Conjunct-Sensitive Agreement: Serbo-Croatian vs Russian

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1   Introduction

Serbo-Croatian (SC) has a very interesting conjunct-sensitive agreement paradigm, where participles show first conjunct agreement (FCA) for gender with postverbal subjects and last conjunct agreement (LCA) with preverbal subjects (1). Note that the participle cannot be feminine in (1a) and neuter in (1b), as shown in (2).[1]

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[1]S*u*, which is inflected for number/person but not gender, is an enclitic.SC has three genders, m(asculine), f(eminine), and n(euter). Participles must be plural in all examples with plural or conjoined subjects. *All* agrees in ɸ-features, which is omitted from the glosses. For discussion of Slavic FCA/LCA, see Bošković (2008), Corbett (1983, 1991, 2002) and Marušič e al (2007). When there is more than one conjunct LCA involves agreement with the last conjunct. Corbett claims FCA is possible even with fronted subjects. My informants, however, find (2b) to be clearly unacceptable. Corbett's claim is based on (i).

(i) Ona   stalna   duboko urezana svijetla   i   sjene   koje je naslikao
     those constant deeply cut   lights_N   and   shadows_F   which is painted
     umjetnikov kist bila   su   jača   od   realne svijetlosti.
     artist's   brush been_N   are stronger than real   light

There are two ways to make FCA with fronted subjects relatively acceptable. One is to use very long examples, like (i), with a number of long NPs preceding the verb. This raises a very serious processing issue. What happens in such cases is that whatever is emphasized, prosodically or by context, can easily attract agreement, but this looks like a processing effect (note also that *svijetlosti* 'light' follows the verb in (i),which may give prominence to the first conjunct head *svijetla* 'lights'). When one controls for this by using short conjuncts, and makes sure none of the conjuncts is made more prominent (by context or prosodically), it is quite clear SC disallows FCA with fronted subjects. Thus, if the conjunction in (i) is reduced to *svijetla i sjene* neuter on the verb is disallowed. Another way of making FCA with fronted subjects acceptable is to use a particular intonation pattern with a pause before

(1) a. Juče   su uništena   sva sela   i   sve varošice
       yesterday are destroyed$_{PL.N}$ all villages$_N$ and all towns$_F$
       'All villages and all towns were destroyed yesterday.'

    b. Sva sela   i   sve varošice su   uništene
       all villages$_N$ and all towns$_F$ are destroyed$_{PL.F}$

(2) a. * Juče su uništene sva sela i sve varošice
    b. * Sva sela i sve varošice su uništena

A very interesting property of SC FCA/LCA is that it is sensitive to number. In (1), the conjuncts are plural. When the conjuncts are singular both FCA and LCA fail (the only option is default masculine *došli*).[2]

(3) a. * Juče   su uništena   jedno selo   i   jedna varošica
       yesterday are destroyed$_{PL.N}$ one village$_N$ and one town$_F$

    b. *Jedno selo   i   jedna varošica su   uništene
       one village$_N$ and one town$_F$ are destroyed$_{PL.F}$

As discussed in Bošković (2008), LCA is impossible even when one conjunct is singular and one plural. On the other hand, FCA is allowed with plural/singular combinations but only if the initial conjunct is plural. The relevant data will be discussed in section 2.

Note that due to these restrictions, we cannot simply assume that in the cases of conjunct-sensitive agreement in SC we are dealing with full (gender and number) first/last conjunct agreement with a single NP. Assuming this would leave (4a,b) unaccounted for. In other words, we cannot simply assume the same element, the first conjunct with FCA (4a) and the last conjunct with LCA (4b), controls both gender and number. Still, I will continue to use the terms FCA/LCA for ease of exposition.

