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## Last-Conjunct Agreement in Slovenian

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In this paper we present a discussion of Slovenian conjunct agreement phenomena, arguing that in one of the two strategies for determining agreement, agreement is simply linear; that is, verbal forms agree with the closest nominal of the conjunct.<sup>1</sup> This paper is one of the first overviews of these phenomena in Slovenian and thus we view our contribution as largely empirical, supporting our claim with a corpus study.<sup>2</sup> We show that existing analyses cannot explain the Slovenian facts, in particular the cases of preverbal, last-conjunct agreement. For comparison, we will show some accounts of linear agreement elsewhere in natural language. We present an analysis which highlights a crucial role for the possibility of separate gender and number probes.

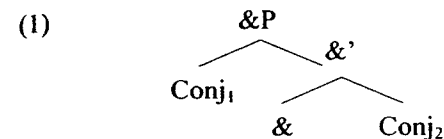
### 1 First-Conjunct Agreement in Postverbal Contexts

A great deal of evidence points to the conclusion that structure of conjunction is internally hierarchical; an example of this is the fact that the first conjunct may contain a quantifier that binds a variable in the second conjunct, a configuration which is arguably only possible under c-

<sup>1</sup> This phenomenon is sometimes called "partial agreement" or "proximity agreement" in the conjunct agreement typology literature.

<sup>2</sup> For a recent comprehensive overview of agreement resolution in mixed-gender conjunctions, see Wechsler & Zlatić (2003).

command.<sup>3</sup> On the other hand, syntactic phenomena external to the conjunction deal with the constituent of the conjunction as a whole. For example, theta role assignment to a subject conjunction assigns an agent theta role to the conjunction as a whole (rather than assigning two separate theta roles, or assigning a theta role only to one element of the conjunct). This behavior of conjunctions as internally hierarchical but as a single constituent has led to the following generally accepted structure for coordination:



In light of this structure, it is surprising that one phenomenon, namely agreement, seems to disregard the hierarchical internal structure of conjunctions. Many languages allow first conjunct agreement (First-CA) in postverbal contexts: English, Arabic (Aoun, Benmamoun & Sportiche [henceforth: ABS] 1994, 1999, Soltan 2006), Brazilian Portuguese (Munn 1993), Russian (Babyonyshev 1996), Polish (Citko 1999), Greek (Tantalou & Badecker 2005), Welsh (Sadler 2004), and, most relevant to our current discussion, Slovenian (2). Note that Slovenian has three genders (feminine, masculine, neuter), and masculine is the default gender, and hence we consider examples composed of feminine and neuter conjuncts.

- (2) Najbolje so se prodajale radirke in peresa.  
 the best aux refl sold<sub>F-PL</sub> erasers<sub>F</sub> and pens<sub>N</sub>  
 'The majority of the sold items were erasers and pens.'

According to the cited literature, none of these languages allow last conjunct agreement<sup>4</sup> (Last-CA) in preverbal contexts. The focus of the

<sup>3</sup> We note that Progovic (1997, 1998) offers an alternative interpretation of some of the arguments for asymmetric c-command in conjunctions.

<sup>4</sup> Last-CA is more accurate than Second-CA, since in case of three conjuncts, it is the third conjunct, not the second, that determines agreement, as shown in (i).

current paper is an empirical overview of the phenomenon of Last-CA in Slovenian, as shown in (3), and its theoretical consequences.

- (3) Radirke in peresa so se prodajala najbolje.  
erasers<sub>F</sub> and pens<sub>N</sub> aux refl sold<sub>N-PL</sub> the best  
'The majority of the sold items were erasers and pens.'

Before we can proceed with a discussion of Slovenian preverbal Last-CA, however, we must address the fact that many languages allow First-CA configurations such as (2) without ever allowing Last-CA as in (3). We attribute this to the hypothesis in (4)

- (4) *Independence of First-CA and Last-CA*: First-CA and Last-CA are due to wholly independent mechanisms.

