g., *djeca* 'children', *braća* 'brothers', etc. (see Corbett 1983a, 1991). They trigger plural agreement on the predicate:

- (i) Djeca/            braća            plaču.  
       children<sub>F.SG</sub>/brothers<sub>F.SG</sub> cry<sub>3PL</sub>

Below we present the results of our experiments documenting the existence of three distinct grammars of conjunct agreement in BCS: agreement with the highest conjunct, agreement with the closest conjunct, or agreement with the &P itself. In addition, we compare the results of the oral and written experiments with the data provided by the third experiment, which involved timed acceptability-judgment tasks. This experiment was administered to another group of 20 participants (first-year students, native speakers who were not students of BCS, 50% male, 50% female), different from those who had participated in the first and second experiments. They were each presented with a total of 112 sentences, and their task was to grade each example on a scale of 1 (weakly acceptable) to 5 (strongly acceptable).

The experiment involved a time limit of 3.5 ms. Acceptability-judgment responses were recorded by Ixex and subject to statistical analysis. This experimental method is a variation of Marušič, Nevins, and Badecker's (2015) acceptability-judgment and production experiments.

The experimental material in the third experiment included examples with mixed-gender conjuncts exemplifying closest-conjunct agreement (CCA), last-conjunct agreement (LCA), and resolved masculine agreement. There were 16 conditions in total. In SV order, 10 exemplified acceptable combinations in BCS and 6 unacceptable, whilst in the VS order, 6 were acceptable and 10 unacceptable.

The fillers were structured to exemplify eight conditions: subject-verb agreement in number and mismatch in auxiliary-verb number; auxiliary-object clitic word order and auxiliary-object clitic inversion; case selection by a preposition and violation of case selection by a preposition; and LBE and agreement in neuter singular with coordinated LBE.

The analysis takes the number of examples (produced instances of each agreement strategy), the number and type of production errors, and acceptability judgments made by native speakers as basic criteria upon which to derive our conclusions.

### 3.1. Uniform-Gender Conjuncts

We first investigated possible patterns of participial agreement with uniform gender (plural) conjuncts when they occur preverbally and postverbally. Such conjuncts largely elicit participial agreement that corresponds to the gender of the two conjuncts. However, default masculine agreement occurs even when both conjuncts are uniformly feminine or neuter, as already reported in Corbett (1983b). It is worth noting that this was registered predominantly in oral elicitation (44 examples oral = 6.21%, vs. 11 examples written = 1.59%). See Figure 1, opposite.



## Default Masculine Agreement



**Figure 1.** Default masculine agreement with conjuncts of the same gender: feminine or neuter

### 3.1.1. Preverbal Subjects

In oral elicitation, 24 examples (or 13.71%) of masculine default agreement were registered when both conjuncts were feminine, as in (3).<sup>4</sup> All other examples (151) were feminine.

- (3) Fotografije i skice su prijavljeni na konkurs. (6x)  
 photos<sub>F</sub> and sketches<sub>F</sub> AUX registered<sub>M</sub> for competition  
 'Photographs and sketches were registered for the competition.'

However, there was only 1 example (0.56%) of masculine default agreement in written elicitation when both conjuncts were feminine, as in (3). All other examples (179) were feminine. In oral elicitation, 16 examples (8.89%) of masculine default agreement were registered when both conjuncts were neuter, as in (4). All other examples (164) were neuter.

- (4) Poglavlja i uputstva su predani na čitanje. (5x)  
 chapters<sub>N</sub> and instructions<sub>N</sub> AUX submitted<sub>M</sub> for reading  
 'Chapters and instructions were submitted for reading.'

<sup>4</sup> In the paper, we give only one example per condition, the one most frequently produced (the number indicated in brackets next to the example); the complete set of examples can be found in Appendix 2.

There were 5 examples (2.79%) of masculine default agreement in written elicitation when both conjuncts were neuter. All other examples (174) were neuter.

### 3.1.2. Postverbal Subjects

In postverbal elicitation only 9 examples of default masculine agreement were registered with the same gender conjuncts, all of them with feminine conjuncts, and these were almost equally distributed between oral (2.26%) and written elicitation (3.16%). Four examples were registered in oral elicitation, as in (5):

- (5) Krajolikom su dominirali planine i rijeke. (2x)  
 landscape AUX dominated<sub>M</sub> mountains<sub>F</sub> and rivers<sub>F</sub>  
 'Mountains and rivers dominated the landscape.'

Five examples were registered in written elicitation.

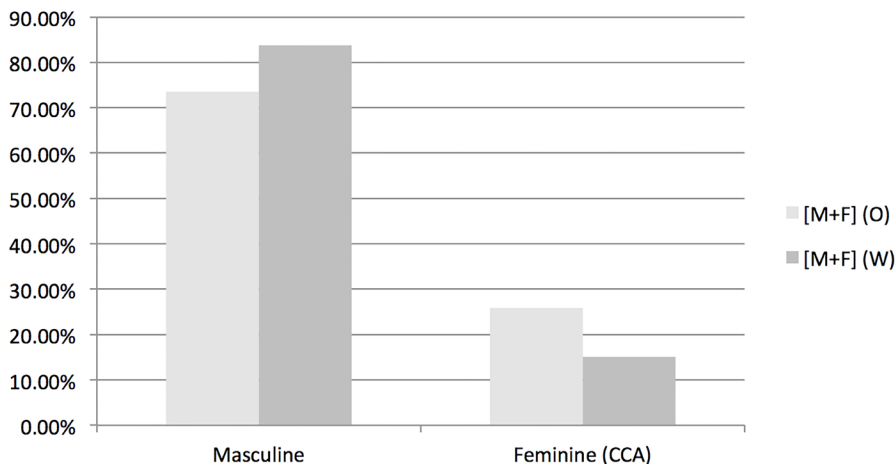
### 3.2. Mixed-Gender Conjuncts

Next, we investigated possible patterns of participial agreement with mixed-gender conjuncts when both conjuncts are plural with mixed-gender plural subjects occurring both preverbally and postverbally. Such subjects elicited participial agreement that corresponds to the gender of either of two conjuncts or default masculine agreement.

#### 3.2.1. Preverbal Subjects

In oral and written elicitation with [M + F] plural conjuncts, both masculine and feminine agreement was observed. There were more examples of masculine agreement in written (83.80%) than in oral elicitation (73.56%), whereas there was more feminine agreement in oral (25.86%) than in written elicitation (15.08%). So the tendency for closest-conjunct agreement (CCA) was more prominent in oral than in written experiments, although in both the default masculine was clearly dominant. Thus CCA was attested in both written and oral experiments, default masculine agreement was a more dominant pattern in both written and oral experiments, and CCA was significantly rarer in the written experiment (15.08% written vs. 25.86% oral). Figure 2, opposite, shows this difference in results between oral and written experiments.

On the acceptability-judgment scale, feminine-agreement forms were given an average grade of 3.20, which reaffirms the consistent presence of CCA as an agreement strategy, contra Bošković (2009), who claims that CCA is impossible if the first conjunct is masculine in a preverbal &P.



**Figure 2.** Participle agreement with mixed masculine and feminine conjuncts (preverbal)

In written and oral elicitation with [M + N] plural conjuncts, both default masculine and neuter agreement occurred. There were more examples of default masculine agreement in written (67.98%) than in oral elicitation (54.60%), whereas there was more neuter-agreement in oral (44.83%) than in written elicitation (32.02%). Again, the tendency for CCA was more prominent in oral than in written experiments, although in both the masculine form of the participle was dominant.

In written and oral elicitation with [F + M] plural conjuncts, almost all examples with masculine agreement were elicited and with almost equal distribution in both written (93.55%) and oral elicitation (95.57%). However, there were fourteen examples, nine in the written (5.81%) and five (3.16%) in the oral experiments, with feminine agreement, as in (6):

- (6) Jedrilice<sub>F</sub> i gliseri<sub>M</sub> su uplovile u zaliv.  
 sailboats<sub>F</sub> and speedboats<sub>M</sub> AUX sailed<sub>F</sub> in bay  
 'Sailboats and speedboats sailed in the bay.' (6x) (written)

The results of the acceptability-judgment task add even more importance to the presence of HCA in the experiments. On an acceptability-judgment scale ranging from 1 to 5, the two examples illustrating HCA in [F + M] conjuncts were given an average grade of 2.23. This figure, as well as the more prominent presence of HCA in written experiments in general, encourages further research into the presence of this type of agreement in BCS.

In written elicitation with [F + N] plural conjuncts, the majority of elicited forms were default masculine (50%) and neuter (37.18%). However, a considerable number of HCA forms (feminine) were recorded (20 examples, 12.82%), as in (7):

- (7) Nagrade i priznanja su uručene na pozornici. (5x)  
 prizes<sub>F</sub> and awards<sub>N</sub> AUX presented<sub>F</sub> on stage  
 'Prizes and awards were presented on the stage.'

In oral elicitation with [F + N] plural conjuncts, the majority of elicited forms were CCA (neuter) forms (53.37%) and default masculine (43.56%). However, a small number of HCA forms (feminine) were also recorded (five examples, 3.07%). Figure 3, opposite, compares the agreement patterns for [F + N] in oral and written elicitation.

The acceptability-judgment task introduces an interesting twist here. Firstly, feminine-agreement forms illustrating HCA in preverbal [F + N] conjuncts were given an average grade of 2.92. The examples showing closest-conjunct agreement were given an average grade of 3.30, while examples with default masculine agreement were given an average of 4.30. These findings are in line with written experiments favoring default masculine agreement over closest-conjunct agreement. Interestingly enough, even at this stage in our discussion, written experiments seem to be somewhere between the oral experiment results and the acceptability judgment task results.