(4) a * Juče   je uništena   jedna varošica i
       yesterday is destroyed$_{SG.F}$ one town$_F$ and
       jedno selo/   sva sela
       one village$_N$ all villages$_N$

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the second conjunct, where this conjunct is treated as an appositive. Such cases have a different structure from regular coordination, making them irrelevant for our concerns. What all this boils down to is that one shouldn't use unnecessarily long examples and appositive intonation. When these are controlled for, FCA is disallowed with fronted subjects in SC.
[2] See Corbett (1983); see also Marušič et al (2007) for Slovenian.

b. * Jedno selo/Sva sela i jedna varošica je uništena

In Bošković (2008) I present an analysis of the above paradigm based on Chomsky's (2001) mechanism of Agree. The goal of this paper is to extend the analysis to Russian, which differs from SC in that its FCA/LCA is not sensitive to number (see Corbett 1983). Thus, both FCA and LCA are possible in Russian (5), although the verb is singular.

(5) a. Odna   derevnja   i   odno   selenije   bylo
         one   village$_F$ and   one   settlement$_N$ was$_N$
         razrušeno/*razrušena
         destroyed$_{SG.N}$/$_{SG.F}$
         'One village and one settlement were destroyed.'

     b. Včera   bylo   razrušeno/*razrušena   odno
         yesterday was$_N$ destroyed$_{SG.N}$/$_{SG.F}$ one
         selenije   i   odna   derevnja
         settlement$_N$ and   one   village$_F$

I will start by summarizing my analysis of SC and then turn to Russian.

2 Serbo-Croatian

2.1 Theoretical Background

I will first discuss the relevant theoretical mechanisms. I adopt the well-established distinction between interpretable and uninterpretable features, where the former are features that receive interpretation in the semantics. I also adopt the valued/unvalued distinction, where feature F of a lexical item X can be lexically valued or not. If unvalued, it has to receive a value during syntactic derivation, which is accomplished through the operation Agree. I also adopt the standard assumption that uninterpretable features have to be deleted so that they do not enter semantics, where they would violate Full Interpretation. However, I assume only valued features can be deleted (Chomsky 2001). This means unvalued uninterpretable features need to be valued before deletion (following Pesetsky & Torrego 2007, I assume uninterpretable features can be valued or unvalued).

Regarding number and gender, I adopt the following assumptions: the number of the probe, which corresponds to the number of the verb, is uninterpretable and unvalued, while the number of NPs is interpretable and valued. This simply captures the standard assumption that number is interpreted semantically on the noun, not on the verb. Thus, the subject in *A student likes it/Students like it* is interpreted differently depending on

whether it is plural or singular, which is not the case with the verb (see Pesetsky & Torrego 2007 for evidence that the number of nouns, but not verbs, is valued). Regarding gender, the gender of the probing head is also uninterpretable and unvalued, while the gender feature of SC NPs is valued and unintepretable. SC nouns have a grammatical gender: (with a few exceptions; see Bošković 2008) they are assigned gender arbitrarily, gender being a grammatical feature without semantic import. Note, e.g., that the fact that 'table' is feminine in French and masculine in SC does not lead to a difference in the interpretation of 'table' in these languages. The same holds for three distinct words for 'car' in SC (*kola, auto, automobil*) which have different gender that does not affect their interpretation. Since nouns have a fixed gender specification that does not depend on the syntactic context (*kola* is always feminine, *auto* neuter, and *automobile* masculine), nominal gender feature must be lexically valued. On the other hand, which gender a participle has depends on the noun it agrees with; thus the participle has a different gender in (1a) and (1b). The dependence of participial gender on its syntactic context can be captured if participles are lexically unvalued for gender: they receive their gender value after agreeing with a noun that already has a valued gender.

I assume agreement is established through the operation Agree (Chomsky 2001), where Agree for feature F consists of: probing, i.e. search for an element with valued F (goal), matching, and valuation. Not every match leads to valuation, i.e. results in Agree. Thus, the inherently case-marked dative NP in Icelandic (6) matches the matrix T for ϕ-features. As a result, T is not allowed to look for a more deeply embedded goal. However, for Chomsky a goal that performs valuation must have an uninterpretable feature. Since the intervening NP in (6) does not have it, it cannot value ϕ-features of T, which then receive the default ϕ-value.

