Unifying first and last conjunct agreement

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In addition to first-conjunct agreement (FCA), which is quite frequent crosslinguistically, several languages have the rather rare phenomenon (for head-initial languages) of last-conjunct agreement (LCA). One such language is Serbo-Croatian (SC). As shown in (1), with postverbal subjects, SC exhibits FCA (for gender), and with preverbal subjects LCA (also for gender).

(1) a. Juče su uništena sva sela i sve varošice.
yesterday are destroyed.pl.neut all villages.neut and all towns.fem
‘All villages and all towns were destroyed yesterday.’
b. Sva sela i sve varošice su (juče) uništene.
all villages.neut and all towns.fem are yesterday destroyed.pl.fem

To goal of this paper is to establish the empirical domain of conjunct-sensitive agreement in SC and provide a preliminary uniform account of FCA and LCA based on the operation Agree. We will see that the FCA/LCA paradigm in SC is rather complex. Furthermore, while the conditions on FCA and LCA for the most part mirror each other, there are contexts where the parallelism breaks down. I will show that the whole FCA/LCA paradigm, including the contexts where the parallelism between FCA and LCA breaks down, can be accounted for in an Agree-based system without postulating any arbitrary language-specific morphological mechanisms, which should be taken as a strong argument in favor of the operation Agree, as well as the particular approach to Agree, and more generally feature checking, adopted in this paper.

The gist of the analysis proposed below is that the probe that is responsible for participial agreement searches for a goal to value its number and gender features. Since Boolean Phrase (i.e. the conjunction phrase), henceforth BP, is specified only for number, the probe finds disjoint valuators, BP for number and the first conjunct for gender. This is all that happens in FCA cases. However, the existence of two potential valuators for a single \( \phi \)-probe causes a problem in cases...
involving movement, i.e. pied-piping of a valuator, like (1b): since both goals noted above are in principle mobile in SC this results in ambiguous targeting for movement, which makes movement impossible and cancels the valuation in question. The participial probe then initiates a second probing operation with a larger search space, which includes the second conjunct. Since the second conjunct, which can now value the gender feature of the probe, is in principle immobile, it is not a candidate for movement, which means that a pied-piping valuator can now be unambiguously determined, BP being the pied-piper. This then results in the LCA pattern. The crucial assumption for the above analysis is that the gender feature of SC nominals is valued and uninterpretable and that such features undergo deletion as soon as they are targeted by a probing operation. The problematic gender feature of the first conjunct is then deleted before the participial probe re-initiates search for an appropriate goal, so that the second probing operation can target the second conjunct for the gender feature. The above is the gist of the analysis of the basic FCA/LCA paradigm illustrated in (1). Technical details of the account will be expanded on during the discussion below, and a great deal of additional data which considerably complicate the conjunct-sensitive agreement paradigm in SC will be introduced. It will be shown that with some additional assumptions, the analysis outlined above can accommodate the full paradigm regarding conjunct-sensitive agreement in SC.

The paper is organized as follows. Since, as far as I am aware of, the current paper is the first detailed generative study of conjunct-sensitive agreement in SC I will start by presenting the FCA/LCA paradigm in the contexts where individual conjuncts do not agree in gender specification. In section 1 I will also discuss previous accounts of conjunct-sensitive agreement. In section 2 I summarize theoretical assumptions that will be employed in the analysis proposed in the paper, which will be presented in section 3. In section 4 I discuss how the analysis developed in section 3 fares with respect to constructions where the conjuncts agree in gender. Section 5 briefly discusses crosslinguistic variation with respect to FCA. In sections 6 I discuss some theoretical consequences of the proposed analysis, which includes a simplification of Chomsky’s (2000, 2001a) feature-checking mechanism as well as evidence that the current feature checking system is empirically superior to Chomsky’s (1995) feature checking system. Section 7 is the conclusion.

1. Agreement with conjuncts that do not agree in gender

1.1. The basic paradigm

Non-conjoined subjects in SC obligatorily agree with the verb, whether they are preverbal or postverbal. They agree with finite verbs (auxiliary and main verbs) in person and number, and with participles in number and gender. Plural and coordinated subjects always trigger plural agreement. All of this is illustrated for plural subjects in (2a-b), which give the only possible agreement patterns for these examples.

(2) a. Te krave su juče prodane.
    those cows.fem are yesterday sold.pl.fem
    ‘Those cows were sold yesterday.’
b. Juče su prodane te krave.

Turning now to conjoined subjects, since FCA and LCA involve agreement in gender, which means we find it with participles, I will focus on auxiliary+participle constructions. When the conjuncts agree in gender, as in (3), the participle typically has the gender specification that the conjuncts have. (There are some exceptions to this which will be discussed in section 4. Since the participle is
always plural with coordinations I omit its number specifications from the glosses).\(^4\)

(3) Sva telad i sva paščad su juče prodana.
all calves.neut and all dogs.neut are yesterday sold.neut
‘All calves and all dogs were sold yesterday.’

The interesting coordination cases are those in which there is a mismatch in the gender feature of
the conjuncts. When one conjunct is feminine and one neuter, we get the FCA/LCA pattern. The
FCA pattern is illustrated in (4) and the LCA pattern in (5).\(^5\)

(4) a. Juče su uništena sva sela i sve varošice.
yesterday are destroyed.neut all villages.neut and all towns.fem
b. Juče su uništene sve varošice i sva sela.
yesterday are destroyed.fem all towns.fem and all villages.neut
c. *Juče su uništene sva sela i sve varošice.
yesterday are destroyed.fem all villages.neut and all towns.fem
d. *Juče su uništena sve varošice i sva sela.
yesterday are destroyed.neut all towns.fem and all villages.neut

(5) a. Sva sela i sve varošice su (juče) uništene.
all villages.neut and all towns.fem are yesterday destroyed.fem
b. Sve varošice i sva sela su (juče) uništena.
all towns.fem and all villages.neut are yesterday destroyed.neut
c. *Sva sela i sve varošice su (juče) uništena.
all villages.neut and all towns.fem are yesterday destroyed.neut
d. *Sve varošice i sva sela su (juče) uništena.
all towns.fem and all villages.neut are yesterday destroyed.fem

The context in question also allows for default, masculine gender specification on the participle, as
shown in (6) for FCA and (7) for LCA.\(^6\)

(6) a. ?Juče su uništeni sva sela i sve varošice.
yesterday are destroyed.masc all villages.neut and all towns.fem
b. ?Juče su uništeni sve varošice i sva sela.
yesterday are destroyed.masc all towns.fem and all villages.neut

(7) a. Sva sela i sve varošice su (juče) uništeni.

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\(^4\)Default masculine gender is actually also often (though not always; see, e.g., footnote 35) possible with
feminine+feminine and especially neuter+neuter coordinations, see Corbett (1983). Note also that default masculine
gender is not possible with non-conjoined subjects, as in (2).