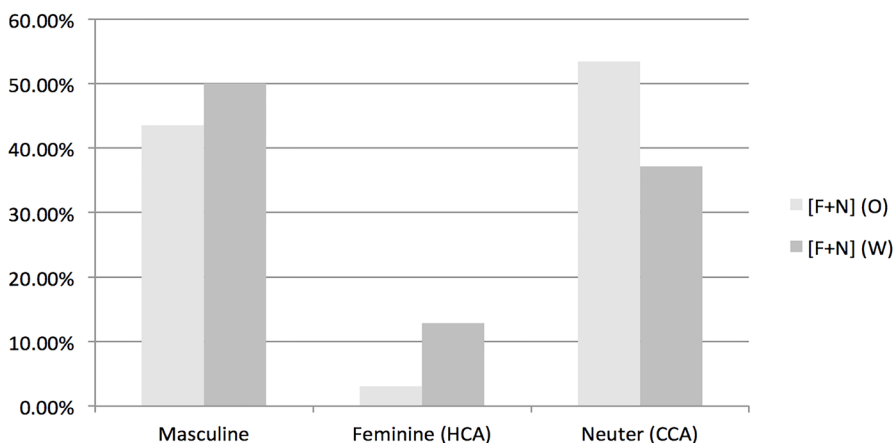
In written elicitation with [N + M] plural conjuncts, there were eight examples of HCA (5.23%), and all others were masculine (94.77%), as in (8):

- (8) Pitanja i problemi su napisana na tablu. (2x)  
 questions<sub>N</sub> and problems<sub>M</sub> AUX written<sub>N</sub> on board  
 'Questions and problems were written on the board.'

In oral elicitation with [N + M] plural conjuncts, the majority of the examples were masculine (141 examples, 92.16%), which shows the convergence of two different strategies, resolution and CCA. But there were also 11 instances of HCA (7.19%).

Although it might not seem that eight examples of HCA in written and eleven in oral experiments is significant, it is worth comparing the acceptability-judgments results. The [N + M] conjuncts with neuter participle agreement showed average grades of acceptability that went up to 2.05, which is a figure that deserves more attention.

In written elicitation with [N + F] plural conjuncts, all three agreement forms were recorded, and the same applies to oral elicitation. In written elicitation, the dominant forms were default masculine (54.55%); there were 58



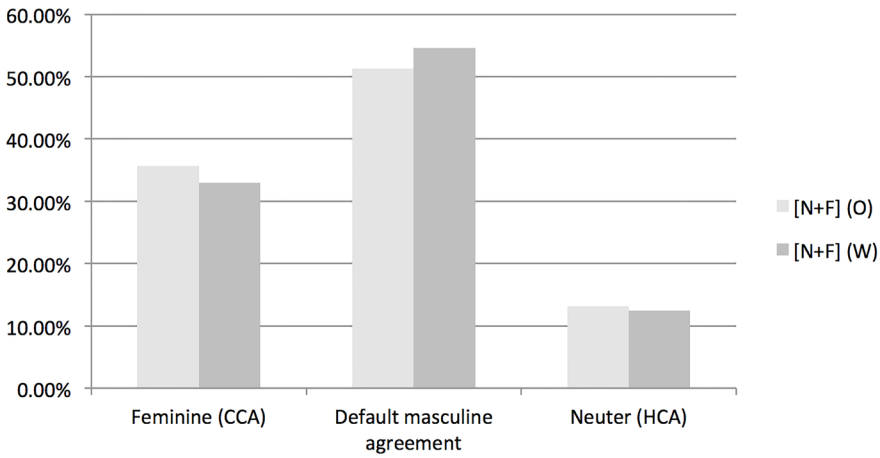
**Figure 3.** Participle agreement with mixed feminine and neuter conjuncts (preverbal)

examples of feminine agreement (32.95%), and 22 examples of HCA (neuter, 12.50%), as in (9):

- (9) Platna i skulpture su nestala u selidbi. (5x)  
 canvases<sub>N</sub> and sculptures<sub>F</sub> AUX disappeared<sub>N</sub> in removal  
 ‘Canvases and sculptures were lost during removal.’

In oral elicitation with [N + F] plural conjuncts, the dominant forms were masculine (51.25%) and feminine (35.63%), with 21 examples of HCA (neuter, 13.13%), as can be seen in Figure 4 on page 84.

The written and oral experiments seem to show the same pattern here. They favor default masculine agreement in [N + F] conjuncts. In the acceptability-judgment task, examples with default agreement were given relatively high average grades by participants (2.4). However, there is a certain complication here. The examples with closest- and highest-conjunct agreement show higher rates of acceptability (N + F = F, 3.1; N + F = N, 2.82) even though they are less present across written and oral experiments in [N + F] instances. This shows a discrepancy between production tasks and judgment tasks, with speakers sometimes highly rating an agreement strategy that they may not produce as often as resolution. This variation calls for additional research.



**Figure 4.** Participle agreement with mixed neuter and feminine conjuncts (preverbal)

### 3.2.2. Postverbal Subjects

In written and oral elicitation with [M + F] plural conjuncts, only masculine agreement was elicited. Similar results were obtained in written and oral elicitation with [M + N] plural conjuncts. Here default, highest-, and closest-conjunct agreement strategies blend into one, hence the overall preference for masculine. However, in case of [M + N] plural conjuncts, we recorded two examples with neuter participle forms in oral and three examples in written elicitation, which contradicts the claim by Marušič, Nevins, and Badecker (2015) that a postverbal conjunction will not allow agreement with the second/last/farthest conjunct, as in (10):

- (10) Na tržište su dospjela mirisovi i sjenila.  
 to market AUX reached<sub>N</sub> perfumes<sub>M</sub> and eyeshadows<sub>N</sub>  
 'Perfumes and eyeshadows reached the market.' (2x) (oral)

However, examples that showed last-conjunct agreement (LCA) show very low acceptability scores in the acceptability-judgment task (1.62), which casts a shadow on the possibility of this being a legitimate agreement strategy in postverbal conjuncts in BCS.

In written elicitation with [F + M] plural conjuncts, most forms were feminine (88.82%) versus 15 examples of masculine agreement (9.87%). In oral elicitation there were 92.76% feminine forms and 7.24% masculine forms, as in (11):

- (11) U roku su položeni vježbe i seminari.  
 in time AUX passed<sub>M</sub> exercises<sub>F</sub> and seminars<sub>M</sub>  
 'Exercises and seminars were passed on time.' (3x written, 1x oral)

In written elicitation with [F + N] plural conjuncts, almost all forms were feminine. There were four examples of default masculine agreement in written (2.50%) and six examples in oral elicitation (3.82%), as in (12):

- (12) U dućan su stigli olovke i rumenila. (oral)  
 in shop AUX delivered<sub>M</sub> pencils<sub>F</sub> and blushers<sub>N</sub>  
 'Pencils and blushers were delivered to the shop.'

In oral elicitation with [F + N] plural conjuncts, there were four neuter forms (2.55%), as in (13):

- (13) Na petak su pomaknuta sjednice i vijeća.  
 to Friday AUX rescheduled<sub>N</sub> meetings<sub>F</sub> and assemblies<sub>N</sub>  
 'Meetings and assemblies were rescheduled for Friday.'

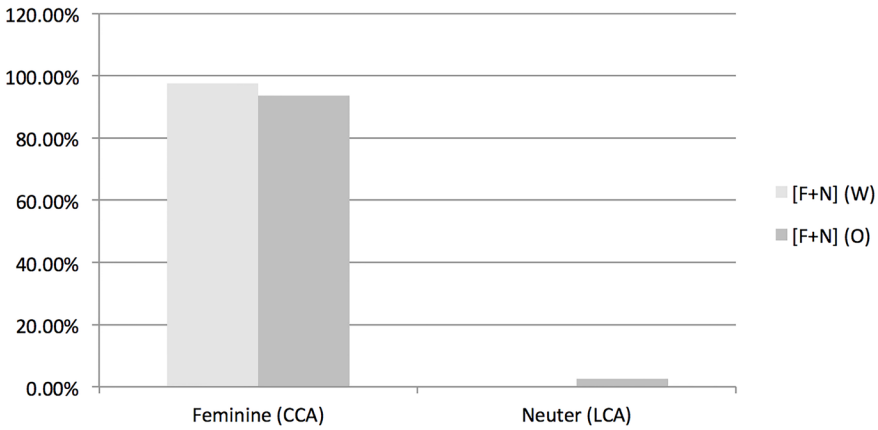
The dominance of CCA in [F + N] examples in oral and written experiments is further supported by the acceptability-judgment task. These examples were given an average score of over 4.50. LCA occurred in the oral experiments, but in the acceptability judgment task such examples received very low acceptability scores (1.77). The low presence of LCA as compared to CCA is shown in Figure 5 on page 86.

In written and oral elicitation with [N + M] plural conjuncts, only four masculine forms were registered—one in written (0.68%) and three in oral elicitation (2.03%), as in (14):

- (14) U vožnji su pomogli upozorenja i savjeti.  
 in driving AUX assisted<sub>M</sub> warnings<sub>N</sub> and suggestions<sub>M</sub>  
 'Warnings and suggestions helped in driving.' (2x) (oral)

In written and oral elicitation with [N + F] plural conjuncts, most forms were neuter. There were nine examples with default masculine forms—three in written (1.68%) and six in oral elicitation (3.45%), as in (15):

- (15) U sobu su naručeni jaja i salate.  
 to room AUX ordered<sub>M</sub> eggs<sub>N</sub> and salads<sub>F</sub>  
 'Eggs and salads were ordered for the room.' (written and oral)



**Figure 5.** Participle agreement with mixed feminine and neuter conjuncts (postverbal)

However, there were ten feminine forms: four examples in written elicitation (2.23%) and six in oral elicitation (3.45%), as in (16):

- (16) Pred zoru su utihnule nevremana i poplave.  
 before dawn AUX subsided<sub>F</sub> storms<sub>N</sub> and floods<sub>F</sub>  
 ‘The storms and floods subsided before dawn.’ (5x) (oral)

In the acceptability-judgment task, the examples with LCA received low acceptability grades (2.1), which additionally supports our claim that LCA is not an agreement mechanism in BCS. By comparison, the feminine-agreement forms exemplifying CCA were given an average grade of 3.62.