(6) Mér   fannst/*fundust **henna**   leiðast Þeir
    me.dat seems/seem   her.dat   bore   they
    'I thought she was bored with them.'

If the probe is specified with an EPP feature, which requires creation of a Spec, Agree is followed by movement to the Spec of the probe P. Move then consists of Match, Valuation, and pied-piping, which chooses the XP to be merged as SpecP (the XP must contain the matching feature).

Chomsky (2000), Bejar (2003), and Rezac (2004) argue a head X can probe more than once for feature(s) Y, a possibility which cannot be prevented without additional assumptions. For ease of exposition, I will use the terms Primary and Secondary Agree to refer to such cases.

2.2 Agree and Conjunct Sensitive Agreement

I now turn to (1). FCA (1a) is straightforward. There is obvious semantic motivation for the presence of the number feature at the conjunction phrase (&P) level; thus, conjoined singular NPs lead to plural agreement. As Marušič et al (2007) note, while the computation of the number feature at the &P level is well motivated by semantic considerations, there is no well founded theory of gender or empirical evidence that &P computes gender on the basis of its conjuncts the way it does number. Following Marušič et al, Bošković (2008) then assumes &P is specified for number (it has plural specification), but not gender. Given this and the well-established fact that the first conjunct (NP1) is structurally higher than the second conjunct (NP2), the participial agreement probe (*Part*), which probes for number and gender, matches and agrees with &P for number and NP1 for gender. This is all that happens in FCA cases like (1a).

Let us now turn to LCA, where the subject undergoes movement hence, as discussed in Bošković (2008), *Part* has an EPP feature. (As discussed in Bošković 2008, the subject that precedes the participle either stays in Spec*Part*P or moves to a higher position passing through Spec-*Part*P; either way since it has a Spec, *Part* has an EPP feature whenever a subject precedes it.) Consider the abstract structure in (7).

(7)   *Part*[number,gender,EPP] [$_{\&P[number]}$ NP1[gender] NP2[gender]]

Part matches &P for number and NP1 for gender. Since it has an EPP feature, a phrase must move to Spec*Part*P. The question is which element will undergo this movement. Within Chomsky's system, where movement is decomposed into Match, Value and Pied-piping, we are dealing here with the issue of pied-piping. In *John left*, *John* values all the φ-features of T and is then pied-piped to SpecTP. It is a standard assumption that the maximal projection of the valuator undergoes pied-piping. In other words, valuators determine pied-piping. The problem with (7) is that there are two valuators, one requiring pied-piping of &P and the other pied-piping of NP1. Note also that, as noted by Stjepanović (1998), SC allows extraction of the first conjunct of a coordinate structure.

(8) ?Knjige$_i$ je   Marko [t$_i$ i   filmove] kupio
      books   is   Marko   and movies   bought
      'Marko bought books and movies.'

This means both &P and NP1 are in principle pied-pipable. I suggest in Bošković (2008) that this kind of ambiguity prevents pied-piping (this

may be considered an instance of McGinnis's 1998 lethal ambiguity). Following Bejar's (2003) proposal that inability to pied-pipe leads to a failure to value, I furthermore suggest that since pied-piping cannot be performed on the basis of the valuation in question, the valuation itself is blocked. There are two possibilities at this point: (a) default agreement for gender, realized as masculine *došli*; (b) Secondary Agree, which occurs in (1b). Focusing on (b), recall that uninterpretable features must be deleted. They are deleted after undergoing valuation, given that only valued features can be deleted. What about valued uninterpretable features? I propose they are deleted when they undergo Match, as in (9).

(9)　Valued uninterpretable features are deleted after Match

Returning to (7), recall *Part* matches &P and NP1 for number and gender respectively. The match does not result in valuation, since the valuation in question fails to uniquely determine the pied-piping element. Given (9), the gender feature of NP1 is deleted, since it has already undergone Match. Secondary Agree then occurs, with *Part* matching &P for number and NP2 for gender. This is followed by movement of &P to Spec*Part*P.