\(^5\)Here is also an example from the internet, provided by Sandra Stjepanović (p.c.).

(i) ...njihove kuće i sela su uništena, na hiljade njihovih žena, djece i staraca su protjerani i ostali bez krova nad
glavom...
‘Their houses(fem) and villages(neut) were destroyed(neut), and thousands of their women, children, and elderly
were expelled and left without homes…’

\(^6\)Not all defaults have the same status. The status of the default gender specification in particular examples
does not simply correlate with the status of non-default gender specification. I leave examining comparative
acceptability of default gender specification in different examples as well as the exact technical implementation of
default feature assignment for future research (the same holds for the issues noted in footnotes 4 and 35).
all villages.neut and all towns.fem are yesterday destroyed.masc  
b. Sve varošice i sva sela su (juče) uništeni.
all towns.fem and all villages.neut are yesterday destroyed.masc

Notice also that when there are more than two conjuncts, as in (8), LCA is controlled by the last conjunct.

(8) Sve banje, sve varošice, i sva sela su uništena/*uništene.
all spas.fem all towns.fem and all villages.neut are destroyed.neut/destroyed.fem
‘All spas, all towns, and all villages, were destroyed.’

Furthermore, as noted by MNS with respect to Slovenian based on examples like (9), LCA is not controlled simply by the noun closest to the verb, but by the head of the last conjunct.

(9) Sela i varošice, u kojima žive ta djeca, nisu lijepe/*lijepa.
all villages.neut and towns.fem in which live those children.neut not+are beautiful.fem/neut
‘Villages and towns, in which those children live, are not beautiful.’

An interfering factor in examples like (9) could be that *djeca* is embedded within another clause. It is not easy to construct examples where this is not at issue, given that only nominative NPs undergo agreement in SC. However, the potentially interfering factor is controlled for in (10), where the second nominal is nominative but cannot control agreement. (*Poljice* is a pluralia tantum village name; see below for the relevance of number for gender agreement.)

(10) a. Sve Poljice su lijepe.
all Poljices.fem are beautiful.fem
‘All Poljices are beautiful.’

b. Sva sela Poljice su lijepe/*lijepa.
all villages.neut Poljices.fem are beautiful.neut/beautiful.fem
‘All villages named Poljice are beautiful.’

Importantly, the coordinated LCA example (11) patterns with (10b) in the relevant respect.

(11) Sve varošice i sva sela Poljice su lijepe/*lijepa.
all towns.fem and all villages.neut Poljices.fem are beautiful.neut/beautiful.fem
‘All villages named Poljice are beautiful.’

In the examples discussed so far FCA and LCA exhibit parallel behavior. However, when one conjunct is masculine and one feminine/neuter, we get a breakdown in the parallel behavior of FCA/LCA. Not surprisingly, an initial masculine conjunct leads to FCA and final masculine conjunct leads to LCA.

(12) a. Juče su uništeni svi gradovi i sve varošice/sva sela.
yesterday are destroyed.masc all cities.masc and all towns.fem/all villages.neut
‘All cities and all towns/all villages were destroyed yesterday.’

b. Sve varošice/sva sela i svi gradovi su (juče) uništeni.
all towns.fem/all villages.neut and all cities.masc are yesterday destroyed.masc
However, when the masculine conjunct is placed in a position that normally does not trigger agreement, FCA is still possible, but LCA is not: while the participle in (13) can be feminine/neuter, the one in (14) must bear masculine (i.e. default) specification.

(13) a. Juče su uništene sve varošice i svi gradovi.
    yesterday are destroyed.fem all towns.fem and all cities.masc
b. Juče su uništene sva sela i svi gradovi.
    yesterday are destroyed.neut all villages.neut and all cities.masc

(14) a. Svi gradovi i sve varošice/sva sela su (juče) uništeni.
    all cities.masc and all towns.fem/all villages.neut are yesterday destroyed.masc
b. ?*Svi gradovi i sva sela su (juče) uništena.
    all cities.masc and all villages.neut are yesterday destroyed.neut
c. ?*Svi gradovi i sve varošice su (juče) uništena.
    all cities.masc and all towns.fem are yesterday destroyed.fem

A masculine conjunct thus blocks LCA, but not FCA.

Number specification also matters. In all of the above cases involving LCA/FCA, the individual conjuncts are plural. When the individual conjuncts are singular, regardless of the gender specification of individual conjuncts the participle must be masculine.7 Thus, even a feminine+neuter combination requires default masculine gender on the participle, as shown in (15) for FCA and (16) for LCA.

(15) a. *Juče su uništena jedno selo i jedna varošica.
    yesterday are destroyed.neut one village.neut and one town.fem
b. *Juče su uništena jedna varošica i jedno selo.
    yesterday are destroyed.fem one town.fem and one village.neut
c. Juče su uništeni jedno selo i jedna varošica.
    yesterday are destroyed.masc one village.neut and one town.fem
d. Juče su uništeni jedna varošica i jedno selo.
    yesterday are destroyed.masc one village.neut and one town.fem

(16) a. *Jedno selo i jedna varošica su (juče) uništenene.
    one village.neut and one town.fem are yesterday destroyed.fem
b. *Jedna varošica i jedno selo su (juče) uništena.
    one town.fem and one village.neut are yesterday destroyed.neut
c. Jedno selo i jedna varošica su (juče) uništeni.
    one village.neut and one town.fem are yesterday destroyed.masc
d. Jedna varošica i jedno selo su (juče) uništeni.
    one town.fem and one village.neut are yesterday destroyed.masc

Interestingly, as shown in (17), plural/singular combinations allow FCA but only if the initial conjunct is plural.

(17) a. Juče su uništena sva sela i jedna varošica.
    yesterday are destroyed.neut all villages.neut and one town.fem

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7See Corbett (1983); see also MNS for Slovenian. However, this is not the case in Russian (see Corbett 1983:98). The fact that Russian verbs have gender distinctions only in the singular may be relevant here.
b. Juče su uništene sve varošice i jedno selo.
yesterday are destroyed.fem all towns.fem and one village.neut

c. *Juče su uništena jedno selo i sve varošice.
yesterday are destroyed.neut one village.neut and all towns.fem

d. *Juče su uništene jedna varošica i sva sela.
yesterday are destroyed.fem one town.fem and all villages.neut

e. Juče su uništeni jedno selo i sve varošice.
yesterday are destroyed.masc one town.fem and all villages.neut

On the other hand, LCA is quite generally impossible if one of the conjuncts is singular.

To summarize the data patterns discussed so far, there is quite a bit of parallelism between LCA and FCA in SC: LCA is a mirror image of FCA in that it targets the last conjunct, while FCA targets the first conjunct. LCA and FCA are both found when the conjuncts are plural and of mixed feminine/neuter gender. The participle is always plural with both FCA and LCA. FCA and LCA are both blocked when the conjuncts are singular and with singular/plural conjunct combinations. Both the LCA pattern and the FCA pattern alternate with the default masculine gender. There are, however, two contexts that allow FCA but not LCA: when the non-agreeing conjunct is masculine we still get FCA, but not LCA. Also, FCA is allowed with plural/singular combinations, while LCA is quite generally disallowed when one of the conjuncts is singular.