### 3.3. Interim Summary

Summarizing our results for [F + N] and [N + F] allows us to evaluate our main hypothesis: that in SV order there are three agreement strategies—CCA, HCA, and default masculine—and in VS order two—CCA and default masculine. Our claim is based on comparative figures, as we found five times as many examples of preverbal highest-conjunct agreement than postverbal last-conjunct agreement.

We first investigated possible patterns of participial agreement with coordinated subjects in preverbal position. In written elicitation with [F + N] conjuncts, the majority of participle forms were masculine (50%); there were 37.18% neuter forms and 12.82% feminine forms. This clearly shows that the

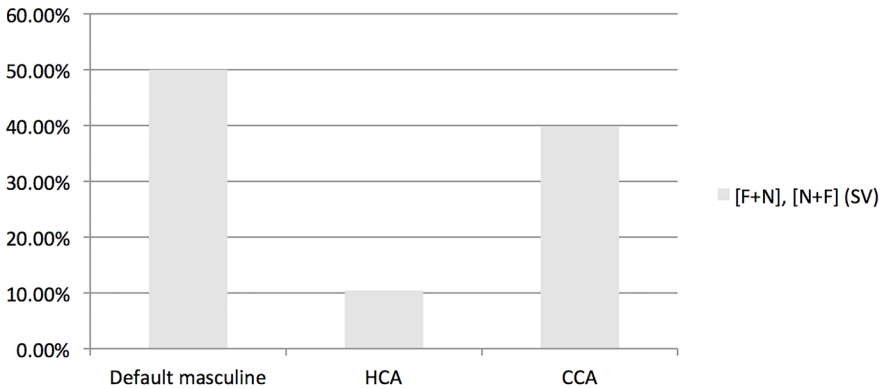


participants used three strategies of agreement: agreement with the maximal projection &P (78 masculine participle forms), agreement with the nearest conjunct (58 neuter participle forms), and agreement with the hierarchically highest conjunct (20 feminine forms). In written elicitation with [N + F] conjuncts, the majority of participle forms were again masculine (54.55%); there were 32.95% feminine forms and 12.50% neuter forms. Very similar results were obtained in oral elicitation with [N + F] conjuncts: masculine agreement 51.25%, feminine agreement 35.63%, and neuter agreement 13.13%. The acceptability-judgment results further confirm that the 13.13% figure for HCA in [N + F] examples is not merely a coincidence, as the average score for HCA instances was 2.82/5. However, in oral elicitation with [F + N] conjuncts, there were fewer examples of agreement with the highest, feminine, conjunct (only five examples, 3.07%), with most examples of agreement with the nearest, neuter conjunct (53.37%) and default masculine agreement (43.56%). Interestingly enough, the acceptability-judgment results are more similar to the written experiment results, since the HCA for [F + N] instances was given an average grade of 2.9. Therefore, if native speakers seem to evaluate HCA forms as relatively acceptable, there lingers the question of why only 3.07% of HCA occurred in [F + N] examples in the oral experiment.

To sum up, the total number of elicited examples, both written and oral, with [N + F] and [F + N] conjuncts in preverbal position was 655. The dominant form of agreement was default masculine (49.92%), followed by agreement with the closest conjunct (39.69%), and the least represented was agreement with the highest conjunct (10.38%). See Figure 6 on page 88.

Since 10.38% is not a small percentage, we cannot consider such examples to be performance errors. Therefore, we leave a more thorough discussion of the possibility that agreement with the highest conjunct is the third strategy of agreement used by native speakers for the next section. For now we note that if highest-conjunct agreement is indeed the third agreement strategy, this contradicts Bošković's (2009) claim that highest-conjunct agreement in preverbal position is not possible in BCS.

Next, we investigated possible patterns of participial agreement with [F + N] and [N + F] conjuncts in postverbal position. In written elicitation with [F + N] conjuncts, there were no examples of agreement with the farthest, neuter, conjunct. There were only four examples of default masculine agreement (2.50%), and the rest were nearest, feminine-conjunct agreement (97.50%). In written elicitation with [N + F] conjuncts, the majority of examples were again agreement with the nearest, neuter, conjunct (96.09%); there were three examples of default masculine agreement (1.68%), and four examples of agreement with the farthest, feminine, conjunct (2.23%). In oral elicitation with [F + N] the dominant form was agreement with the nearest, feminine, conjunct (93.63%), with very few examples of masculine agreement (3.82%) or agreement with the farthest, neuter, conjunct (2.55%). In oral elicitation with [N + F] conjuncts,



**Figure 6.** Participle agreement with mixed [N + F] and [F + N] conjuncts (preverbal)

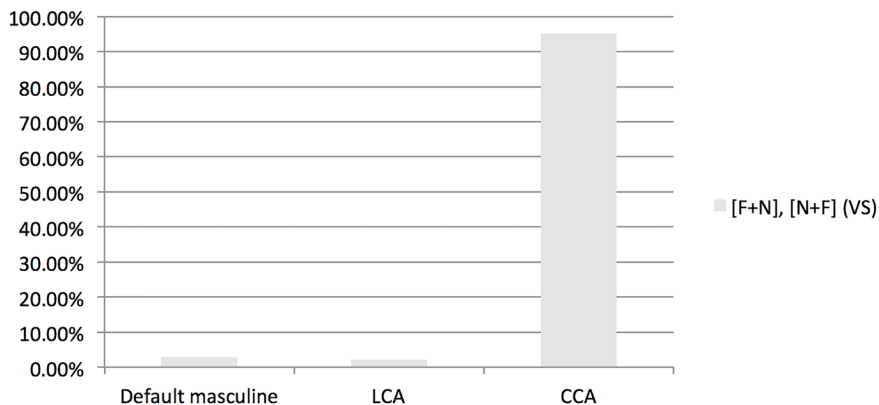
the majority of examples were examples of agreement with the nearest, neuter, conjunct (93.10%), and the remainder were default masculine agreement (3.45%) and agreement with the farthest, feminine, conjunct (3.45%). The acceptability-judgment results show that native speakers gave an average grade of 1.77 for LCA in [F + N] examples and a slightly higher 2.1 for LCA in [N + F] conjuncts.

The total number of elicited examples, both written and oral, with [N + F] and [F + N] conjuncts in postverbal position was 670. The dominant form of agreement was agreement with the nearest conjunct (95.07%), then default, masculine agreement (2.84%), and the least represented was agreement with the farthest conjunct (2.09%). See Figure 7, opposite.

Since 2.09% is a small percentage, these examples should be treated as performance errors rather than a separate agreement strategy (agreement with the farthest conjunct). Figure 7 also shows a low percentage of default masculine agreement for [F + N] and [N + F] examples in VS order. However, since default masculine agreement is present in all other conditions, there is no reason to treat it here as a performance error rather than an agreement strategy. Therefore, our results confirm the claim by Marušič, Nevins, and Badecker (2015) that a postverbal conjunction will not allow agreement with the second/last/farthest conjunct.

#### 4. Performance Errors in Written and Oral Elicitation

As we pointed out in section 3, the first experiment was a computer-assisted oral experiment in which participants were recorded and prompted by the computer screen to continue. In the written experiment, the participants had



**Figure 7.** Participle agreement with mixed [N + F] and [F + N] conjuncts (postverbal)

more time to consider each example and correct themselves if necessary. In this way we assume that the written experiment leaves less room for performance errors. The results of the analysis of the 30 participants in the experiment confirm this hypothesis: more performance errors were made in the oral experiments. In the paragraphs that follow, we clarify what we mean by performance errors with reference to specific examples. In the written experiments we registered 13 performance errors (4 in preverbal and 9 in postverbal contexts). There were considerably more performance errors in oral experiments, 23 in total (3 in preverbal and 20 in postverbal contexts).

We consider performance errors to be combinations which are not logically justifiable—to be precise, examples where the gender of the participle does not match the gender of either of the conjuncts, nor is it default masculine agreement. Feminine and neuter cannot be resolved agreement forms because as a rule the language favors the use of masculine for gender-neutral reference. This phenomenon is attested in everyday speech and does not only concern participles. Pronouns show a similar pattern. For example, when referring to a man and a woman, the pronoun used is the plural masculine form *oni* ‘they<sub>M.PL</sub>’.

The total number of performance errors in both written and oral experiments is extremely small (36) in comparison with the total number of analyzed examples in both written and oral experiments (6,074). Thus examples with performance errors make up 0.59% of all examples in our corpus. In written experiments there were 13 (= 0.21%) performance errors, and in oral experiments there were 23 (= 0.38%) performance errors.

#### 4.1. Written Experiment

We will first illustrate the type of performance errors made by participants in the written experiment with preverbal subjects. In cases where certain types of examples were also attested in the acceptability-judgment task, the average acceptability grades assigned to them by participants will be provided in order to additionally support the claim that these examples should be classified as performance errors.

Two participants used a neuter participle form with conjoined [M + F] plural nouns (acceptability score 1.75), as in (17):

- (17) Muzeji i galerije su otvorena za javnost.  
 museums<sub>M</sub> and galleries<sub>F</sub> AUX opened<sub>N</sub> for public  
 'Museums and galleries are opened to the public.'