We adopt the viewpoint that the crosslinguistic asymmetry is thus due to the fact that the mechanism for First-CA is readily available in many languages but that the mechanism for Last-CA is much rarer (though attested in addition to Slovenian also in Ndebele, cf. Section 4).

Indeed, the asymmetric distribution of First-CA as more widespread than Last-CA holds even within Slovenian; as discussed in Section 2, corpus counts reveal that instances of First-CA significantly outnumber instances of Last-CA.

As we adopt (4), our goal in this paper will be to focus on the phenomenon of Last-CA and its theoretical consequences. We will not arbitrate between the many models of First-CA that are possible; a partial overview is given in (5).

(5) Possible Mechanisms of Postverbal First-CA

- a. Equidistance from above of ConjP and the first conjunct (Citko 1999).
- b. A top-down, incremental derivation (Phillips 1996, Guimarães 2004) with opaque counterbleeding<sup>5</sup>: T and the first conjunct are

- (i) Ovce, koze in teleta so skakala naokoli.  
sheep<sub>F</sub> goats<sub>F</sub> and calves<sub>N</sub> aux<sub>PL</sub> jumped<sub>N-PL</sub> around  
'Sheep, goats, and calves were jumping around.'

<sup>5</sup> This explanation was suggested by Maximiliano Guimarães (p.c. May 2006).

sisters and establish "First"-CA at stage *n* of the derivation; subsequently, ConjP and the second conjunct are merged, breaking constituency and leading to the sisterhood in (1).

- c. Postsyntactic, cyclic bottom-up spellout (Bobaljik 2001) and conjunct-flattening under linearization<sup>6</sup>: A postverbal conjunct will be linearized, flattened, and spelled-out earlier than the agreeing verb, which will then only have access to the linear edge of the conjunct.

Any of the options in (5a-c) could be adopted in accounting for postverbal First-CA in Slovenian. Ultimately, the right mechanism in (5) should, when adopted in tandem with the right proposal for Last-CA, yield a plausible account of why First-CA is so much more widespread.

The structure of this paper is as follows. In Section 2, we establish the fact that Last-CA is a robust phenomenon in Slovenian, with support from written corpus data. In section 3, we demonstrate that a wide variety of existing analyses (based on ellipsis or on late-merger of one of the conjuncts) make incorrect predictions for the interpretation of Last-CA. In section 4, we support the existence of Last-CA as a bona fide grammatical possibility with a brief look at the same phenomenon in unrelated languages. We conclude with an analysis of Last-CA which makes crucial use of the possibility that number agreement and gender agreement may be established by separate probes on an agreement target.

## 2 Last-Conjunct Agreement in Slovenian

We focus on gender agreement since, unlike person and number agreement, it is not deterministically computed for conjuncts. As gender agreement only shows up on participles in composed tenses, we will not be looking at present tense sentences, where only person and number agreement show up on the verb. Slovenian composed-tense participles agree with the subjects in gender and number, while the auxiliaries only agree for person and number (*je* = 3P-singular, *sta* = 3P-dual, *so* = 3P-plural). In passive sentences, the past is formed with the participle of the verb 'be', which agrees in gender just like other participles (*bil* = masc-

<sup>6</sup> In our FASL-15 presentation, we proposed (5c) as a mechanism for First-CA.

SG, *bila* = fem-SG, etc.). Participial agreement endings are given in (6).

(6) Participle endings:

	Masculine	Feminine	Neuter
Singular	Ø	-a	-o
Dual	-a	-i	-i
Plural	-i	-e	-a

The interesting fact about gender agreement with coordinated subjects in Slovenian is that it appears to be linear; that is, Slovenian exhibits First-CA with postverbal subjects and Last-CA with preverbal subjects. Standardly, the gender on the participle when the subject is conjoined of two nouns of a different gender should be the default masculine, as in (11) below. But it is also possible to agree the participle with the closest member of the conjunct, as in (7)-(10)<sup>7</sup>. Note that we are talking only about gender agreement here. In order to avoid interference of number and person agreement we will be looking only at conjunctions of plural nominals. The agreement with the closest conjunct is particularly common when a neuter and a feminine plural noun are conjoined. Coordination with a masculine, regardless of the position of the masculine noun, makes it easier for the entire coordination to trigger masculine agreement.