　Given that the features of *Part* are valued by &P and NP2 before movement to Spec*Part*P, a question arises if we would still have a problem regarding pied-piping to Spec*Part*P. The answer is no. Significantly, in contrast to the first conjunct, the second conjunct is not extractable, which means it is not a candidate for pied-piping. Since only &P is a candidate for pied-piping, &P is pied-piped to Spec*Part*P.

(10)　*Filmove$_i$　je　Marko [knjige i　t$_i$]　kupio
　　　　movies　is　Marko　books and　　bought

We thus derive second conjunct agreement for fronted subjects.[3]

　Bošković (2008) notes that a slightly different analysis is available under the Rezac (2004)/Bejar (2003) proposal that Secondary Agree has an expanded search domain. They argue that if YP is merged to the Spec of probe P, the search domain for P in Secondary Agree also contains SpecP, a proposal based on Chomsky's (1995) assumption that the label

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[3]I also give an alternative account where the possibility of violating the Coordinate Structure Constraint (CSC) in SC is irrelevant. Under this account, the difference between NP1 and NP2 is that NP1 is equidistant with &P, assuming XP and SpecXP (and NP1 is Spec&P) are equidistant. We can then simply assume, following the logic of McGinnis's (1998) lethal ambiguity, that when potential pied-pipers are equidistant from the target, none of them can be targeted for pied-piping. The lethal ambiguity problem does not arise with respect to &P and the complement of & (NP2) given that XP and the complement of X are not equidistant.

of a phrase is the head of the phrase, which means the maximal projection of the probing head P is in effect P. Under the proposal that with Secondary Agree the probe can probe its Spec we can have the following derivation for (7): After Primary Agree fails and the gender feature of NP1 is deleted, &P first moves to SpecPartP (given that NP1 is no longer a candidate for movement after its gender feature deletion) and then Secondary Agree takes place, with Part probing its Spec. This analysis also yields the LCA pattern. Below, I will examine whether Russian can help us tease apart the two analyses, which differ in the timing of Secondary Agree.[4] Notice, however, that regardless of which of the two analyses is adopted, we have here a uniform account of FCA and LCA, which does not posit conditions that would hold only for one of these two patterns.

Recall now that both FCA and LCA are blocked when individual conjuncts are specified as singular, as in (11a-b). In fact, more generally, both FCA and LCA are blocked when the first conjunct is specified as singular, regardless of the number specification of the second conjunct.

(11) a. * Juče   su uništena   jedno selo   i   jedna varošica
          yesterday are destroyed$_{PL.N}$ one village$_N$ and one   town$_F$
          'One village and one town were destroyed yesterday.'

      b. * Jedna varošica i   jedno selo   su   uništena
          one   town$_F$ and one   village$_N$ are destroyed$_{PL.N}$

      c. * Juče   su uništena   jedno selo   i   sve varošice
          yesterday are destroyed$_{PL.N}$ one   village$_N$ and all towns$_F$

      d. ?*Jedna varošica i   sva sela   su   uništena
          one   town$_F$ and all villages$_N$ are destroyed$_{PL.N}$

In all the examples in (11), &P, which is specified as plural, controls the number of the participle, just as in (1). (Recall participles must be plural in *all* examples with conjoined subjects.) Given that &P controls number agreement, how can we make the number of the first conjunct relevant, enabling it to disrupt both FCA and LCA in (11)? This can be easily done if the ɸ-probing head is a single ɸ-probe, which probes for both number and gender together. In other words, it is crucial here that the ɸ-probe is not a split ɸ-probe, as in several languages discussed by Bejar (2003) and Rezac (2004) and applied to FCA/LCA in Slovenian by Marušič et al (2007), which could probe for number and gender separately.

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[4]They also differ in that the unacceptability of (10) and non-equidistance of XP and complement of X (see fn 3) are irrelevant under the Secondary Agree after movement analysis.

Consider first (11a). The relevant structure is given below.