It is important to notice at this point that due to the above restrictions, we cannot simply assume that in the cases of conjunct-sensitive agreement in SC we are dealing with full (i.e. gender and number) first/last conjunct agreement with a single NP. Simply assuming full first/last conjunct agreement could not account for (19a) or (19b). In other words, we cannot simply assume that the same element, namely the first conjunct with FCA and the last conjunct with LCA, controls both gender and number. Nevertheless, I will continue to use the terms first and last conjunct agreement for ease of exposition.
1.2. Previous analyses

As noted above, while the FCA pattern is quite common, LCA appears to be quite rare crosslinguistically (for head-initial languages). As a result, most of the accounts of conjunct-sensitive agreement confine themselves to attempting to capture FCA. It would be obviously desirable to have a uniform account of conjunct-sensitive agreement, which would capture both FCA and LCA. However, MNS quite convincingly show with respect to Slovenian that the existing accounts of FCA fail to extend to LCA. Thus, accounts of FCA (Benmamoun 1992, Bahloud and Harbert 1993, Bošković 1997, 2005b, Munn 1999, Citko 2004, and Doron 2000, among many others) that appeal to the well-established claim that the first conjunct is higher than the second conjunct (see Munn 1993, Camacho 2003) do not really have anything to say about LCA. Furthermore, the FCA paradigm displayed by SC is more restricted than the FCA paradigms discussed by the authors cited above. As noted above with respect to (19a), assuming simple first-conjunct agreement does not suffice for SC. Consequently, the existing accounts of FCA do not even readily extend to the SC FCA paradigm, let alone the LCA paradigm. I will return in section 5 in more detail to the question of how the crosslinguistic variation regarding FCA can be captured, the issue I will be interested in being how to prevent the analysis of more permissive FCA patterns found in other languages from extending to SC.

Johannessen (1998), who attempts to unify FCA/LCA patterns found in head-initial/head-final languages, claims that the former is found in head-initial languages, where she argues the first conjunct is structurally higher than the second conjunct, and the latter in head-final languages, where, according to Johannessen, the second conjunct is structurally higher than the first conjunct. The claim cannot be extended to SC and Slovenian, which are head-initial languages.

MNS show that the analysis of partial agreement in terms of ellipsis proposed in Aoun, Benmamoun, and Sportiche (1994, 1999) (see also Camacho 2003 for a version of this analysis), where partial agreement constructions involve full clausal agreement with predicate ellipsis in one conjunct (so, (1a) would involve coordination “destroy all villages and destroy all towns”, with the second destroy elided), cannot be extended to the conjunct-sensitive agreement paradigm under consideration since it would fail to account for the fact that conjunct-sensitive agreement is also found with plural predicates such as collided and together. Such predicates require distribution over the conjuncts together, which cannot be accomplished in the ellipsis analysis where each conjunct is placed in a separate clause (what is coordinated under this analysis are the clauses, not the traditional conjuncts). MNS’s point is illustrated in (20) by slightly modified SC counterparts of their Slovenian data.

(20) a. Telad i krave su juče pasle zajedno.
   calves.neut and cows.fem are yesterday grazed.fem together
   ‘Calves and cows grazed together yesterday.’

b. Juče su pasle krave i telad zajedno.

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8MNS do not discuss the full paradigm given above (in particular, they do not discuss the FCA/LCA breakdowns in (13)-(14) and (17)-(18) as well as several paradigms discussed below). However, they show that even the Slovenian paradigm they do discuss, which is also found in SC, cannot be captured by the existing accounts of FCA.
(20) shows that both FCA and LCA are possible in the context in question. The ellipsis account cannot explain the joint interpretation of *calves and cows* as a single subject. The ungrammaticality of (19) is also problematic for this account (for additional arguments against extending the Aoun, Benmamoun, and Sportiche analysis to Slavic, see MNS and Citko 2004).

Soltan (2007) argues that conjunct-sensitive agreement is the result of Late Merge of the non-agreeing conjunct, the merger taking place after agreement occurs. MNS note that if the non-agreeing conjunct in the LCA pattern is indeed merged late after subject movement to SpecIP and preverbal agreement occur, the conjunct in question should not be able to participate in scope reconstruction below SpecIP, a prediction which MNS demonstrate with respect to Slovenian is not borne out. (MNS show that the data in question are also problematic for the ellipsis analysis.)

MNS also observe that den Dikken’s (2001) account of English examples like *The key to all the doors are missing*, where *all the doors* moves covertly to a position higher than *the key* from which it can trigger agreement and as a result of which it must take wide scope (this is not the case with *The key to all the doors is missing*) also fails to extend to Slovenian LCA since it incorrectly predicts that an agreeing second conjunct in the LCA pattern would have to scope over the first conjunct.\(^9\)

MNS do propose their own analysis of FCA/LCA based on the conditions in (21). (Note that MNS assume that BP has no specification for the gender feature.)

\begin{enumerate}
\item Projection-Sister Search: If the closest maximal projection MP lacks value for a probed feature F, search for F within the sister projection of M [which can be the sister of M’ or M\(^0\)]
\item 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.
\end{enumerate}

However, the conditions really merely restate the facts to be accounted for.\(^10\) Moreover, they fail to capture the FCA/LCA breakdowns in (13)-(14) and (17)-(18) (MNS actually do not discuss it), as well as the sensitivity of the LCA/FCA pattern to number specification.

To summarize, with plural conjuncts, we get both LCA and FCA when the individual conjuncts are mixed feminine/neuter. When the non-agreeing conjunct is masculine, we still get FCA, but LCA is blocked. Both FCA and LCA are blocked when the individual conjuncts are singular. With mixed plural/singular conjuncts, FCA is allowed, but only with plural/singular combinations, while LCA is quite generally disallowed when one conjunct is singular. The previous analyses of conjunct-sensitive agreement cannot account for the paradigm in question.\(^11\)

2. Theoretical background

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\(^9\)I refer the reader to MNS for a more detailed discussion of the analyses of conjunct-sensitive agreement discussed above. I merely note here the direction of some of their arguments, which also apply to SC.

\(^10\)To be fair, MNS themselves make it clear that their primary goal is empirical. In this respect, MNS is a pioneering work on which future studies of LCA, including the current one, will be based on. (As should become clear during the discussion in the next section, the analysis proposed in this paper also adopts some of MNS’s theoretical assumptions.)

\(^11\)It is worth noting here that the LCA data also raise a problem for the otherwise rather interesting system developed in Koppen (2005), where a probe, i.e. the head responsible for verbal agreement, can agree only with the whole coordination if the coordinated phrase undergoes movement above the probing head, which is the case in SC LCA examples. However, the participle still agrees with one conjunct in such examples.
Before turning to my analysis of conjunct-sensitive agreement, which treats FCA and LCA in the same way, I will briefly discuss the theoretical mechanisms which will be used in the analysis.