One participant used a neuter participle form with conjoined [F + M] plural nouns. The last performance error in the preverbal written experiments was made by a participant who used a feminine participle form with conjoined [N + M] plural nouns (acceptability score 1.30), as in (18):

- (18) Pisma i paketi su stigle na vrijeme.  
 letters<sub>N</sub> and packages<sub>M</sub> AUX arrived<sub>F</sub> on time  
 'Letters and packages arrived on time.'

Next we will illustrate the type of performance errors made by participants in the postverbal written experiments. One participant used a feminine participle form with conjoined uniform gender, [N + N] plural nouns, as in (19):

- (19) U požaru su izgorile naselja i imanja.  
 in fire AUX burned<sub>F</sub> settlements<sub>N</sub> and estates<sub>N</sub>  
 'Settlements and estates were burned in the fire.'

Two participants used a neuter participle form with conjoined [F + M] plural noun. One participant used a singular feminine participle form, and another used a singular neuter participle form with conjoined [N + F] plural nouns, as in (20):

- (20) Pred zoru je utihnula nevremena i poplave.  
 before dawn AUX subsided<sub>F.SG</sub> storms<sub>N</sub> and floods<sub>F</sub>  
 'Storms and floods subsided before dawn.'

There were also four cases of apparent agreement with the farthest conjunct in postverbal written experiments, all involving a neuter participle form with conjoined [M + N] plural nouns, as in (21):

- (21) U sali su operisana zglobovi i stopala.  
 in hall AUX operated<sub>N</sub> ankles<sub>M</sub> and feet<sub>N</sub>  
 'Ankles and feet were operated on in the operating room.'

However, neuter-agreement forms in postverbal [M + N] conjuncts were given low average scores (1.62) for acceptability. This additionally upholds the claim by Marušič, Nevins, and Badecker (2015) that a postverbal conjunction will not allow agreement with the farthest conjunct. For this reason we treated this type of agreement as a performance error rather than a separate agreement strategy.

## 4.2. Oral Experiment

We will next illustrate the types of performance errors made by participants in the preverbal oral experiments. One participant used a neuter participle form with conjoined [M + F] plural nouns, as in (22):

- (22) Aktovi i skulpture su nestala u ateljeu.  
 nudes<sub>M</sub> and sculptures<sub>F</sub> AUX disappeared<sub>N</sub> in studio  
 'Nudes and sculptures were lost in the studio.'

One participant used a feminine participle form with conjoined [M + N] plural nouns. Another used a neuter participle form with conjoined [F + M] plural nouns.

Next we will illustrate the types of performance errors made by participants in the postverbal oral experiments. One participant used a feminine participle form with conjoined uniform gender, [N + N] plural nouns, as in (23):

- (23) U garaži su popravljene jedra i vesla.  
 in garage AUX repaired<sub>F</sub> sails<sub>N</sub> and oars<sub>N</sub>  
 'Sails and oars were repaired in the garage.'

Another used a neuter participle form with conjoined [M + F] plural nouns. Still another used a feminine participle form with conjoined [M + N] plural nouns.

There were six performance errors involving singular participle forms. One participant used a masculine singular participle form with conjoined [F + M] plural nouns, as in (24):

- (24) U pjesmi je prošao zabave i svatovi.  
 in singing AUX passed<sub>M.SG</sub> parties<sub>F</sub> and weddings<sub>M</sub>  
 'Parties and weddings were spent singing.'

Three participants used a neuter singular participle form with conjoined [N + F] plural nouns, as in (25):

- (25) U čašu je natočeno vina i rakije. (2x)  
 in glass AUX poured<sub>N.SG</sub> wines<sub>N</sub> and brandies<sub>F</sub>  
 'Brandies and wines were poured into the glass.'

A reviewer observed that this sentence is actually grammatical under a particular interpretation. Considering the fact that the conjoined subject is syntactic between nominative plural and genitive singular, the speaker might have interpreted the nouns as quantified subjects in genitive singular and applied default neuter singular agreement. In that case, this would actually count as a legitimate possibility or a possible agreement strategy and hence should not be treated as a performance error.

As for singular agreement with conjuncts, what was offered to the participants in the acceptability-judgment task was a case of agreement with coordinated LBE. The acceptability scores usually were between 1.5–2.0 with a few examples reaching 2.50. This is further proof that singular agreement with coordinated plural conjuncts is simply ruled out.

There were also 11 cases of apparent agreement with the farthest conjunct in postverbal oral experiments, which we treat as performance errors. Five examples involve a neuter participle form with conjoined [F + N] plural nouns, as in (26):

- (26) Na petak su pomaknuta sjednice i vijeća.  
 to Friday AUX rescheduled<sub>N</sub> meetings<sub>F</sub> and assemblies<sub>N</sub>  
 'Meetings and assemblies were rescheduled for Friday.'

Six examples involve a feminine participle form with conjoined [N + F] plural nouns, which we also treat as performance errors.

### 4.3. Interim Summary

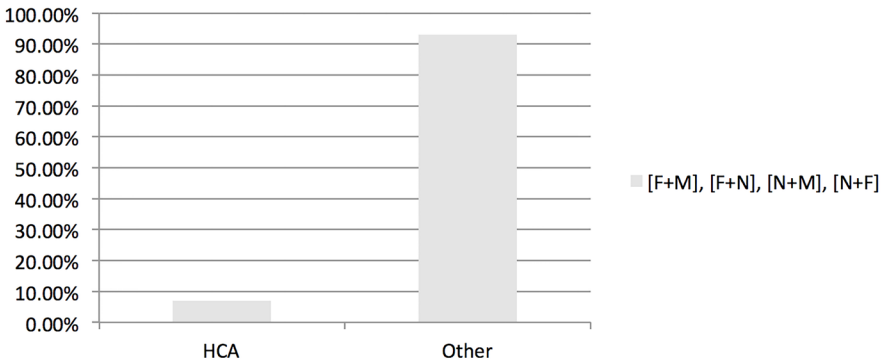
Performance errors in oral and written experiments occur in both SV and VS order. However, they are not numerous in our experiments, and the oral experiments contained a slightly higher rate of performance errors, 0.38% of the total corpus compared to 0.21% for the written experiments. There are no significant differences in the type of performance errors between the oral and written experiments. However, the analysis of postverbal mixed conjuncts in both the oral and written experiments was important because it showed that LCA in postverbal mixed conjuncts is not a legitimate agreement strategy. Out of 6,074 total examples that were analyzed in search of performance errors, only 15 (4 in the written experiment and 11 in the oral experiment) showed agreement with farthest conjunct, which is why we classified them as performance errors.

### 5. General Discussion

We wish to reiterate that in preverbal position agreement with the farthest (highest) conjunct is a legitimate agreement strategy, as we found in our production experiment. This is in contrast to Bošković 2009, where it is claimed that highest-conjunct agreement in preverbal position is not possible in BCS. Alternatively, we have shown, in part based on independent acceptability judgments, that examples of farthest-conjunct agreement in postverbal position, which contradict Marušič, Nevins, and Badecker's (2015) findings, should be treated as performance errors rather than a separate agreement strategy. The number of examples (produced instances of each agreement strategy), number and type of production errors, and the acceptability judgments made by native speakers led us to this conclusion.

We only analyzed conditions in which farthest-conjunct agreement is unambiguous. These are examples in the preverbal experiments with [F + M] conjuncts and [F + N] conjuncts, where a feminine participle form could be in agreement with the highest, feminine, conjunct. We also considered examples in the preverbal experiments with [N + M] conjuncts and [N + F] conjuncts, in which case a neuter participle form could be in agreement with the highest, neuter, conjunct. The total number of examples in these four environments was 1,274. We found 90 examples of agreement with the highest conjunct, which is 7.06%. See Figure 8 on page 94.

This percentage is even higher if we consider only some of these environments. So, for example, in the preverbal written experiments with conjoined [F + N] plural nouns, there were 20 examples of feminine participle forms, which is 12.82%. A similar percentage (13.13%) was registered in preverbal



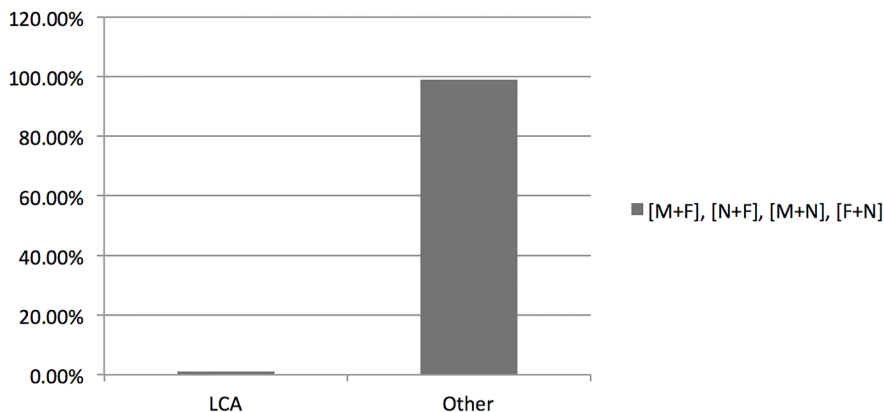
**Figure 8.** Agreement with [F + M], [F + N], [N + M], and [N + F] (preverbal)

oral experiments with [N + F] conjuncts, with 21 examples of neuter participle forms in agreement with the highest, neuter, conjunct.