(7) Včeraj so odšla /\*odšle [teleta in krave] na pašo.  
yesterday aux went<sub>N-PL</sub> went<sub>F-PL</sub> [calf<sub>N-PL</sub> and cow<sub>F-PL</sub>] on graze  
'Yesterday calves and cows went grazing.'

(8) Včeraj so odšle /\*odšla [krave in teleta] na pašo.  
yesterday aux went<sub>F-PL</sub> went<sub>N-PL</sub> [cow<sub>F-PL</sub> and calf<sub>N-PL</sub>] on graze  
'Yesterday cows and calves went grazing.'

(9) [Krave in teleta] so odšla /\*odšle na pašo.  
[cow<sub>F-PL</sub> and calf<sub>N-PL</sub>] aux went<sub>N-PL</sub> went<sub>F-PL</sub> on grazing  
'Calves and cows went grazing.'

<sup>7</sup> Not all speakers of Slovenian share the strong preference for agreement with the closest conjunct with the first and the third author. While some speakers accept only masculine agreement on the participle, the majority of speakers we have consulted allow both options. In future work we hope to conduct experimentally-controlled grammaticality surveys.

(10) [Teleta in krave] so odšle /\*odšla na pašo.  
[calf<sub>N-PL</sub> and cow<sub>F-PL</sub>] aux went<sub>F-PL</sub> went<sub>N-PL</sub> on grazing  
'Calves and cows went grazing.'

Default masculine singular agreement, as in (11), is also possible.

(11) a. [Teleta in krave] so se prodali včeraj.  
[calf<sub>N-PL</sub> and cow<sub>F-PL</sub>] aux refl sold<sub>M-PL</sub> yesterday  
b. Včeraj so se hoteli [krave in teleta] pasti.  
yesterday aux refl wanted<sub>M-PL</sub> [cow<sub>F-PL</sub> and calf<sub>N-PL</sub>] graze

Two singulars of different gender (typically) trigger masculine dual, as shown in (12).

(12) [Enabanana in eno jajce] sta padla na tla.  
[one banana<sub>F-SG</sub> and one egg<sub>N-SG</sub>] aux<sub>DU</sub> fell<sub>M-DU</sub> on ground  
'A banana and an egg fell on the ground.'

As stated above, we focus on gender agreement of coordinated plural nouns, since these are the subjects where partial agreement in gender is most clearly and most commonly used. This is also seen from the corpus search we have conducted. We searched through the FidaPLUS corpus of written Slovenian (<http://www.fidaplus.net>, 100 million words) and found the following: in VS orders, agreement with the closest plural N of the coordinated subject is preferred, while in SV orders, masculine agreement is preferred, though Last-CA occurs consistently as well. Results are shown in (13)

(13)	Neut. Participle	Fem. Part.	Masc Part.
[N <sub>X-PL</sub> & N <sub>Y-PL</sub> ] ... V <sub>Y-PL</sub>	18	45	407
V <sub>X-PL</sub> ... [N <sub>X-PL</sub> & N <sub>Y-PL</sub> ]	91	224	860
[N <sub>X-PL</sub> & N <sub>Y-PL</sub> ] ... V <sub>M-PL</sub> (default)			490
V <sub>M-PL</sub> ... [N <sub>X-PL</sub> & N <sub>Y-PL</sub> ] (default)			120
Total:	109	270	1877

The results of the corpus search roughly correspond to the crosslinguistic typological observations discussed in Section 1, namely, First-CA is much more common than Last-CA. Thus, Corbett's (1983, 1991) description of the facts, claiming that Slovenian has "furthest conjunct agreement" is incomplete at best.

There are some additional facts to mention. Linear agreement comes always only with the closest noun in coordination. But it does not simply come with the closest noun, as a linearly-rightmost subject embedded inside a relative clause, does not trigger linear agreement, (14)-(15).