(12) *Part*[number, gender] [$_{\&P[pl]}$ NP1[sg, neut] [.... NP2[sg, fem]]]

Part probes for number and gender, just as in (1a). It matches &P and NP1. Since both of its ɸ-features have now found a match, the probing stops. *Part* in (12) is thus undergoes Hiraiwa's (2005) Multiple Agree with &P and NP1. While its gender can be valued, the valuation yielding neuter gender, its number cannot be valued due to a valuation conflict: since one of the matching elements is plural (&P) and one singular (NP1), the number value of *Part* cannot be uniquely determined. Still, locality does not allow *Part* to probe further down. This is similar to what we have seen regarding (1b). Recall Primary Agree fails to value ɸ-features of *Part* in (1b). However, while in (1b) we can delete one of the trouble-makers, the gender feature of NP1, initiating Secondary Agree which eventually results in ɸ-valuation of *Part* (with LCA), this cannot be done in (11a). The problem here is that, in contrast to (1b), where the problem-atic feature, namely gender, is uninterpretable, in (11a) the problematic feature, namely number, is interpretable, hence cannot be deleted. The derivation in question then cannot yield a grammatical output.[5] Note fur-thermore that in the above account of (11a) it does not matter whether &P will move to Spec*Part*P or not and whether the second conjunct is plural or singular. The account of (11a) then extends to all the examples in (11).

Recall now that while FCA and LCA are both blocked with sg+sg, and sg+pl coordinations, only LCA is blocked with pl+sg coordinations.

(13) a. Juče   su   uništena   sva sela   i jedna varošica
          yesterday were destroyed$_{PL.N}$ all villages$_N$ and one town$_F$

      b. * Sve varošice i   jedno selo   su   uništena
          all town$_F$ and one   village$_N$ were destroyed$_{PL.N}$

We have here a breakdown of the FCA/LCA parallelism. (13a) can be analyzed as discussed above. As for (13b), it has the structure in (14).

(14) *Part* [number, gender, EPP] [$_{\&P[pl]}$ NP1[pl, fem] NP2[sg, neut]]

Part matches &P and NP1. Since the construction must involve move-ment, the match cannot result in valuation of the ɸ-features of *Part* since

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[5]Following Corbett (2002), I assume default number assignment is unavailable here.(Corbett argues default number assignment in SC is not possible without default gender assignment.)

it fails to uniquely identify the pied-piper. The gender feature of NP1 then deletes, given (9), and then Secondary Agree is initated (either before or after movement, depending on which of the two analyses given above is adopted). Secondary Agree reaches all the way to NP2, since neither &P nor NP1 bears the gender feature. But then we get a conflict in the number value of the goals, just as in (11): while &P is plural, NP2 is singular. As in (11), the derivation then fails to yield a legitimate result since the probe's number cannot be valued. (13b) and (11) are thus accounted for in the same way. Most importantly, the FCA/LCA parallelism breakdown in (13) is captured without positing any mechanisms that would hold for only FCA or LCA. This was in fact accomplished by using the mechanisms that were intended to capture the FCA/LCA parallelism from (11).

Finally, let me reiterate we cannot simply assume that in the cases of conjunct-sensitive agreement in SC we are dealing with full (gender and number) first/last conjunct agreement with a single NP. Simply assuming full first/last conjunct agreement cannot account for (4). We then cannot simply assume that the same element, the first conjunct with FCA and the last conjunct with LCA, controls both gender and number. The reader can verify that (4) can be easily captured under the above analysis, where &P, which is plural, is always involved in the relevant agreement process.

To sum up, the probe responsible for participial agreement is a non-split ɸ-probe. It searches for a goal to value its number and gender. Since &P is specified only for number, in coordination cases the probe matches disjoint valuators, &P for number and the first conjunct for gender. These elements value the probe's ɸ-features, yielding FCA. However, the existence of two potential valuators for a single ɸ-probe causes a problem in cases involving movement, i.e. pied-piping of a valuator. Since both of these goals are in principle mobile in SC this results in ambiguous targeting for pied-piping, which makes movement impossible and cancels the valuation in question; in other words, the match here does not result in valuation. The participial probe then undergoes Secondary Agree with a larger search space that includes the second conjunct. This results in LCA. The crucial assumption here is that the gender of SC nominals is valued and uninterpretable and that such features delete as soon as they undergo Match. The problematic gender feature of the first conjunct is then deleted before the probe re-initates search for an appropriate goal, so that the second probing operation can target the second conjunct.