Moreover, the participants produced only 15 examples (roughly 1%) where it appears that the participle form agrees with the farthest conjunct in postverbal contexts. We only analyzed contexts in which farthest-conjunct agreement is potentially possible; these are examples in postverbal experiments with [M + F] and [N + F] conjuncts, in which case a feminine participle form appears to be in agreement with the farthest, feminine conjunct. We also considered examples in postverbal experiments with [M + N] conjuncts and [F + N] conjuncts, in which case a neuter participle form appears to be in agreement with the farthest, neuter conjunct. The total number of examples in these four contexts was 1,378, and we found only 15 examples of participle forms that appear to be in agreement with the farthest conjunct, which is 1.09%. See Figure 9, opposite.

At the same time, we found 14 examples of clear performance errors in postverbal contexts. These are feminine participle forms when neither of the conjuncts is feminine, neuter participle forms when neither of the conjuncts is neuter, and singular participle forms with plural conjuncts. There is no syntactic source for any of these values in the sentence. Consequently, such participle forms cannot be treated as agreement forms, but rather as performance errors. It is interesting that the participants produced an almost identical number of examples that are clear performance errors (14 examples) and examples which appear to be forms in agreement with the farthest conjunct (15 examples). This may be pure coincidence, but it may also lead us to the conclusion that (near) identity in a (small) number of examples points to the possibility that all of them are performance errors and that the second group of 15 examples should not be treated as agreement with the farthest conjunct.





**Figure 9.** Agreement with [M + F], [N + F], [M + N], and [F + N] (postverbal)

However, an interesting discrepancy occurs in preverbal contexts where we also compared the number of examples that are clear performance errors and examples that appear to be agreement with the highest conjunct. There were only 7 examples (or 0.5%) of clear performance errors, whereas we found 77 examples (or 6%) of participle forms that correspond to the gender of the highest conjunct. Based on this we conclude that highest-conjunct agreement is a legitimate agreement strategy, and such examples should not be treated as performance errors.

A summary of the results is presented in Tables 1, 2, and 3 in Appendix 1.

## 6. Conclusion

The analysis of our experimental results presented a comparison of the number of examples (produced instances) of each agreement strategy, the number and type of production errors, and the acceptability judgments made by native speakers for preverbal highest-conjunct agreement and postverbal low-est/distant-conjunct agreement. These are the criteria on which we derive our conclusions and base our claims. Because HCA examples made up 7% and LCA 1% of the relevant examples, this immediately showed that LCA is not an agreement mechanism in BCS. This was additionally confirmed by the acceptability judgments, as native speakers assigned the lowest acceptability grades to LCA examples (1.5/5 on average) whereas HCA sentences were generally considered fairly acceptable with scores varying between 2 and 3 out of 5.

The research we conducted raises many other questions that can lead to fruitful future discussions. Most of the sentences we analyzed showed that CCA was favored in the oral experiment, whereas default agreement was

more prominent in the written experiment. Furthermore, default agreement was completely overpowered by CCA in VS and accounted for only 3% of the agreement forms in the VS examples. Finally, we discovered that there were more performance errors in VS examples, and that they have a different nature than performance errors in SV examples. In the SV examples, production errors involved impossible agreement forms where the gender of the participle neither corresponded to the gender of either conjunct nor was it a matter of resolved agreement. VS performance errors, on the other hand, contain singular agreement with plural conjuncts. Our analysis identified patterns that were too persistent to be considered mere coincidence, and thus they should be subject to future research.

## References

- Aoun, Joseph, Elabbas Benmamoun, and Dominique Sportiche. (1999) "Further remarks on first-conjunct agreement". *Linguistic inquiry* 30: 669–81.
- Benmamoun, Elabbas, Archana Bhatia, and Maria Polinsky. (2010) "Closest-conjunct agreement in head-final languages". *Linguistic variation yearbook* 2009: 67–88.
- Bhatt, Rajesh and Martin Walkow. (2013) "Locating agreement in grammar: An argument from agreement in conjunctions". *Natural language and linguistic theory* 31(4): 951–1013.
- Bock, Kathryn and Carol Miller. (1991) "Broken agreement". *Cognitive psychology* 23: 45–93.
- Bošković, Željko. (2009) "Unifying first and last conjunct agreement". *Natural language and linguistic theory* 27: 455–96.
- Corbett, Greville. (1983a) *Hierarchies, targets, and controllers: Agreement patterns in Slavic*. London: Croom Helm.
- . (1983b) "Resolution rules: Agreement in person, number, and gender". Gerald Gazdar, Ewan Klein, and Geoffrey K. Pullum, eds. *Order, concord, and constituency*. Dordrecht: Foris, 175–214.
- . (1991) *Gender*. Cambridge: Cambridge University Press.
- Drummond, Alex. (2011) *IbexFarm*. Version 0.2.7. Available at <http://spellout.net/ibexfarm/>.
- Franck, Julie. (2011) "Reaching agreement as a core syntactic process: Commentary on Bock and Middelton 'Reaching Agreement'". *Natural language and linguistic theory* 29: 1071–86.
- Franck, Julie, Ulrich Frauenfelder, and Luigi Rizzi. (2007) "A syntactic analysis of interference in subject-verb agreement". *MIT working papers in linguistics* 53: 173–90.

- Franck, Julie, Glenda Lassi, Ulrich Frauenfelder, and Luigi Rizzi. (2006) "Agreement and movement: A syntactic analysis of attraction". *Cognition* 101: 173–216.
- Franks, Steven and Jana Willer-Gold. (2014) "Agreement strategies with conjoined subjects in Croatian". Sylwester Jaworski and Jacek Witkoś, eds. *New insights into Slavic linguistics*. Frankfurt am Main: Peter Lang, 91–115.
- Marušič, Franc, Andrew Nevins, and William Badecker. (2015) "The grammars of conjunction agreement in Slovenian". *Syntax* 18(1): 39–77.
- Marušič, Franc, Andrew Nevins, and Amanda Saksida. (2007) "Last-conjunct agreement in Slovenian". Robert Compton, Magda Goledzinowska, and Ulyana Savchenko, eds. *Formal approaches to Slavic linguistics: The Toronto meeting*. Ann Arbor: Michigan Slavic Publications, 210–27.
- Munn, Alan. (1999) "First-conjunct agreement: Against a clausal analysis". *Linguistic inquiry* 30(4): 643–68.
- Puškar, Zorica and Andrew Murphy. (2015) "Closest-conjunct agreement in Serbo-Croatian: A rule-ordering account". Anke Assmann, Sebastian Bank, Doreen Georgi, Timo Klein, Phillipp Weisser, and Eva Zimmermann, eds. *Topics at Infl*. Leipzig: Institut für Linguistik der Universität Leipzig, 441–82. [*Linguistische Arbeitsberichte (LAB)*, 92.] Available at [http://www.uni-leipzig.de/~asw/lab/lab92/LAB92\\_15\\_puskar\\_murphy.pdf](http://www.uni-leipzig.de/~asw/lab/lab92/LAB92_15_puskar_murphy.pdf).

Nermina Čordalija  
University of Groningen (IDEALAB)  
Center for Language and Cognition  
Oude Kijk in 't Jatstraat 26  
9712 EK Groningen  
The Netherlands  
(Formerly of University of Sarajevo)  
[n.cordalija@rug.nl](mailto:n.cordalija@rug.nl)

Received: November 2015

Revised: March 2016

Amra Bešić, Ivana Jovović, Nevenka Marijanović  
Lidija Perković, Midhat Šaljić,  
Dženana Telalagić, and Nedžad Leko  
University of Sarajevo  
Faculty of Philosophy  
Franje Račkog 1  
71000 Sarajevo  
Bosna and Herzegovina  
[besic\\_amra@hotmail.com](mailto:besic_amra@hotmail.com), [ivanajovovic1@gmail.com](mailto:ivanajovovic1@gmail.com),  
[marijanovicnevenka@yahoo.com](mailto:marijanovicnevenka@yahoo.com), [perkoviclidija@hotmail.com](mailto:perkoviclidija@hotmail.com),  
[midhat.saljic@hotmail.com](mailto:midhat.saljic@hotmail.com), [dzenana.telalagic@gmail.com](mailto:dzenana.telalagic@gmail.com)  
[nedzad.leko@ff.unsa.ba](mailto:nedzad.leko@ff.unsa.ba)

**Table 1.** Numbers of participle agreement forms with uniform and mixed-gender conjuncts

|            | SV      |     |     |      |     |     | VS      |     |     |      |     |     |
|------------|---------|-----|-----|------|-----|-----|---------|-----|-----|------|-----|-----|
|            | WRITTEN |     |     | ORAL |     |     | WRITTEN |     |     | ORAL |     |     |
|            | M       | F   | N   | M    | F   | N   | M       | F   | N   | M    | F   | N   |
| <b>M+M</b> | 179     | 0   | 0   | 178  | 0   | 0   | 180     | 0   | 0   | 180  | 0   | 0   |
| <b>F+F</b> | 1       | 179 | 0   | 24   | 151 | 0   | 5       | 153 | 0   | 4    | 173 | 0   |
| <b>N+N</b> | 5       | 0   | 174 | 16   | 0   | 164 | 0       | 1   | 176 | 0    | 1   | 175 |
| <b>M+F</b> | 150     | 27  | 2   | 128  | 45  | 1   | 177     | 0   | 0   | 179  | 0   | 1   |
| <b>M+N</b> | 121     | 0   | 57  | 95   | 1   | 78  | 173     | 0   | 3   | 173  | 0   | 2   |
| <b>F+M</b> | 145     | 9   | 1   | 151  | 5   | 2   | 15      | 135 | 2   | 11   | 141 | 0   |
| <b>F+N</b> | 78      | 20  | 58  | 71   | 5   | 87  | 4       | 156 | 0   | 6    | 147 | 4   |
| <b>N+M</b> | 145     | 0   | 8   | 141  | 1   | 11  | 1       | 0   | 145 | 3    | 0   | 145 |
| <b>N+F</b> | 96      | 58  | 22  | 82   | 57  | 21  | 3       | 4   | 172 | 6    | 6   | 162 |