(14) Šotori in postelje, ki so jih dali vojaki, so smrdele.  
tent<sub>M-PL</sub> and bed<sub>F-PL</sub> that aux them gave soldiers<sub>M</sub> aux stank<sub>F-PL</sub>  
'Tents and beds that were given by the soldiers stank.'

(15) Trditev, da je Peter odšel, je absurdna.  
claim<sub>F-SG</sub> that aux Peter<sub>M-SG</sub> left<sub>M-SG</sub> is absurd<sub>F-SG</sub>  
'The claim that Peter left is absurd.'

The restriction of linear agreement to coordinated nouns cannot be tested within PP and NP complements, since only nouns in nominative case trigger agreement and nominative cased nouns cannot be the complements of a noun or to a preposition.

Importantly, intervening material between the &P and the participles does not interfere:

(16) Teleta in krave so (včeraj zjutraj) odšle na pašo  
calves<sub>N</sub> and cows<sub>F</sub> aux (yesterday morning) went<sub>F-PL</sub> on grazing  
'Calves and cows went grazing yesterday early morning.'

It is fascinating to note that the linear gender agreement rule seems to be determined for each agreeing element. Sometimes the pre-conjunct verbal element can agree with the first conjunct, and the post-conjunct verbal element of the same clause with the last conjunct, as shown in (17)-(18). It should be noted that these kinds of constructions are typically avoided since none of the possibilities sound perfect. Even though such constructions are avoided and as such very rare, an example was found even in the written corpus, (18).

(17) Včeraj so bile [krave in teleta] prodana.  
yesterday aux been<sub>F-PL</sub> [cow<sub>F-PL</sub> and calf<sub>N-PL</sub>] sold<sub>N-PL</sub>  
'Yesterday cows and calves were sold.'

(18) Upniki iz prvega odstavka tega člena se poplačajo po  
creditors from first paragraph this part refl paid-off in  
vrstnemredu, kot so bile [osebne služnosti in  
linear order as aux<sub>PL</sub> been<sub>F-PL</sub> [personal bondage<sub>F-PL</sub> and  
realna bremena] vpisana v zemljiški knjigi.  
real debit<sub>N-PL</sub>] written<sub>N-PL</sub> in land register.  
'The creditors from the first paragraph are being paid off in the  
order as the personal bondages and real debits were written in the  
land register.'

### 3 Previous Analyses of Conjunct Agreement

Having presented an introduction to the Slovenian phenomena, we turn to existing analyses of partial conjunct agreement and show that none of them cover Slovenian.

Johannessen (1998) claims that Head-initial languages have First-CA, while head-final languages have Last-CA. Slovenian has both First and Last-CA and should therefore be both head initial and head final. Analyzing Slovenian as head final because of the observed Last-CA seems incorrect.

Citko (2004) analyzes Polish Postverbal First-CA as due to the possibility of Agree with the first conjunct. The possibility of agreeing with the default masculine comes out of a structural ambiguity of coordinated subjects. They are either the complement of a null pronominal that carries masculine plural features and can agree with the verb or else they are simple &Ps in which case agreement will always be with the first conjunct (its features are the closest). Under this account, preverbal Last-CA is predicted to be impossible. Since Slovenian does have Last-CA, Citko's explanation of partial CA cannot be used.

ABS (1994, 1999) explain partial agreement as due to predicate ellipsis in one conjunct of a clausal coordination, so that just the subject is left unerased. Examples like (17) and (18), where the two verbal elements carry different agreement (each agreeing with the closest conjunct), can easily be explained in such a way. What is deleted in such cases is simply

the internal part of the two coordinated clauses. But this analysis incorrectly predicts that partial agreement bleeds plural predicates such as ‘collided’, ‘together’, etc. This and further counterarguments to an ellipsis account are given in section 3.1.