I will adopt the by now well-established semantically-based distinction between interpretable and uninterpretable features, where interpretable features are those that receive interpretation in the semantics (Chomsky 1995). I also adopt the valued/unvalued distinction, where feature F of a lexical item X can be lexically valued or not (see Chomsky 2000, 2001a). If unvalued, it has to receive a value during syntactic computation, which is accomplished through the operation Agree, discussed below. Chomsky (2000, 2001a) ties valuation to uninterpretability essentially through a stipulation so that uninterpretable features are unvalued. As discussed in Pesetsky and Torrego (2007), Bošković (2007), and Rodríguez-Mondoñedo (2007), the proposal faces a number of theoretical and empirical problems, several of which are noted in section 6. We will also see during the discussion below conclusive empirical evidence against the correlation between uninterpretability and being unvalued. This means that uninterpretable features can be valued or unvalued. I also adopt the standard assumption that uninterpretable features have to be deleted so that they do not enter semantics, where they would induce a Full Interpretation violation (see Chomsky 1995, 2000, 2001a). Furthermore, following Chomsky (2001a) I assume that only valued features can be deleted (see also Pesetsky and Torrego 2007 for relevant discussion). This means that unvalued uninterpretable features need to be valued before deletion. (We can assume that they delete immediately after valuation.) On the other hand, valued uninterpretable features can be simply deleted, which I assume happens at the point of transfer to the interfaces, more precisely, semantics. What drives feature checking in syntax is then valuation, not interpretability.

Regarding number and gender features, I adopt what seem to me to be uncontroversial assumptions: the number feature of the probe, which, as discussed below, corresponds to the number feature of the verb, is uninterpretable and unvalued, while the number feature 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 NP in A student likes French/Students like French is interpreted differently depending on whether it is plural or singular, which is not the case with the verb (see also footnote 42 for evidence that only the number feature of nouns is valued). Regarding gender, the gender feature of the target (i.e. the probing head) is also uninterpretable and unvalued, while the gender feature of NPs in SC is valued and uninterpretable. As is well-known, SC nominals have a grammatical gender: (with a few exceptions; see section 3.3) 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 the nominal in question in these languages. The same holds for three distinct words for ‘car’ in SC that have different gender (see section 6), which does not affect their interpretation (see also section 6 for extensive evidence that the gender feature of nouns is valued, while the gender feature of verbs, more precisely the gender feature of the probing head, is unvalued.)

The central mechanism I will use in the analysis below is Chomsky’s (2000) operation Agree, 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. Matching has a feature-identity (between a probe P and goal G) requirement as well as a locality requirement, stated in terms of closest c-command. However, Chomsky (2000, 2001a) argues that G has to be active to be able to value P; an inactive G cannot value P. To illustrate (see also Boeckx 2003), the inherently Case-marked NP given in bold in Icelandic (22) 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 an

12 An exception discussed below involves a case when they undergo Match before the transfer.
active goal must have an uninterpretable feature. Since the intervening NP in (22) does not have it, it cannot value the $\phi$-features of $T$, which then receive the default 3p.sg. value.$^{13}$

(22) Mėr fannst/*fundust henni leiðast þeir.
me.dat seems/seem her.dat bore they
‘I thought she was bored with them.’ (Boeckx 2003)

Bejar (2003) shows that matching also fails to result in valuation, i.e. Agree, when the probe is more specified with respect to the matching feature than the goal, i.e. when the goal is relatively underspecified for the feature in question (a similar situation arises with respect to expletive there in Chomsky’s 2000 system).$^{14}$ Below, I provide another case where Match fails to result in Valuation.

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.$^{15}$ Move is then a complex operation consisting of Match, which determines what kind of a category $P$ seeks ($G$ must have the matching feature $F$), Valuation (i.e. Agree, which establishes feature checking between $P$ and $G$, where $G$ values $P$), pied-piping, which chooses the XP to be merged as the Spec of a P with an EPP property (the XP must contain $G$), and re-merge, which merges XP in SpecP.

Chomsky (2000) and Bejar (2003) argue that a head X can probe more than once for feature(s) $Y$, a possibility which I also adopt here and which in fact cannot be prevented without adopting additional assumptions. For ease of exposition, I will use the terms Primary and Secondary Agree to refer to such cases. Chomsky (2000) relies on this mechanism in his account of existential constructions, where in raising expletive constructions like (23a) the matrix Infl first probes the expletive (at point (23b)) and then its associate someone, after the expletive undergoes movement (at point (23a)).

(23) a. There seems to be someone in the garden
b. Infl seems there to be someone in the garden.

Bejar shows that in some cases Primary and Secondary Agree even have different morphological realization. Consider, e.g. agreement in Georgian. In the configuration in (24), where the verb undergoes agreement with $X$ under Primary Agree, first person agreement is morphologically realized as $m$-. On the other hand, in the configuration in (25), where $Y$ matches but is unable to value the person feature of the verb because its person feature is underspecified, it is possible to remove $Y$ from the search domain so that it no longer blocks agreement with $X$ (see Bejar 2003 for details of the analysis and the data). In such cases the verb undergoes Secondary Agree with $X$, which is morphologically realized as $v$-. The Agree relation with $X$ in (25) is thus affected by there being a previous attempt at Agree. In other words, Primary and Secondary Agree have different morphological realization in Georgian.

(24) $m$-Verb $X$
    1p.

\[13\text{ See, however, Bobaljik (in press) for a critical discussion of Chomsky's analysis.}\]
\[14\text{ See Bejar (2003) for extensive empirical evidence to this effect; Bejar in fact gives some of the strongest evidence for the Match/Valuation distinction.}\]
\[15\text{ Throughout the paper, the EPP diacritic will be used merely to indicate overt movement. I will not be concerned here with the question of whether Chomsky's generalized EPP effect can be deduced from independent mechanisms (for relevant discussion see Bošković 2007 and references therein).}\]
For Bejar (2003), Primary Agree works as in the above discussion of Agree. When the Agree operation fails, e.g. because the closest G matches but fails to value the probe, a Secondary Agree operation can be initiated, with an expanded search domain. In particular, if YP is merged to the SpecP, the search domain for P in Secondary Agree also contains the Spec of P (see Rezac 2003), a proposal which is based on Chomsky’s (1995) assumption that the label of a phrase is the head of the phrase, which means that the maximal projection of the probing head P is in effect P.\(^\text{16}\)

While it is standardly assumed that \(v\)-probing heads probe for all \(v\)-features together, Bejar (2003) (see also Rezac 2004) quite convincingly argues that languages differ in this respect, some languages having split and some non-split \(v\)-probes, where split \(v\)-probes probe for different \(v\)-features separately. MNS apply this proposal to FCA/LCA in Slovenian, treating the relevant \(v\)-probing head in Slovenian as a split \(v\)-probe. However, below I will crucially be assuming the standard non-split \(v\)-probe in SC: \(v\)-probing heads in SC probe for all \(v\)-features, including number and gender, together, which means that gender and number are not probed for separately. In this respect the current analysis contrasts with MNS.