**Table 2.** Numbers of performance errors, highest-conjunct, and furthest-conjunct agreement

|     | SUBJECT PREVERBAL |                  | SUBJECT POSTVERBAL |                 |
|-----|-------------------|------------------|--------------------|-----------------|
|     | WRITTEN           | ORAL             | WRITTEN            | ORAL            |
| M+M |                   |                  |                    |                 |
| F+F |                   |                  | 1F (PE)            | 1F (PE)         |
| N+N |                   |                  |                    | 1N (PE)         |
| M+F | 2N (PE)           | 1N (PE)          |                    | 1F (PE)         |
| M+N |                   | 1F (PE)          | 4N (FC)            | 1MSg (PE)       |
| F+M | 6F (HC); 1N (PE)  | 3F (HC); 1N (PE) | 2N (PE)            | 5N (FC)         |
| F+N | 19F (HC)          | 4F (HC)          |                    |                 |
| N+M | 10N (HC); 1F (PE) | 7N (HC)          |                    |                 |
| N+F | 22N (HC)          | 6N (HC)          | 1FSg; 1NSg (PE)    | 6F (FC), 5 (PE) |

PE = performance error

HC = highest-conjunct agreement

FC = farthest-conjunct agreement

**Table 3.** Percentages of participle agreement forms with uniform and mixed-gender conjuncts

|     | SUBJECT PREVERBAL |       |       |       |       |       | SUBJECT POSTVERBAL |       |       |       |       |       |
|-----|-------------------|-------|-------|-------|-------|-------|--------------------|-------|-------|-------|-------|-------|
|     | WRITTEN           |       |       | ORAL  |       |       | WRITTEN            |       |       | ORAL  |       |       |
|     | M                 | F     | N     | M     | F     | N     | M                  | F     | N     | M     | F     | N     |
| M+M | 100%              | 0     | 0     | 100%  | 0     | 0     | 100%               | 0     | 0     | 100%  | 0     | 0     |
| F+F | 0.56              | 99.44 | 0     | 13.71 | 86.29 | 0     | 3.16               | 96.84 | 0     | 2.26  | 97.74 | 0     |
| N+N | 2.79              | 0     | 97.21 | 8.89  | 0     | 91.11 | 0                  | 0.56  | 99.44 | 0     | 0.57  | 99.43 |
| M+F | 83.80             | 15.08 | 1.12  | 73.56 | 25.86 | 0.57  | 100%               | 0     | 0     | 99.44 | 0     | 0.56  |
| M+N | 67.98             | 0     | 32.02 | 54.60 | 0.57  | 44.83 | 98.30              | 0     | 1.70  | 98.86 | 0     | 1.14  |
| F+M | 93.55             | 5.81  | 0.65  | 95.57 | 3.16  | 1.27  | 9.87               | 88.82 | 1.32  | 7.24  | 92.76 | 0     |
| F+N | 50.00             | 12.82 | 37.18 | 43.56 | 3.07  | 53.37 | 2.50               | 97.50 | 0     | 3.82  | 93.63 | 2.55  |
| N+M | 94.77             | 0     | 5.23  | 92.16 | 0.65  | 7.19  | 0.68               | 0     | 99.32 | 2.03  | 0     | 97.97 |
| N+F | 54.55             | 32.95 | 12.50 | 51.25 | 35.63 | 13.13 | 1.68               | 2.23  | 96.09 | 3.45  | 3.45  | 93.10 |

## Appendix 2: Examples of Production from Written and Oral Experiments

### A2.1. Preverbal Subjects with Same-Gender Conjuncts

#### *Default Masculine Agreement with F+F Conjuncts in the Oral Experiment*

- (1) Odluke i presude su doneseni na sjednici. (4x)  
 decisions<sub>F</sub> and verdicts<sub>F</sub> AUX adopted<sub>M</sub> at meeting
- (2) Potvrde i dopune su priloženi uz prijavu. (5x)  
 certificates<sub>F</sub> and amendments<sub>F</sub> AUX attached<sub>M</sub> with application
- (3) Fotografije i skice su prijavljeni na konkurs. (6x)  
 photos<sub>F</sub> and sketches<sub>F</sub> AUX registered<sub>M</sub> for competition
- (4) Bujice i poplave su doveli do odrona. (3x)  
 torrents<sub>F</sub> and floods<sub>F</sub> AUX caused<sub>M</sub> to landslide
- (5) Zahvale i čestitke su izašli u  
 acknowledgements<sub>F</sub> and greetings<sub>F</sub> AUX published<sub>M</sub> in  
 novinama. (4x)  
 newspapers
- (6) Planine i rijeke su dominirali krajolikom. (2x)  
 mountains<sub>F</sub> and rivers<sub>F</sub> AUX dominated<sub>M</sub> landscape

#### *Default Masculine Agreement with F+F Conjuncts in the Written Experiment*

- (7) Fotografije i skice su prijavljeni na konkurs.  
 photos<sub>F</sub> and sketches<sub>F</sub> AUX registered<sub>M</sub> for competition

#### *Default Masculine Agreement with N+N Conjuncts in the Oral Experiment*

- (8) Poglavlja i uputstva su predani na čitanje. (5x)  
 chapters<sub>N</sub> and instructions<sub>N</sub> AUX submitted<sub>M</sub> for reading
- (9) Ogledala i stakla su popucali pod pritiskom. (3x)  
 mirrors<sub>N</sub> and glasses<sub>N</sub> AUX cracked<sub>M</sub> under pressure

- (10) Jezera i mora su zagađeni otpadom. (3x)  
 lakes<sub>N</sub> and seas<sub>N</sub> AUX polluted<sub>M</sub> (with) waste
- (11) Naselja i imanja su izgorjeli u požaru. (2x)  
 settlements<sub>N</sub> and estates<sub>N</sub> AUX burned<sub>M</sub> in fire
- (12) Jedra i vesla su popravljani u garaži.  
 sails<sub>N</sub> and oars<sub>N</sub> AUX repaired<sub>M</sub> in garage
- (13) Ljeta i proljeća su započeli grmljavinom. (2x)  
 summers<sub>N</sub> and springs<sub>N</sub> AUX started<sub>M</sub> (with) thunder

---

*Default Masculine Agreement with N+N Conjuncts in the Written Experiment*

- (14) Jezera i mora su zagađeni otpadom.  
 lakes<sub>N</sub> and seas<sub>N</sub> AUX polluted<sub>M</sub> (with) waste
- (15) Naselja i imanja su izgorjeli u požaru.  
 settlements<sub>N</sub> and estates<sub>N</sub> AUX burned<sub>M</sub> in fire
- (16) Ljeta i proljeća su započeli grmljavinom.  
 summers<sub>N</sub> and springs<sub>N</sub> AUX started<sub>M</sub> (with) thunder
- (17) Poglavlja i uputstva su predani na čitanje.  
 chapters<sub>N</sub> and instructions<sub>N</sub> AUX submitted<sub>M</sub> for reading
- (18) Ogledala i stakla su popucali pod pritiskom.  
 mirrors<sub>N</sub> and glasses<sub>N</sub> AUX cracked<sub>M</sub> under pressure

---

**A2.2. Postverbal Subjects with Same-Gender Conjuncts**

*Default Masculine Agreement with F+F Conjuncts in the Oral Experiment*

- (19) Uz prijavu su priloženi potvrde i  
 with application AUX attached<sub>M</sub> certificates<sub>F</sub> and  
 dopune.  
 amendments<sub>F</sub>
- (20) Krajolikom su dominirali planine i rijeke. (2x)  
 landscape AUX dominated<sub>M</sub> mountains<sub>F</sub> and rivers<sub>F</sub>



- (21) U novinama su izašli zahvale i  
 in newspapers AUX published<sub>M</sub> acknowledgements<sub>F</sub> and  
 čestitke.  
 greetings<sub>F</sub>

**Default Masculine Agreement with F+F Conjuncts in the Written Experiment**

- (22) Na sjednici su doneseni odluke i presude. (3x)  
 at meeting AUX adopted<sub>M</sub> decisions<sub>F</sub> and verdicts<sub>F</sub>
- (23) U novinama su izašli zahvale i  
 in newspapers AUX published<sub>M</sub> acknowledgements<sub>F</sub> and  
 čestitke.  
 greetings<sub>F</sub>
- (24) Uz prijavu su priloženi potvrde i dopune.  
 with application AUX attached<sub>M</sub> certificates<sub>F</sub> and amendments<sub>F</sub>

**A2.3. Preverbal Subjects with Mixed-Gender Conjuncts**

**HCA Agreement: Feminine Agreement with F+M Conjuncts (Written and Oral)**

- (25) Zabave i svatovi su prošle u pjesmi. (2x)  
 parties<sub>F</sub> and weddings<sub>M</sub> AUX passed<sub>F</sub> in singing (written)
- (26) Vježbe i seminari su položene u roku. (written)  
 exercises<sub>F</sub> and seminars<sub>M</sub> AUX passed<sub>F</sub> in time
- (27) Jedrilice i gliseri su uplovile u zaliv. (6x)  
 sailboats<sub>F</sub> and speedboats<sub>M</sub> AUX sailed<sub>F</sub> in bay (written)
- (28) Granice i prelazi su utvrđene na sastanku. (2x)  
 borders<sub>F</sub> and crossings<sub>M</sub> AUX determined<sub>F</sub> at meeting (oral)
- (29) Škole i instituti su zatvorene ljeti. (oral)  
 schools<sub>F</sub> and institutes<sub>M</sub> AUX closed<sub>F</sub> (in) summer
- (30) Jedrilice i gliseri su uplovile u zaliv. (oral)  
 sailboats<sub>F</sub> and speedboats<sub>M</sub> AUX sailed<sub>F</sub> in bay