Soltan (2005) claims that partial agreement is the result of Late Merge (e.g., Lebeaux 1991, Fox 2000, Bhatt & Pancheva 2004) of the non-agreeing conjunct. If one of the two conjuncts were indeed merged after preverbal agreement takes place, we would predict this conjunct could not participate in scope reconstruction, but this is not what we find.

As seen in (19), a universal can reconstruct under negation in a simple clause. The same is true when the subject is coordinated of two DPs of the same gender and number while agreement is with the full &P, (20). If Last-CA was the result of Late Merge of the first conjunct, the first conjunct should not reconstruct below negation in preverbal Last-CA sentences. The same is true for the second conjunct in postverbal First-CA sentences. This is not what we find, as shown from (21)-(22).

(19) Vse koze niso znorele.  
All goats<sub>F-PL</sub> didn't go crazy<sub>F-PL</sub>  
?All > Neg, Neg > All

(20) Vse koze in vse goske niso nasedle prepričevanjem.  
All goats<sub>F-PL</sub> and all geese<sub>F-PL</sub> didn't fall for<sub>F-PL</sub> the persuasions  
?All > Neg, Neg > All

(21) Vse goske in vsa teleta niso preživela zime.  
All geese<sub>F-PL</sub> and all calves<sub>N-PL</sub> didn't survive<sub>N-PL</sub> the winter  
?All > Neg, Neg > All

(22) Zime niso preživele vse goske in vsa teleta.  
Winter didn't survive<sub>F-PL</sub> all geese<sub>F-PL</sub> and all calves<sub>N-PL</sub>  
?All > Neg, Neg > All

Additionally, these examples can be used as an argument against an ellipsis account. If (21) and (22), with Last-CA and First-CA respectively, involved coordination of two full clauses with later ellipsis of the part of the clause between the two (apparently) coordinated DPs, then we would expect each DP to reconstruct under negation within its own clause so that the only possible interpretation with the reconstructed scope would be ‘It

is not the case that all geese survived the winter and it is not the case that all calves survived the winter’ meaning that some geese and some calves died. But this is not the only interpretation (21) and (22) have. They both can mean that only one animal, either a goose or a calf, did not survive the winter. This interpretation suggests that both conjuncts interact with a single negation, which is not what we would expect if single-conjunct agreement were the result of ellipsis (as proposed by ABS 1994, 1999). Note that these facts argue against an ellipsis or late merger account of the Slovenian conjunct agreement. We restrict our claims at present to Slovenian, remaining open to alternative analyses for other languages.

Kayne (1998), cited in den Dikken (2001), points out that English non-standard agreement is sensitive to the scope of the agreeing element. When agreement on the verb is plural, only an inverse scope interpretation is possible. The plural *all the doors* scopes over the singular *the key*: the subject refers to many keys, (23). Wide scope of the plural DP *all the doors* suggests that the plural DP raised covertly to a position above the singular DP *the key*. The plural DP would then be covertly in SpecDP from where it can trigger agreement with the verb. As this is the only position from which it could agree with the verb, therefore obligatory wide scope interpretation is expected with plural agreement. Den Dikken (2001) suggests that such linear agreement is a result of LF agreement (cf. Babyonyshev 1996 for a covert movement account of First-CA).

(23) a. The key to all the doors is missing.  
b. <sup>!</sup>The key to all the doors are missing. [wide scope of  $\forall$  only]

Importantly, no such restriction on the scope of the agreeing DP exists in Slovenian. If agreement with the last conjunct happened at LF (as suggested by den Dikken for (23)), we would expect the last conjunct to be positioned higher than the first conjunct at LF. That is, the last conjunct should scope over the first conjunct. As seen in (24) this is not the case. The verb agrees with the second conjunct in (24), yet the second conjunct appears to be lower than the first conjunct since it contains a pronoun bound by the universal quantifier in the first conjunct.

(24) a. Vsa priznanja in njim dodane nagrade bodo podeljene.  
all certificates<sub>N</sub> and them<sub>DAT</sub> added prizes<sub>F</sub> aux given<sub>F</sub>  
‘All certificates and prizes added to them will be given out.’