Finally, MNS argue that BP mediates agreement for number, but not gender.\(^\text{17}\) BP clearly must be involved in computing the number feature; thus, conjoined singular NPs and conjunctions of singular and plural NPs lead to plural agreement. I will therefore assume that the number feature is computed at the BP level, which means that BP has number specification. On the other hand, BP does not compute the gender value. As noted by MNS, while the computation of the number feature at the BP level is well-motivated by semantic considerations (which also means the BP’s number is interpretable), there is no well-founded theory of gender or empirical evidence that BP computes the gender feature on the basis of its conjuncts the way it does the number feature. I will then assume that at least in the cases where individual conjuncts disagree in gender specification, which would require gender computation at the BP level (simple percolation would not suffice here), the BP does not have gender specification.\(^\text{18}\) Another possibility, explored in section 4, is that BP is specified only for interpretable features. The upshot of this would again be that BP has specification for

\(^{16}\)Thus, Bejar (2003) and Rezac (2004) show that in several languages where \(v\)-features of \(v_0\) match, but fail to be valued by the object, \(v_0\) can enter into an Agree relation with the subject, upon Merger of the subject in SpecvP. (Significantly, in such cases the subject triggers Secondary Agree \(v\)-agreement from (25), rather than Primary Agree \(m\)-agreement from (24) in Georgian). Notice, however, that the expansion of the agreement domain discussed in the text may actually not be necessary in the analysis to be proposed. Below, I will present two alternative analyses of LCA, only one of which requires expansion of the agreement domain with Secondary Agree. In other words, the "technical" difference between Primary and Secondary Agree Bejar and Rezac argue for may not be needed under the current analysis. All we need is that a head can probe more than once for feature \(v\), a possibility which, as noted above, in fact cannot be prevented without additional assumptions.

\(^{17}\)See Sauerland (2004) for another view, where the locus of \(v\) features is a head that merges with BP. MNS argue that person patterns with number in the relevant respect, though this is not relevant to our considerations since SC participles do not agree for person. Person is also expected to pattern with number under the suggestion regarding the interpretability of \(v\)-features of BP made in section 4.

\(^{18}\)This holds for all the cases discussed in the next section, which all involve conjuncts that disagree in gender specification. We will see in section 4 that the situation is more complicated with conjuncts that agree in gender specification, where the gender feature could simply percolate to the BP level through individual conjuncts, which agree in gender. I will put aside such examples in the next section, focusing on gender non-agreeing conjuncts, where I assume conflicting gender specifications would block gender percolation to the BP level.
number, but not for gender.

3. Agree and conjunct sensitive agreement

3.1. Preliminaries

Before I turn to the analysis of conjunct-sensitive agreement, a word is in order regarding how SC auxiliary+participle constructions should be analyzed. As discussed above, regardless of word order the participle agrees in number and gender with the subject.

(26) a. Te krave su prodane.
   those cows.fem are sold.fem.pl
   ‘Those cows were sold.’
   b. Prodane su te krave.

Bošković (1997) argues that in SC auxiliary+participle constructions the participle adjoins to the auxiliary (either to the left or to the right), after which the auxiliary optionally excorporates to move to a higher head. The reason for this is a difference in the height of the auxiliary in participle+auxiliary constructions, where the auxiliary unambiguously stays in the low position (in fact, nothing can intervene between the participle and the auxiliary in this case), and the auxiliary+participle constructions, where the auxiliary can be either in the low position (if it stays in situ) or the high position (if it excorporates. Note that the auxiliary and the participle do not have to be adjacent in the auxiliary participle word order). Thus, in participle+auxiliary constructions, low, manner adverbs can follow the auxiliary, but high, sentential adverbs cannot. In auxiliary+participle constructions, both manner and sentential adverbs can follow the auxiliary. We thus have the following pattern. (I refer the reader to Bošković 1997 for a more detailed discussion. Bošković argued that SC auxiliaries optionally move to Agrs. In this respect they pattern with English auxiliaries, which Bošković also argued optionally move to Agrs. In particular, Bošković argued that they are located in Agrs when they precede sentential adverbs, as in John has probably bought a guitar, but are in a lower position when they follow them, as in John probably has bought a guitar; in this respect, see also Watanabe 1993).

(27) a. \[V^0 \text{Auxiliary+Participle}\]
   b. \[X_P \text{Auxiliary} \ldots [Y_P \text{Participle}]\]
   c. \[V^0 \text{Participle+Auxiliary}\]

I assume that in (27a) and (27c) the auxiliary and the participle are located in the head that is responsible for gender agreement, which I will refer to as Part (as discussed below, Part actually probes for number and gender). I assume that the Part head has an EPP feature here; more precisely, it has it when the subject precedes it.19

There are then two possibilities for the example in (28).

(28) a. \[\text{Part} \text{Oni su došli}\]

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19Note that Bošković (1997) suggested that the auxiliary and the participle may actually be moving separately to a functional head above the base-position of the auxiliary, which could in fact be Part, after which the auxiliary would (optionally) excorporate to move to the highest head in the Split I.

Notice also that the subject-participle-auxiliary order is ruled out due to a violation of the second position requirement on the auxiliary, which is a second position clitic (see Bošković 2001).
they are left
‘They left.’

b. [Agrs Oni su [TP došli]]

Under the analyses presented in Franks (1998) and Bošković (2001), which assume the possibility of lower copy pronunciation when this is required by PF conditions (see also Abels 2001, Bobaljik 2002, Bošković 2002b, 2004, Bošković and Nunes 2007, Hiramatsu 2000, Lambova 2002, 2004, Landau 2003, Nunes 2004, Reglero 2004, and Stjepanović 1999, 2003), we also may have (29), where the subject stays in PartP, and the auxiliary moves to Agrs. However, since the auxiliary is an enclitic, a lower copy of the auxiliary is pronounced to avoid violating a PF requirement, since the enclitic would otherwise not be properly supported in PF.

(29) [AgrsP su [PartP oni su...]

I will also assume that when a subject moves to SpecAgrsP/SpecTP it must move to SpecPartP on the way to SpecAgrsP/SpecTP as a reflex of successive cyclic movement, which in Chomsky’s (2000) system would mean that in such cases the Part head would have an EPP feature, just like the complementizer that in What do you think that John bought or the infinitival head in The students seem to be t smart. The upshot of the above discussion is that in all constructions where the subject precedes the participle, the Part head has an EPP property.