FCA and LCA are both blocked with singular conjuncts for the same reason: in such cases the non-split ɸ-probe cannot value its number due to the conflicting number specification of &P and NP1 (both of which serve as goals), the former being plural and NP1 singular. Since the number feature is interpretable it cannot be deleted. While a singular first conjunct

blocks both FCA and LCA, only LCA is always blocked when the second conjunct is singular. The reason for this is that the second conjunct is always involved in valuation of the participial probe only with LCA.

It should be noted that in Bošković (2008) I give a number of other contexts where FCA and/or LCA fail. The proposed analysis provides a uniform account of *all* such contexts. One way or another, all such cases involve a conflicting valuation, either with respect to Agree or determining pied-piping. The fact that the analysis unifies all FCA/LCA failures should be interpreted as a strong argument in its favor.

2.3 Crosslinguistic Variation with First Conjunct Agreement

A rather standard conjunct-sensitive agreement paradigm involves languages where FCA involves first conjunct number agreement, as in Spanish (15). I will refer to this pattern as the standard FCA pattern below.

(15) Llegó   Juan y   Miguel.
      arrive$_{SG}$ Juan and Miguel
      'Juan and Miguel arrived.'

FCA in Spanish is more permissive than in SC in that it is allowed even with singular conjuncts. In her analysis of standard FCA Doron (2000) argues &P does not have specification for the feature number. Adopting Doron's claim and the above analysis would mean languages differ regarding the number specification of &P. Evidence for the difference is straightforward: In SC, agreement with a conjoined subject *always* results in plural, regardless of the position of the subject or the number of individual conjuncts. The fact that &P always governs plural agreement in SC makes sense if &P itself is specified as plural. In Spanish, on the other hand, agreement with conjoined subjects does not always result in plural agreement. This suggests &P should not be inherently specified as plural: if it were, we would always get plural. When the ɸ-probe initiates Agree in (15) then, the closest element with the number feature can be NP1, which results in first conjunct number agreement.[6] This is in contrast to SC, where the closest element with the number feature is always &P.

Notice also that singular agreement is possible with SC disjunctions, as in (16). This is not surprising; disjunctions clearly should not be inherently specified as plural given their semantics.[7]

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[6]First conjunct agreement is optional in Spanish, which may indicate &P optionally has the number feature in Spanish. Also, FCA is impossible in Spanish when the subject is fronted-such examples require plural agreement; see Bošković (2008) for discussion of such cases.

[7]Plural *uništeni* (with default masculine gender) is also possible in (16), which means *ili*

(16) Juče   je uništeno   jedno selo   ili jedna varošica.
     yesterday is destroyed$_{SG.N}$ one   village$_N$ or one   town$_F$
     'There was one village or one town destroyed yesterday.'

3 Russian

I now turn to Russian.[8] Russian differs from SC in that it allows FCA/LCA with singular conjuncts. Plural is also possible in both cases though in such cases we cannot tell what is going on regarding gender agreement since the verbs are not morphologically specified for gender when plural.[9]

(17) a. Odna derevnja i odno selenije   bylo razrušeno
         one   village$_F$ and one   settlement$_N$ was$_N$ destroyed$_{SG.N}$
         'One village and one settlement were destroyed.'

     b. Bylo razrušeno   odno selenije   i   odna derevnja
         was$_N$ destroyed$_{SG.N}$ one   settlement$_N$ and one   village$_F$

(18) a. Odna derevnja i odno selenije   byli razrušeny
         one   village$_F$ and one   settlement$_N$ were destroyed$_{PL}$

     b. Byli razrušeny   odno selenije   i   odna   derevnja
         were destroyed$_{PL}$ one   settlement$_N$ and one   village$_F$

Note also that, like SC, Russian allows extraction of the first, but not the second conjunct of coordinate structures. Russian is then consistent with the analysis that ties LCA to the possibility of CSC violations (recall, however, that under the alternative equidistance analysis (cf. fn 3) the possibility of CSC violations is irrelevant to the availability of LCA).