***HCA Agreement: Feminine Agreement with F+N Conjuncts in the Written Experiment***

- (31) Sjednice i vijeća su pomaknute na petak. (4x)  
meetings<sub>F</sub> and assemblies<sub>N</sub> AUX rescheduled<sub>F</sub> to Friday
- (32) Nagrade i priznanja su uručene na pozornici. (5x)  
prizes<sub>F</sub> and awards<sub>N</sub> AUX presented<sub>F</sub> on stage
- (33) Teorije i pravila su nastale preko noći. (3x)  
theories<sub>F</sub> and rules<sub>N</sub> AUX created<sub>F</sub> over night
- (34) Diskusije i druženja su potrajale do jutra. (3x)  
discussions<sub>F</sub> and gatherings<sub>N</sub> AUX lasted<sub>F</sub> until morning
- (35) Olovke i rumenila su stigle u dućan.  
pencils<sub>F</sub> and blushers<sub>N</sub> AUX delivered<sub>F</sub> in shop

***HCA Agreement: Feminine Agreement with F+N Conjuncts in the Oral Experiment***

- (36) Sjednice i vijeća su pomaknute na petak.  
meetings<sub>F</sub> and assemblies<sub>N</sub> AUX rescheduled<sub>F</sub> to Friday
- (37) Nagrade i priznanja su uručene na pozornici.  
prizes<sub>F</sub> and awards<sub>N</sub> AUX presented<sub>F</sub> on stage
- (38) Teorije i pravila su nastale preko noći.  
theories<sub>F</sub> and rules<sub>N</sub> AUX created<sub>F</sub> over night
- (39) Olovke i rumenila su stigle u dućan.  
pencils<sub>F</sub> and blushers<sub>N</sub> AUX delivered<sub>F</sub> in shop

***HCA Agreement: Neuter Agreement with N+M Conjuncts in the Written Experiment***

- (40) Pića i sendviči su poslužena na terasi.  
drinks<sub>N</sub> and sandwiches<sub>M</sub> AUX served<sub>N</sub> on terrace
- (41) Pitanja i problemi su napisana na tablu. (2x)  
questions<sub>N</sub> and problems<sub>M</sub> AUX written<sub>N</sub> on board

- (42) Upozorenja i savjeti su pomagala u vožnji. (2x)  
 warnings<sub>N</sub> and advice<sub>M.PL</sub> AUX assisted<sub>N</sub> in driving
- (43) Stakla i retrovizori su napukla u nesreći. (2x)  
 glasses<sub>N</sub> and mirrors<sub>M</sub> AUX cracked<sub>N</sub> in accident
- (44) Pisma i paketi su stigla na vrijeme.  
 letters<sub>N</sub> and packages<sub>M</sub> AUX arrived<sub>N</sub> on time

***HCA Agreement: Neuter Agreement with N+M Conjuncts in the Oral Experiment***

- (45) Pitanja i problemi su napisana na tablu. (3x)  
 questions<sub>N</sub> and problems<sub>M</sub> AUX written<sub>N</sub> on board
- (46) Stakla i retrovizori su napukla u nesreći. (3x)  
 glasses<sub>N</sub> and mirrors<sub>M</sub> AUX cracked<sub>N</sub> in accident
- (47) Pića i sendviči su poslužena na terasi. (3x)  
 drinks<sub>N</sub> and sandwiches<sub>M</sub> AUX served<sub>N</sub> on terrace
- (48) Pisma i paketi su stigla na vrijeme. (2x)  
 letters<sub>N</sub> and packages<sub>M</sub> AUX arrived<sub>N</sub> on time
- (49) Upozorenja i savjeti su pomagala u vožnji.  
 warnings<sub>N</sub> and advice<sub>M.PL</sub> AUX assisted<sub>N</sub> in driving

***HCA Agreement: Neuter Agreement with N+F Conjuncts in the Written Experiment***

- (50) Jaja i salate su naručena u sobu. (2x)  
 eggs<sub>N</sub> and salads<sub>F</sub> AUX ordered<sub>N</sub> to room
- (51) Vina i rakije su natočena u čašu. (3x)  
 wines<sub>N</sub> and brandies<sub>F</sub> AUX poured<sub>N</sub> in glass
- (52) Nevremena i poplave su utihnula pred zorom. (3x)  
 storms<sub>N</sub> and floods<sub>F</sub> AUX subsided<sub>N</sub> before dawn
- (53) Platna i skulpture su nestala u selidbi. (5x)  
 canvases<sub>N</sub> and sculptures<sub>F</sub> AUX disappeared<sub>N</sub> in removal
- (54) Takmičenja i utakmice su započela u svadi. (4x)  
 competitions<sub>N</sub> and games<sub>F</sub> AUX started<sub>N</sub> in quarrel

- (55) Putovanja i konferencije su zakazana za proljeće.  
trips<sub>N</sub> and conferences<sub>F</sub> AUX scheduled<sub>N</sub> for spring (3x)
- 

**HCA Agreement: Neuter Agreement with N+F Conjuncts in the Oral Experiment**

- (56) Nevremena i poplave su utihnula pred zoru. (3x)  
storms<sub>N</sub> and floods<sub>F</sub> AUX subsided<sub>N</sub> before dawn
- (57) Platna i skulpture su nestala u selidbi. (4x)  
canvases<sub>N</sub> and sculptures<sub>F</sub> AUX disappeared<sub>N</sub> in removal
- (58) Vina i rakije su natočena u čašu. (4x)  
wines<sub>N</sub> and brandies<sub>F</sub> AUX poured<sub>N</sub> in glass
- (59) Putovanja i konferencije su zakazana za proljeće.  
trips<sub>N</sub> and conferences<sub>F</sub> AUX scheduled<sub>N</sub> for spring (9x)
- (60) Jaja i salate su naručena u sobu.  
eggs<sub>N</sub> and salads<sub>F</sub> AUX ordered<sub>N</sub> to room
- 

**A2.4. Postverbal Subjects with Mixed-Gender Conjuncts**

**LCA Agreement: Neuter Agreement with M+N Conjuncts (Oral and Written)**

- (61) Na tržište su dospjela mirisovi i sjenila. (2x) (oral)  
to market AUX reached<sub>N</sub> perfumes<sub>M</sub> and eyeshadows<sub>N</sub>
- (62) U sali su operisana zglobovi i stopala. (written)  
in hall AUX operated<sub>N</sub> ankles<sub>M</sub> and feet<sub>N</sub>
- (63) S računa su nestala poticaji i sredstva.  
from account AUX disappeared<sub>N</sub> incentives<sub>M</sub> and funds<sub>N</sub>  
(written)
- (64) U plovidbi su pomagala kompasi i kormila. (written)  
in navigation AUX helped<sub>N</sub> compasses<sub>M</sub> and helms<sub>N</sub>
-

**LCA Agreement: Masculine Agreement with F+M Conjuncts (Oral and Written)**

- (65) Na sastanku su utvrđeni granice i prelazi. (written)  
at meeting AUX determined<sub>M</sub> borders<sub>F</sub> and crossings<sub>M</sub> (3x)
- (66) Ljeti su zatvoreni škole i instituti. (2x written)  
(in) summer AUX closed<sub>M</sub> schools<sub>F</sub> and institutes<sub>M</sub> (2x oral)
- (67) U roku su položeni vježbe i seminari. (3x written)  
in time AUX passed<sub>M</sub> exercises<sub>F</sub> and seminars<sub>M</sub> (1x oral)
- (68) U pjesmi su prošli zabave i svatovi. (oral)  
in singing AUX passed<sub>M</sub> parties<sub>F</sub> and weddings<sub>M</sub>
- (69) U zaliv su uplovili jedrilice i gliseri. (written)  
in bay AUX sailed<sub>M</sub> sailboats<sub>F</sub> and speedboats<sub>M</sub>

**Default Masculine Agreement with F+N Conjuncts in the Oral Experiment**

- (70) U dućan su stigli olovke i rumenila. (oral)  
in shop AUX delivered<sub>M</sub> pencils<sub>F</sub> and blushers<sub>N</sub>
- (71) Na petak su pomaknuti sjednice i vijeća. (oral)  
to Friday AUX rescheduled<sub>M</sub> meetings<sub>F</sub> and assemblies<sub>N</sub>
- (72) Do jutra su potrajali diskusije i druženja. (oral)  
until morning AUX lasted<sub>M</sub> discussions<sub>F</sub> and gatherings<sub>N</sub>

**LCA Agreement: Neuter Agreement with F+N Conjuncts in the Oral Experiment**

- (73) Na petak su pomaknuta sjednice i vijeća.  
to Friday AUX rescheduled<sub>N</sub> meetings<sub>F</sub> and assemblies<sub>N</sub>
- (74) Na pozornici su uručena nagrade i priznanja.  
on stage AUX presented<sub>N</sub> prizes<sub>F</sub> and awards<sub>N</sub>
- (75) Pečatom su ovjerena molbe i rješenja.  
(by) seal AUX certified<sub>N</sub> applications<sub>F</sub> and decisions<sub>N</sub>
- (76) Do jutra su potrajala diskusije i druženja.  
until morning AUX lasted<sub>N</sub> discussions<sub>F</sub> and gatherings<sub>N</sub>