3.2. An Agree analysis of the basic paradigm

I now turn to the analysis of the paradigm presented in section 1, starting with LCA. Consider the abstract structure in (30), which, as shown above, leads to LCA. (Recall that BP is specified for number, but not for gender. Following Munn 1993, the first conjunct asymmetrically c-commands the second conjunct.)

(30) Part[number, gender] [BP[number] NP1[gender] [... NP2[gender]]]

As discussed in section 2, Part is a single φ-probe which probes for the φ features in (30), matching BP for number and NP1 for gender. Since Part has an EPP feature, a phrase must move to SpecPartP. The question is which element will undergo this movement. Within Chomsky’s system, where movement is decomposed into three operations, Match, Value and Pied-piping, we are dealing here with the issue of pied-piping. In a simple sentence like John left, John values all the φ-features of I and is then pied-piped to SpecIP. It is in fact the standard assumption that the maximal projection of the valuator undergoes pied-piping. Let us then adopt (31).

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20 Under this analysis auxiliary movement may in fact be obligatory. Note also that I will interchangably use AgrsP/TP and IP, since the resolution of the Split I issue does not affect the current discussion.

21 Note also that the way the pronunciation of a lower copy algorithm works in Bošković (2001), a subject-participle-auxiliary sequence, which would violate the second position requirement (a PF requirement for Bošković 2001), would have to involve deletion of the higher copy of the participle, not the subject (to avoid violating the second position requirement. In such cases, the algorithm adopted in Bošković (2001) forces lower copy pronunciation of the element closest to the offending element, which is the auxiliary clitic.)

22 Part also matches NP1 for number. This number match will become relevant only in section 3.4; pending the discussion in that section I will ignore this match.
(31) Valuators determine pied-piping.

Returning now to (30), the problem here is that there are two valuators, one requiring pied-piping of BP and the other one pied-piping of NP1. Notice also that, as noted by Stjepanović (1998) and shown in (32), SC in principle allows violations of the relevant part of the Coordinate Structure Constraint; more precisely, it allows extraction of the first conjunct of a coordinate structure.

(32) ?Knjige, je Marko ti i filmove kupio.
   books is Marko and movies bought
   ‘Marko bought books and movies.’

This means that both BP and NP1 are in principle pied-pipeable. I suggest that this kind of ambiguity prevents pied-piping (this could be considered an instance of McGinnis’s 1998 lethal ambiguity, this time applied in a slightly different form to determining pied-piping rather than movement itself; the two in fact may need to be distinguished). 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 then two possibilities at this point:

–default agreement for gender, which is realized in (7). This removes the problematic gender feature in Part, so that Part is now valued only by BP, hence BP undergoes pied-piping.

–Secondary Agree, which I suggest occurs in (1b).

Consider the second possibility more closely. 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 that they are deleted when they undergo Match, as in (33).

(33) Valued uninterpretable features are deleted after Match.

What are the consequences of this assumption for (30)? Recall that Part matches BP 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. Pursuing the second possibility from above, the gender feature of NP1 is deleted, since it has already undergone Match. There are two possibilities at this point. Since the trouble-making gender specification is deleted, pied-piping can now be uniquely determined, with BP moving to SpecPartP. At that point, Secondary Agree takes

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23 If there turn out to be speakers who do not accept LCA this would be the only option for them. (Notice also that the above discussion ties the possibility of LCA to the possibility of CSC violations.)

24 If they never undergo Match they will also be eventually deleted when they are transferred to the semantic interface (see section 2). My point here is that if they do undergo Match, this will trigger their deletion. Notice also that we can adopt Chomsky’s (1995) deletion/erasure distinction to ensure that the features in question are accessible for PF after deletion in syntax (deleted elements are invisible only to the LF interface, see Chomsky 1995). The features would then be erased only after transfer to PF. This is, however, not necessary. Chomsky (1995) separates formal and phonological features. What we are dealing with here is deletion of formal features, not phonological features, hence the deletion does not affect pronunciation, which is determined by phonological features. (Deletion of formal features could affect pronunciation in the Distributive Morphology model, where the former essentially serve as a clue for the insertion of the latter. However, I do not adopt this model here.)
place. (Recall that, in contrast to Primary Agree, with Secondary Agree the probe can also probe its Spec.) Alternatively, Secondary Agree takes place after gender feature deletion, but before movement to PartP. Either way, the relevant Agree operation proceeds in the same way: Part matches BP for number, and NP2 for gender.

Regarding the latter possibility noted above, where Secondary Agree takes place before movement, given that the Part’s features in question are valued by BP and NP2, a question arises if we would still have a problem with respect to pied-piping? The answer is no. Significantly, in contrast to the first conjunct, the second conjunct is not extractable (see (34)), which means that it is not a candidate for pied-piping. Since only BP is a candidate for pied-piping, BP is pied-piped to SpecPartP.

(34) *Filmove je Marko knjige i kupio.
   movies is Marko books and bought

We thus derive second conjunct agreement for constructions where the subject moves to SpecPartP.

Regarding constructions like (1a), I assume that Part does not have the EPP feature (the same holds for higher heads), which means that no movement to SpecPartP takes place in such constructions. Since there is no need for pied-piping, nothing goes wrong if the Primary Agree relation discussed above, where Part matches BP and NP1 for number and gender respectively, results in valuation, which yields first conjunct gender agreement. The Agree system thus captures the basic FCA/LCA paradigm.

What about constructions with more than two conjuncts? Slightly updating Munn (1993), I assume that such constructions have the structure in (35), where non-final conjuncts are treated as multiple specifiers of BP.

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25If we assume that a full Agree operation is a prerequisite for movement, we may actually have a reason to prefer the Secondary Agree before movement option since the Primary Agree operation has technically already failed (though there are technical ways out of this conundrum).

26In other words, under Secondary Agree Part matches BP and NP2. I assume that after hitting BP, which is specified for number, Part is seeking only elements that have the gender feature, hence NP2, but not NP1; however, we will see below that once Part matches NP2 it cannot ignore its number feature since φ-features cannot be separated for valuation in SC.

27As noted by MNS with respect to Slovenian, split agreement constructions like (i) are also marginally possible in SC, though speakers generally try to avoid them. An additional problem in SC is that normally, nothing is allowed to intervene between the participles in double participle constructions (see Bošković 1997).