(19) a. ? Knigi$_i$ Ivan   [t$_i$ i   fil'my] kupil
          books   Ivan   and movies bought

Phrase can be specified as plural. It is actually not completely clear whether in (16) we are dealing with standard FCA, with *Part* agreeing with NP1 in number, or with number agreement with the *ili* Phrase. If the former, the *ili* phrase would not have number specification in (16); if the latter it would be singular in (16). Under the latter analysis *ili* phrase always has number, but it can be either singular or plural. I will not try to tease apart these options since that would involve investigating disjunctions with fronted subjects. However, the judgments for the relevant data turn out to be murky; they also involve several interfering factors.

[8] I thank Natasha Fitzgibbons, Zhanna Glushan, and Nina Radkevich for help with the data.

[9] I assume we are dealing here with a low level morphological issue; i.e. I assume *Part* is always present in the structure and probes for gender and number. However, due to morphological properties of Russian, gender is not morphologically realized with plural participles.

'Ivan bought books and movies.'

b. * Fil'my$_i$ Ivan [knigi i t$_i$] kupil

Let us now see how the Russian FCA/LCA paradigm, which is not sensitive to number (more precisely, it is available with singular verbs), can be captured in the Bošković (2008) system. First, &P in Russian clearly should not be inherently specified as plural; otherwise we would always get plural agreement with coordinations, as in SC. I therefore suggest &P is optionally specified as plural in Russian. This is all we need to account for FCA. The plural &P option yields plural agreement (18b), as in SC, while the no number specification option yields FCA (17b), as in Spanish.

What about LCA? Simply assuming the number and the no-number option for &P is not enough to derive the LCA pattern. Recall that what makes LCA possible in SC is the attempt by both &P and NP1 to value ɸ-features of *Part*. Since valuators determine the pied-piping element, this results in ambiguous targeting for movement, which makes movement impossible and cancels the valuation in question. The gender of NP1 is then deleted, so that NP1 is no longer a potential valuator for gender. This enables *Part* to reach NP2 for gender valuation under Secondary Agree. The problem in question, however, does not arise in Russian LCA cases: Since *Part* is singular, &P must lack number specification in (17a), hence is not involved in determining the pied-piper. The SC problem then does not arise in Russian. To account for Russian LCA I therefore propose the following condition (*i*F is an uninterpretable feature):

(20)   If X is optionally specified for *i*F, *i*F of X can be deleted

The intuition behind (20) is the following: If X can either have or not have *i*F, X obviously must be interpretable by the semantics without *i*F. But then nothing should go wrong if *i*F of X is deleted.[10] This, I suggest, is precisely what happens in (17a). The derivation starts with (21):

(21)   *Part*[number, gender, EPP] [$_{\&P[pl]}$ NP1[sg, fem] NP2[sg, neut]]

As in SC, Primary Agree fails in (21) since we have two potential valuators for the ɸ-features of *Part*, namely &P and NP1. What happens then is that, as in SC, the gender feature of NP1 is deleted due to (9). Further-

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[10]Recoverability of deletion may require *i*F to be present on another element (though it does not necessarily have to have the same value), which it is in the case under consideration.

more, the number feature of &P can also be deleted in Russian, given (20). We then get (22).

(22) *Part*[number, gender, EPP] [$_{\&P}$ NP1[sg] NP2[sg, neut]]

Secondary Agree then takes place, with the number feature of *Part* being valued by NP1 as singular and the gender feature by NP2 as neuter. In other words, we get the LCA pattern. The optionality of the number specification of &P is thus responsible for the availability of both FCA and LCA with singular verbs in Russian.