***LCA Agreement: Masculine Agreement with N+M Conjuncts (Oral and Written)***

- (77) Na terasi su posluženi pića i sendviči. (written)  
 on terrace AUX served<sub>M</sub> drinks<sub>N</sub> and sandwiches<sub>M</sub>
- (78) Na vrijeme su stigli pisma i paketi. (oral)  
 on time AUX arrived<sub>M</sub> letters<sub>N</sub> and packages<sub>M</sub>
- (79) U vožnji su pomogli upozorenja i savjeti. (2x) (oral)  
 in driving AUX assisted<sub>M</sub> warnings<sub>N</sub> and advice<sub>M,PL</sub>
- 

***Default Masculine Agreement with N+F Conjuncts (Oral and Written)***

- (80) U sobu su naručeni jaja i salate. (written and oral)  
 to room AUX ordered<sub>M</sub> eggs<sub>N</sub> and salads<sub>F</sub>
- (81) U čašu su natočeni vina i rakije. (written)  
 in glass AUX poured<sub>M</sub> wines<sub>N</sub> and brandies<sub>F</sub>
- 

***LCA Agreement: Feminine Agreement with N+F Conjuncts (Oral and Written)***

- (82) U sobu su naručene jaja i salate. (written and oral)  
 to room AUX ordered<sub>F</sub> eggs<sub>N</sub> and salads<sub>F</sub>
- (83) Pred zoru su utihnule nevremena i poplave. (5x)  
 before dawn AUX subsided<sub>F</sub> storms<sub>N</sub> and floods<sub>F</sub> (oral)
- (84) U čašu su natočene vina i rakije. (written)  
 in glass AUX poured<sub>F</sub> wines<sub>N</sub> and brandies<sub>F</sub>
- (85) U svađi su započele takmičenja i utakmice. (written)  
 in quarrel AUX started<sub>F</sub> competitions<sub>N</sub> and games<sub>F</sub>
- (86) U selidbi su nestale platna i skulpture. (written)  
 in removal AUX disappeared<sub>F</sub> canvases<sub>N</sub> and sculptures<sub>F</sub>
-

## A2.5. Clear Production Errors

### A2.5.1. Preverbal Subjects with Mixed-Gender Conjuncts

#### *Neuter Agreement with M+F Conjuncts in the Written Experiment*

- (87) Muzeji i galerije su otvorena za javnost.  
museums<sub>M</sub> and galleries<sub>F</sub> AUX opened<sub>N</sub> for public
- 

#### *Neuter Agreement with F+M Conjuncts in the Written Experiment*

- (88) Zabave i svatovi su prošla u pjesmi.  
parties<sub>F</sub> and weddings<sub>M</sub> AUX passed<sub>N</sub> in singing
- 

#### *Feminine Agreement with N+M Conjuncts in the Oral Experiment*

- (89) Pisma i paketi su stigle na vrijeme.  
letters<sub>N</sub> and packages<sub>M</sub> AUX arrived<sub>F</sub> on time
- 

### A2.5.2. Postverbal Subjects with Same- and Mixed-Gender Conjuncts

#### *Feminine Agreement with N+N Conjuncts in the Oral Experiment*

- (90) U požaru su izgorile naselja i imanja.  
in fire AUX burned<sub>F</sub> settlements<sub>N</sub> and estates<sub>N</sub>
- 

#### *Neuter Agreement with F+M Conjuncts in the Oral Experiment*

- (91) U zaliv su uplovila jedrilice i gliseri.  
in bay AUX sailed<sub>N</sub> sailboats<sub>F</sub> and speedboats<sub>M</sub>

- (92) U pjesmi su prošla zabave i svatovi.  
in singing AUX passed<sub>N</sub> parties<sub>F</sub> and weddings<sub>M</sub>
- 

### A2.5.3. Singular Agreement with Plural Conjuncts

#### *Feminine Singular Agreement with Plural N+F Conjuncts*

- (93) Pred zoru je utihnula nevremena i poplave.  
before dawn AUX subsided<sub>F,SG</sub> storms<sub>N</sub> and floods<sub>F</sub>
-

*Neuter Singular Agreement with N+F Conjuncts in the Oral Experiment*

- (94) U čašu je natočeno vina i rakije.  
 in glass AUX poured<sub>N,SG</sub> wines<sub>N</sub> and brandies<sub>F</sub>
- 

**A2.6. Postverbal Subjects with Mixed-Gender Conjuncts: Neuter Agreement with M+N Conjuncts (Oral and Written)**

- (95) U sali su operisana zglobovi i stopala.  
 in hall AUX operated<sub>N</sub> ankles<sub>M</sub> and feet<sub>N</sub>
- (96) S računa su nestala poticaji i sredstva.  
 from account AUX disappeared<sub>N</sub> incentives<sub>M</sub> and funds<sub>N</sub>
- (97) Na tržište su dospjela mirisovi i sjenila.  
 to market AUX reached<sub>N</sub> perfumes<sub>M</sub> and eyeshadows<sub>N</sub>
- (98) U plovidbi su pomagala kompas i kormila.  
 in navigation AUX helped<sub>N</sub> compasses<sub>M</sub> and helms<sub>N</sub>
- 

**A2.7. Preverbal Subjects with Mixed-Gender Conjuncts**

*Neuter Agreement with M+F Conjuncts in the Oral Experiment (Production Error)*

- (99) Aktovi i skulpture su nestala u ateljeu.  
 nudes<sub>M</sub> and sculptures<sub>F</sub> AUX disappeared<sub>N</sub> in studio
- 

*Feminine Agreement with M+N Conjuncts in Oral Experiment (Production Error)*

- (100) Zglobovi i stopala su operisane u sali.  
 ankles<sub>M</sub> and feet<sub>N</sub> AUX operated<sub>F</sub> in hall
- 

*Neuter Agreement with F+M Conjuncts in Oral and Written Experiments (Production Error)*

- (101) Zabave i svatovi su prošla u pjesmi.  
 parties<sub>F</sub> and weddings<sub>M</sub> AUX passed<sub>N</sub> in singing
-



*Postverbal Subject with Same-Gender Conjuncts: Feminine Agreement with N+N Conjuncts in the Oral Experiment (Production Error)*

- (102) U garaži su popravljene jedra i vesla.  
 in garage AUX repaired<sub>F</sub> sails<sub>N</sub> and oars<sub>N</sub>
- 

**A2.8. Postverbal Subjects with Mixed-Gender Conjuncts***Neuter Agreement with M+F Conjuncts in Oral Experiment (Production Error)*

- (103) Sa ceste su skrenula traktori i cisterne.  
 off road AUX swerved<sub>N</sub> tractors<sub>M</sub> and tanks<sub>F</sub>
- 

*Feminine/Masculine Agreement with M+F Conjuncts in Oral Experiment (Self-Correction)*

- (104) U kupaonici su obješene/ obješeni posteri i ogledala.  
 in bathroom AUX hanged<sub>F/</sub> hanged<sub>M</sub> posters<sub>M</sub> and mirrors<sub>F</sub>
- 

**A2.9. Singular Agreement with Plural Conjuncts in Oral Experiments***Masculine Singular Agreement with F+M Conjuncts (Production Error)*

- (105) U pjesmi je prošao zabave i svatovi.  
 in singing AUX passed<sub>M.SG</sub> parties<sub>F</sub> and weddings<sub>M</sub>
- 

*Masculine Singular Agreement with N+F Conjuncts (Production Error)*

- (106) U svadi je započeo takmičenja i utakmice.  
 in quarrel AUX started<sub>M.SG</sub> competitions<sub>N</sub> and games<sub>F</sub>
- 

*Feminine Singular Agreement with N+F Conjuncts (Production Error)*

- (107) Pred zoru je utihnula nevremena i poplave.  
 before dawn AUX subsided<sub>F.SG</sub> storms<sub>N</sub> and floods<sub>F</sub>
- 

*Neuter Singular Agreement with N+F Conjuncts (Production Error)*

- (108) U čašu je natočeno vina i rakije. (2x)  
 in glass AUX poured<sub>N.SG</sub> wines<sub>N</sub> and brandies<sub>F</sub>

- (109) Za proljeće je zakazano putovanja i konferencije.  
 for spring AUX scheduled<sub>N.SG</sub> trips<sub>N</sub> and conferences<sub>F</sub>
-

## A2.10. Postverbal Subjects: LCA Agreement with Mixed-Gender Conjuncts

### *Neuter Agreement with F+N Conjuncts in the Oral Experiments*

- (110) Na petak su pomaknuta sjednice i vijeća.  
to Friday AUX rescheduled<sub>N</sub> meetings<sub>F</sub> and assemblies<sub>N</sub>
- (111) Pečatom su ovjerena molbe i rješenja.  
(by) seal AUX certified<sub>N</sub> applications<sub>F</sub> and decisions<sub>N</sub>
- (112) Na pozornici su uručena nagrade i priznanja.  
on stage AUX presented<sub>N</sub> prizes<sub>F</sub> and awards<sub>N</sub>
- (113) Preko noći su nastala/ nastale teorije i pravila.  
over night AUX created<sub>N</sub>/ created<sub>F</sub> theories<sub>F</sub> and rules<sub>N</sub>
- (114) U dućan su stigla/ stigle olovke i rumenila.  
in shop AUX delivered<sub>N</sub> delivered<sub>F</sub> pencils<sub>F</sub> and blushers<sub>N</sub>

### *Feminine Agreement with N+F Conjuncts in the Oral Experiments*

- (115) U sobu su naručene jaja i salate.  
to room AUX ordered<sub>F</sub> eggs<sub>N</sub> and salads<sub>F</sub>
- (116) Pred zoru su utihnule nevremena i poplave. (5x)  
before dawn AUX subsided<sub>F</sub> storms<sub>N</sub> and floods<sub>F</sub>