(i) a. ???Juče su bile sve varošice i sva sela uništena.
   yesterday are been.fem all towns.fem and all villages.neut destroyed.neut
   ‘All towns and all villages had been destroyed yesterday.’
   b. ???Juče su bila sva sela i sve varošice uništene.
   yesterday are been.neut all villages.neut and all towns.fem destroyed.fem

Assuming that this type of construction should be ruled in, which is by no means obvious, I suggest that we have two agreement heads here; the lower head has the EPP feature (the feature drives the movement of the subject, which precedes the low head), while the higher head does not have it (notice that the subject follows the auxiliary; the precise identity of these heads does not matter here). Matching/Valuation/Pied-piping for the lower head proceeds as discussed above. What about the higher head? I suggest that deleted valued features are inaccessible only for Secondary Agree, where the same head probes for the second time, i.e. they are accessible for Primary Agree, where a different probe is involved. (If we follow the logic of Chomsky 2001a, they would become completely inaccessible only when the next phase level is reached.) The higher head can then still be valued by NP1. Recall, however, that it is not completely clear that such constructions should be ruled in, so it may not be necessary to adopt the assumption made above.
Since SpecBP is in principle extractable in SC, I assume that every NP in SpecBP in principle counts as a potential pied-piper.\(^{28}\)

There is also an alternative account, where the possibility of violating CSC in SC is irrelevant, i.e. where the data in (32) and (34) are irrelevant. Under this account, the difference between non-final and final conjuncts is that the former are equidistant with BP (and each other), assuming that XP and SpecXP (as well as multiple Specs of X) are equidistant (see McGinnis 1998). We can then simply assume, following the logic of McGinnis’s 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 would not arise with respect to BP and the complement of B given that XP and the complement of X are not equidistant.\(^{29}\)

Recall now that there is a case where the parallelism between FCA and LCA breaks down even with plural conjuncts. When the conjunct that does not determine agreement is masculine, FCA is still possible, but LCA is not.

(36) a. Juče su uništena sva sela i svi gradovi. yesterday are destroyed.neut all villages.neut and all cities.masc
b. ?*Svi gradovi i sva sela su (juče) uništena. all cities.masc and all villages.neut are yesterday destroyed.neut
c. cf. Svi gradovi i sva sela su (juče) uništeni. all cities.masc and all villages.neut are yesterday destroyed.masc

How can this break-down in the FCA/LCA parallelism be accounted for? (36a) can be accounted for just like other cases of first conjunct agreement. What about (36b)? What is relevant here, I believe, is that masculine is also the default gender. Recall the above account of LCA in (1b)/(30). Primary Agree of Part matches the gender feature of the first conjunct, but is not valued by it for reasons discussed above. The matched gender feature of NP1 is marked for deletion given (33) and the assumption that uninterpretable features, like gender in SC, must be deleted. Pursuing one of the possibilities discussed above, after BP moves to PartP, Secondary Agree takes place, matching and valuing the gender feature of Part against NP2. Returning now to (36b-c), recall that NP1 in (36c), gradovi, has masculine gender, which is in fact the default gender. I make what seems to me to be a natural assumption that the LF interface can ignore default features/values, hence they do not need to be deleted. In principle, when semantics is faced with a semantically uninterpretable element this

\(^{28}\)It turns out that when there are more then two conjuncts, extraction of any conjunct is banned. The reason for this may lie in McGinnis’s (1998) lethal ambiguity, which prevents movement of a Spec to target a higher head X in a multiple-Spec configuration in certain environments that are reminiscent of some constraints holding for coordinated elements (more precisely, the coordination of likes requirement). Basically, since Specs of the same head are equidistant, they all count as candidates for movement, a context which leads to unacceptability according to McGinnis (see also Bošković 2005a). I assume that this particular type of lethal ambiguity (more precisely, the impossibility of movement due to lethal ambiguity applied to movement) is not taken into consideration when determining potential pied-pipers, that is, condition (31) above.

\(^{29}\)As discussed above, all of this is needed only under the Secondary-Agree-before-movement analysis; it is not needed under the Secondary-Agree-after-movement analysis. Notice also that I assume that, as originally proposed, equidistance is relevant only to movement/pied-piping, not to Agree. This is also natural in light of the arguments given in Bošković (2007) that Move and Agree behave quite differently with respect to locality, the only factor that is relevant to Agree being intervention effects defined in terms of strict c-command. (Chomsky 2001b also takes this position, eliminating equidistance for Agree.) It is also worth noting that all the convincing cases of equidistance from the literature in fact involve movement/pied-piping, not Agree.
could either cause a crash, or semantics could simply ignore the element in question, proceeding with the computation as if it were not there. My suggestion here is that the second option is restricted to default features/values, which then do not need to be deleted. Then, when Part in (36b-c) matches the gender of NP1 in Primary Agree, its gender feature is not deleted since it bears the default value, masculine. For ease of exposition we can assume that the masculine is flagged as default, as in (37).

(37) Part[number, gender] [BP[plural] NP1[masc-default]....] EPP

As a result, it is impossible to determine which phrase will undergo pied-piping to SpecPartP, given (31) and the above discussion. The only way the derivation can then converge with movement is to pursue the possibility discussed above which leads to default agreement: deletion of the gender feature of the probe (or its replacement by default). Since on this option the only φ-feature on the probe is number, BP is uniquely determined as the pied-piping element for movement to SpecPartP.

The break-down between first and last conjunct agreement in (36) is thus accounted for. It is worth emphasizing here that although the current approach accounts for the FCA/LCA contrast in (36) it still treats first and last conjunct agreement in the same way, without positing conditions that would hold only for one of these two patterns, i.e. we have here a uniform account of the two, which has enabled us to account for the contexts where the two do behave in the same way.

3.3. Interpretable gender

As noted above, gender specification in SC is largely arbitrary. Nevertheless, there are cases where gender specification can be considered to have real semantic motivation. Thus, nominal muškarci ‘men’ is masculine and žene ‘women’ feminine. Interestingly, exactly with this kind of nominals LCA fails. Thus, (38a) contrasts with (1b) and (5b) regarding the possibility of LCA.

(38) a. *Sve žene i sva djeca su došla.

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30 This could in fact be the reason why default values do not cause a crash even if they are in a position in which they can never undergo checking, like, e.g. the Case feature of John in John, I hate the bastard.

31 If default values could also be ignored for (31), i.e. in determining pied-piping, movement to SpecPartP could take place in (36b-c) without deletion of the gender feature in the probe. When Part undergoes Secondary Agree after movement, the closest NP with gender specification would still be NP1, as a result of which the participle would again get masculine gender value, as in (36c). Notice that both this analysis and the analysis given in the text predict that in a NP1 (non-masc), NP2 (masc), and NP3 (non-masc) coordination, LCA will be impossible. The prediction is borne out, as shown by (i).

(i) *Sve varošice, svi gradovi i sva sela su (juče) uništena.

‘All towns, all cities, and all villages were destroyed yesterday.’