Let us now see if Russian can help us tease apart the Secondary Agree before movement and the Secondary Agree after movement analyses from section 2.2. Under the latter analysis, &P moves to Spec*Part*P after the gender feature of NP1 is deleted. The number of &P is then deleted and Secondary Agree takes place. On the other hand, additional assumptions have to be adopted under the Secondary Agree before movement analysis. Under this analysis all the action takes place prior to movement to Spec*Part*P. Given that valuators determine the pied-piping element, the problem is then that the ɸ-features of *Part* are valued by NP1 and NP2, but what is pied-piped is &P. An assumption then has to be adopted to the effect that in the situation where we have two valuators X and Y, neither of which dominates the other, what is pied-piped is the element that dominates X and Y, which would be &P in the case under consideration. Since the assumption is not needed under the Secondary Agree after movement analysis, this analysis may then be somewhat simpler than the Secondary Agree before movement analysis.

Consider now the LCA derivation more closely. Assuming *Part* is a non-split ɸ-probe, as in SC, the number and the gender feature of *Part* do not probe separately in (22). Rather, they probe together, which means *Part* in (22) undergoes Multiple Agree with NP1 and NP2. Since both conjuncts are specified for number, *Part* then must enter into an Agree relation for number with both NP1 and NP2. This does not raise any problems in (22) since both conjuncts are singular. However, suppose NP1 is plural. The number of *Part* then could not be valued since we would get a valuation conflict: one of the matching elements would be plural and one singular. We therefore make a rather interesting prediction that LCA should fail if NP1 is specified as plural. In other words, although superficially NP1 does not appear to be involved in agreement in LCA cases, it should still disrupt LCA when it is plural. Although the data are not com-

pletely clear, most speakers find (23a) to be worse than (23b), a "regular" LCA example, and (23c), which instantiates the plural option for &P.[11]

(23) a ??Vse goroda i odno selo bylo razrušeno
     all townsM and one villageN wasN destroyedSG.N
     'All towns and one village were destroyed.'

    b. Odin gorod i odno selo bylo razrušeno
     one townM and one villageN wasN destroyedSG.N
     'One town and one village were destroyed.'

    c. Vse goroda i vse sëla byli razrušeny
     all townsM and all villagesN were destroyedPL
     'All towns and all villages were destroyed.'

Perhaps less surprisingly, the current analysis also predicts LCA to fail with pl+sg combinations: In such examples Multiple Agree with the conjuncts also results in a conflicting valuation.[12]

(24) *Odin gorod i vse sëla bylo razrušeno
    one townM and all villagesN wasN destroyedSG.N
    'One town and all villages were destroyed.'

4 Conclusion

I have compared FCA/LCA in SC and Russian. The languages differ in that FCA and LCA are available with singular verbs only in Russian. I have shown Bošković's (2008) account of number-sensitive FCA/LCA in SC can be extended to Russian given the assumption that an interpretable feature F of X can be deleted if X optionally has F. The crucial difference between SC and Russian is that &P is obligatorily specified as plural in

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[11]As in SC, we would expect that the plural &P option could result in LCA for gender. However, we cannot tell whether this is indeed the case since gender is not morphologically realized with plural participles. Note also that some speakers accept (23a), i.e. they find it as acceptable as (23b,c). I suggest that we are dealing here with the well-known processing effect of agreement attraction. Thus, it is well known that linear intervention affects processing of agreement to the extent that some speakers even judge examples like *The son of the neighbors always come back late* acceptable.

[12]The prediction is less surprising since the participle here fails to agree in number with the NP it agrees with in gender. Note also that (24) is worse than (23a). I suggest we are dealing here with a processing effect noted in Bošković (2008), whereby examples in which an NP that agrees in number and gender is linearly closer to the verb than the trouble-making NP (as in (23a)) are judged better than examples where this is not the case (as in (24)).

SC, but not Russian, evidence for which is provided by the fact that agreement with conjoined subjects is always plural only in SC.

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