- b. Vsakopriznanje in njemu priložene nagrade bodo podeljene.  
 every certificate<sub>N</sub> and it<sub>DAT</sub> added prizes<sub>F</sub> aux given<sub>F</sub>  
 'Every certificate and prizes added to it will be given out.'

**3.1 Slovenian First-CA and Last-CA Cannot Be Explained with Ellipsis**  
 We have already given one argument against ellipsis above. Here we will provide an additional argument, a version of which was already discussed by Munn (1999) and Citko (2004). The ellipsis account predicts that predicates requiring plural or joint interpretation of the coordination like *together*, *collided* etc. will not be available with the coordinated subject triggering partial agreement.

If Slovenian partial agreement were the result of ellipsis, then there should not be anything in any of the two sentences that refers to both parts of the conjunct. As shown in (25), this prediction does not hold up. The collective predicate *collided into one another* requires joint participation of the coordinated subjects, so the fact that it is possible under agreement of the last conjunct shows that an ellipsis account is not valid.

- (25) Krava in njena teleta so trčila drug ob drugega.  
 cow<sub>F</sub> and her calves<sub>N</sub> are collided<sub>N-PL</sub> other into other  
 'A cow and her calves collided into each other.'

Additionally, following the ellipsis analysis, the verb *collided* should be located in both clausal conjuncts of (25), but then (25) should look like (26) prior to ellipsis of the predicate inside of the first conjunct. (26) is out because the first conjunct is ungrammatical. The predicate *collide into each other* requires a plural subject, but the first clause only has a singular subject. An ellipsis account is therefore unavailable.

- (26) \* Krava je trčila druga ob drugo in njena teleta  
 cow<sub>F</sub> aux<sub>SG</sub> collided<sub>F-SG</sub> other against other and her calves<sub>N</sub>  
 so trčila ...  
 aux<sub>PL</sub> collided<sub>N-PL</sub>  
 'A cow collided into each other and her calves collided into each other.'

*Collide* type verbs are available also in verb initial constructions, as in (27). The same logic applies. An ellipsis account is unavailable because

then we would not be able to explain the joint interpretation that the verb receives. Additionally, the second conjunct can be a singular DP which is ungrammatical with the predicate *collide into each other*.

- (27) Včeraj so trčile druga ob drugo krave in tele(ta).  
 yesterday aux<sub>PL</sub> collided<sub>F-PL</sub> other into another cows<sub>F</sub> and calf(es)<sub>N</sub>  
 'Yesterday cows and calves bumped into each other.'

Just like the verb *collide*, the collective adverb *together* also requires the two conjuncts to be interpreted jointly as a single subject. Again the ellipsis account would predict that with partial agreement, *together* should not be possible. As shown in (28a), this prediction is not borne out. Additionally, similarly to the previous examples, one of the conjuncts is singular, which means the sentence should look like (28b) prior to ellipsis. However, (28b) is not well-formed simply because a singular subject cannot have the adverb *together* in its clause.

- (28) a. Krava in njena teleta so se pasla skupaj  
 cow<sub>F</sub> and her calves<sub>N</sub> are refl grazed<sub>N-PL</sub> together  
 'A cow and her calves were grazing together.'  
 b.\* Krava se je pasla skupaj in teleta so se pasla skupaj.  
 cow refl aux grazed together and calves aux refl grazed together

#### 4 Last-CA beyond Slovenian

Slovenian is not the only language that has Last-CA. Although our intention here is not to give a full list of languages exhibiting a similar pattern, we will point out a few cases where the phenomena described in the paper can also be found.<sup>8</sup> Certain Bantu languages exhibit a similar pattern (Marten 2000, Moossally 1998). As seen in the Swahili example in (29), the main predicate of the embedded clause agrees with the second conjunct *clothes* (Bantu verbs agree with subject and object in class, which is determined with the prefix on the noun. Note that the agreement morpheme is not a suffix, but we avoid description of the internal structure of the verb and give glosses from Marten 2000).

<sup>8</sup> Serbo-Croatian also shows both First-CA and Last-CA (Željko Bošković, p.c.).

- (29) kwani huoni wewe kuwa ki-su na n-guo zimeshabihiana ...?  
 'why, don't you see that 7-knife and 10-clothes are alike-10 ...?'  
 (Muhammed Said Abdulla's novel *Mwana wa Yungi hulewa* 1976:  
 96, cited in Marten 2000: 16)

Similar facts regarding conjunct agreement as in Swahili are also reported for Ndebele by Moossally (1998), (30)-(31). Examples (30)-(31) are from (Moossally 1998: 88), and (32) from (*ibid.*: 105)

- (30) Abalungu la-ma-bhunu a-yahleka.  
 2pl-whiteman conj-6pl-Afrikaaner 6pl-laughing  
 'The Englishmen and the Afrikaaners are laughing.'
- (31) A-mabhunu la-ba-lungu ba-yahleka.  
 6pl-Afrikaaner conj-2pl-whitemen 2pl-laughing  
 'The Afrikaners and the Englishmen are laughing.'
- (32) Izi-nja la-bo-mangoye le-nyoni zin-yamalele izolo.  
 10pl-dog conj-2pl-cat conj-10pl-bird 10pl-disappeared yesterday  
 'The dogs, birds, and cats disappeared yesterday.'

Linear agreement can be also found in English in cases of *neither ... nor* conjunctions.

- (33) a. [ Neither that dog nor those cats ] are housetrained.  
 b. [ Neither those cats nor that dog ] is housetrained.  
 c. Is [ neither that dog nor those cats ] housetrained?  
 d. Are [ neither those dogs nor this cat ] housetrained?

These kinds of cases were discussed by Morgan (1972: 281). For the most surprising (33c) above with postverbal First-CA we have found the following examples on the internet (with the help of Google), (34).

- (34) a. Why is neither ESOL nor routes into employment on the agenda?  
 b. Why is neither Kevin nor any of his guest-posters interested in commenting on Kelo?

In footnote 10 we outline a principled mechanism for linear-disjunct agreement in languages such as English.

## 5 Explaining Last-CA

We adopt the assumption that verbal agreement with a conjunction is mediated through ConjP for person and number agreement, but that gender agreement on predicates may target constituents smaller than ConjP. The computation of phi-features on ConjP proceeds as follows.

ConjP computes its number features: singular + singular = dual; everything else = plural. However, this computation only holds for the conjunction *and*. The disjunction *or* does not compute number features in this way, as can be observed by English examples above.

ConjP computes its person features by registering whether the conjuncts include any instance of the feature [+Author] or [+Participant]; if so, it records these values. We view the computation of ConjP's number values as an instance of maximizing the presuppositions associated with the presence of marked person features (see Sauerland 2006 for an extended development of this view). When a positive value of these features is not found, [-Author] and/or [-Participant] are supplied by default.

Importantly, ConjP *does not compute a gender value*.<sup>9</sup> That is, while the computation of Person and Number on ConjP is deterministic, and in fact, well-motivated by semantic considerations, there is no well-founded universal theory of gender and no evidence forthcoming that ConjP needs to or can compute its own gender feature based on its conjuncts.

The participle agrees upward with its specifier, via Spec-Head agreement, for number with ConjP. However, the agreeing participle *has no ability to value its gender feature with ConjP*, because ConjP has no value for gender. There are two solutions for providing a gender value to PartP. One common crosslinguistic strategy, and indeed, one adopted by some Slovenian speakers, is that the participle may insert the default value for gender agreement, namely masculine.<sup>10</sup>

<sup>9</sup> Badecker (2006), who distinguishes between *concord* agreement and *index* agreement, pursues a similar implementation in a model in which ConjP lacks concord features. A constraint requiring concord agreement then compels agreement with one of the internal conjuncts.

<sup>10</sup> A note on the status of masculine as default gender: masculine is the default gender in cases of conjunction, regardless of the two conjuncts. However, in syntactically subjectless clauses such as impersonal and non-nominative experiencer constructions, third person neuter singular is the default agreement.

The second strategy, the one making Slovenian interesting in allowing Last-CA, is the possibility of an operation of *Second-Agree* for Gender, after Number – i.e., availability of split Phi-probes (Bejar 2003, Rezac 2004, among others). The proposal is that number agreement and gender agreement are computed *independently* by different “probes” on the functional head registering values for its phi-features.

Since the largest constituent in the specifier of the participial phrase, ConjP, has no gender value, the gender probe on PartP continues with the search within the projection of ConjP. We argue that the search must obey the following principle:<sup>11</sup>

(35) *Projection-Sister Search*: If the closest maximal projection MP lacks a value for a probed feature F, search for F within the sister of a projection of M

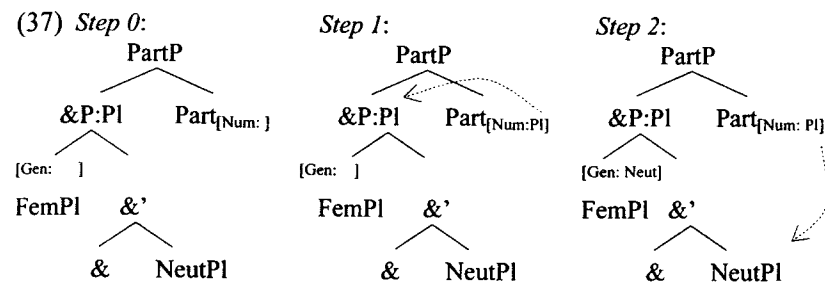
According to (35), PartP may find a value for gender within the sister to M', namely the first conjunct, or within the sister to M<sup>0</sup>, namely the second conjunct. There is, so to speak, a “tie” that (35) does not resolve. ConjP is the ideal target of PartP's gender probe. When phrase-structure alone does not dictate whether to agree with the sister of Conj' or Conj<sup>0</sup>, a tie-breaking principle must be employed.<sup>12</sup>

<sup>11</sup> Our account makes the prediction that when a maximal projection lacks a number feature, (35) will be obeyed as well. This prediction is upheld in the case of disjunctions. Unlike ConjP, DisjP lacks an inherent or deterministically-computed number feature, and hence the possibility of number agreement with sister-projection (i.e. the closest disjunct) will obtain. Haskell & MacDonald (2005) provide extensive experimental evidence for linear-disjunct agreement in English.

<sup>12</sup> As might be expected, this tie-breaking principle is a 'strategy' and hence we might expect some variation in which sister-projection is chosen. Perhaps this is a way to understand the examples of furthest-conjunct agreement reported in Corbett (1983). Preliminary consultant work with Siza Mtimbiri, a native speaker of Ndebele, reveals a preference for first-conjunct agreement even in preverbal cases. Confirmation of this pattern will reveal that while (35) is principled grammatical mechanism, (36) may represent one (perhaps the most natural) of a few possible solutions.

(36) In case more than one phrase qualifies as a projection-sister to MP and more than one projection-sister bears a value for F, resolve the tie by agreeing with the closest projection-sister in terms of precedence.

When ConjP is preverbal, the second conjunct will be chosen by (35) and (36). The result is that the participle values the gender feature of the second conjunct. This is illustrated below:



If Step 2 is not taken, the participle will record default masculine gender. In other words, Step 2 is the marked option that not all languages or speakers take, arguably because of a preference for agreement to target larger constituents, and for gender and number to probe together.

## 6 Conclusions

We have shown that Slovenian does have Last-CA, which cannot be analyzed parallel to the more common First-CA. We have situated the locus of crosslinguistic and inter-speaker variability in the availability of a second independent gender probe on the agreeing participle. Due to the fact that ConjP cannot compute gender agreement from among its conjuncts, the availability of a second, independent gender probe enables the possibility of valuation by the next-closest constituent, namely the second conjunct.

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