Notice also that under the analysis presented in this footnote, the grammaticality status of (36b) and (i) could be taken to indicate that locality violations (more precisely, those involving intervention effects) under Secondary Agree yield a weaker violation than locality violations under Primary Agree given that the probe in (36b) and (i) agrees for gender with NP2/NP3 in violation of Agree Closest under Secondary Agree and in *Juče su uništena svi gradovi i sva sela and, e.g., (4c), which are worse than (36b) and (i), under Primary Agree. This could in fact be taken as an additional argument for the Primary vs Secondary Agree distinction. Alternatively, we could be dealing here with a processing difference, since the agreeing NP is linearly closer to the verb than the "trouble-making” NP in (36b) and (i).
all women.fem and all children.neut are left.neut
‘All women and all children left.’

b. *Sve žene i sva djeca su došle.
all women.fem and all children.neut are left.fem

c. cf. Sve žene i sva djeca su došli.
all women.fem and all children.neut are left.masc

This can be easily accounted for if in this case the gender feature of the first conjunct, žene, is interpretable, which means it is not subject to deletion (see Chomsky 1995). Since, as a result of this, it is impossible to determine which phrase will undergo pied-piping to SpecPartP (due to (31)), the only way we can get a legitimate derivation is to pursue the default agreement option, on which the gender feature of the probe is deleted (and replaced by default). The above discussion implies that some gender specifications are not simply grammatical/arbitrary. In other words, they have semantic foundation.

3.4. FCA and LCA with singular conjuncts

Recall that both FCA and LCA are blocked when individual conjuncts are specified as singular, as illustrated by (39a-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 (see (39c-d), where the second conjunct is plural.)

(39) a. *Juče su uništena jedno selo i jedna varošica.
yesterday are destroyed.pl.neut. one village.neut and one town.fem
‘One village and one town were destroyed yesterday.’
b. *Jedna varošica i jedno selo su (juče) uništena.
one town.fem and one village.neut are yesterday destroyed.pl.neut.
c. *Juče su uništena jedno selo i sve varošice.
yesterday are destroyed.pl.neut. one village.neut and all towns.fem
‘One village and all town were destroyed yesterday.’
d. *Jedna varošica i sva sela su (juče) uništena.
one town.fem and all villages.neut are yesterday destroyed.pl.neut.

Notice that in all the examples in (39), the BP, which, as discussed above, controls number agreement on the participle, is specified as plural, just as in the legitimate cases of FCA/LCA in (1). Given that BP controls number agreement, how can we make the number specification of the first conjunct relevant, enabling it to disrupt both FCA and LCA in (39)? This can actually be done quite straightforwardly in the current system, given that the φ-probing head is a single-φ probe, which probes for both the number and the gender feature together. In other words, it is crucial here that the φ-probe is not a split φ-probe, as in several languages discussed by Bejar (2003) and Rezac (2004) and applied to FCA/LCA in Slovenian by MNS, which could probe for number and gender separately. Recall how φ-probing proceeds in an acceptable example like (1a) (see the structure in (30), repeated here without the EPP specification).

(40) Part[number, gender] [BP[number] NP1[gender] [... NP2[gender]]]

The Part head probes for both the number and the gender feature. It does not stop when it matches
BP for number, since BP is not specified for gender. When Part matches NP1, the probing stops due to Agree Closest since at this point both φ-features of Part have found a match. Part in (1a) thus basically undergoes Hiraiwa’s (2005) Multiple Agree with BP and NP1. As discussed above, this results in FCA when the subject does not move to SpecPartP. When the subject is supposed to move to SpecPartP, as in (1b), a problem arises. Due to multiple valuations, BP and NP1, the pied-piper cannot be uniquely determined. As a result, the valuation itself fails. However, the gender feature of NP1 deletes, given condition (33). Secondary Agree then takes place either before or after movement to PartP. Either way, the probing now does not stop with NP1 (in fact, it does not target NP1, see footnote 26), which no longer has the gender feature. It proceeds to NP2, as a result of which we get LCA in (1b).

Consider now (39), focusing on (39a) for ease of exposition. The relevant structure is given below.


The Part head probes here for number and gender, just as it does in (1a). As before, the Part head matches BP and NP1. Since both φ-features of the Part head have now found a match, the probing stops, given Agree Closest. However, we now have a problem. As discussed above, the Part head here is attempting to undergo Multiple Agree with BP and NP1. While the gender feature of the Part head can be valued, the valuation resulting in neuter gender specification, the number feature cannot be valued due to a valuation conflict: since one of the matching elements is plural (BP) and one singular (NP1), the number value of the probing head cannot be uniquely determined. Still, locality does not allow the Part head to probe further down. The above state of affairs is quite similar to what we have already seen with respect to (1b). Recall that in (1b) Primary Agree fails to value φ-features of Part. However, while in (1b) we can delete one of the trouble-makers, the gender feature of NP1, initiating Secondary Agree, which eventually results in φ-valuation of Part (with the LCA pattern), this cannot be done in (39a). The problem here is that, in contrast to (1b), where the problematic feature, namely gender, is uninterpretable, in (39a) the problematic feature, namely number, is interpretable, hence cannot be deleted since it is needed for the semantics (see Chomsky 1995). The derivation in question then cannot yield a grammatical output. The ungrammaticality of (39a) is thus accounted for. Notice furthermore that in the above account of (39a) it does not matter whether the BP will move to SpecPartP or not and whether the second conjunct is specified as plural or singular. In other words, the above account of (39a) extends to all the examples in (39).

Notice also that the above analysis makes an interesting prediction regarding constructions with three conjuncts. While in an NP1 (pl), NP2 (sg), and NP3 (sg) coordination where the subject

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32As an alternative, we can simply assume that Multiple Agree with elements with conflicting features leads to unacceptability. Notice also that it is crucial here that gender and number are not probed for separately, as in MNS’s account of Slovenian, since the probing for number would then stop with BP.

33Following Corbett (2002), I assume that default number assignment is not available here. The claim is not strange, since, as is well-known, default feature-value assignments are not freely available. E.g., across languages, default Case assignment is severely restricted, being confined to a couple of stipulated contexts (it cannot be used to quite generally void the Case Filter). It is also worth noting that Corbett (2002) actually argues that default number assignment in SC is not possible without default gender assignment. (This is a one-way, not a two-way correlation. His claim is stated in terms of number/gender resolution rules, whose results correspond to default values in the current system.)

34(39d) is slightly better than other examples in (39) which could be a processing effect since sva sela, which agrees in both gender and number, is linearly closer to the verb than the trouble-making singular NP.
stays in situ valuation of Part should proceed without problems, with NP1 controlling the gender of Part, this is not the case with NP1 (sg), NP2 (pl), and NP3 (pl) coordinations, where the \( \Phi \)-valuation of Part should fail for the same reason as in (39a). As shown in (42), the prediction is borne out.

(42) a. *Juće su uništene jedna varošica, sve kuće, i sva sel.
    yesterday are destroyed.fem one town.fem all houses.fem and all villages.neut
    b. Juće su uništena sva sel, jedna varošica, i jedna kuća.
    yesterday are destroyed.neut all villages.neut one town.fem and one house.fem

Recall now that while FCA and LCA behave in the same way with respect to plural+plural, singular+singular, and singular+plural coordinations, the latter two requiring default masculine gender on the probe regardless of the gender specification of individual conjuncts, there is a breakdown in the FCA/LCA parallelism with plural+singular coordinations. As noted briefly in section 1 and illustrated again in (43), while a plural+singular coordination yields FCA, LCA is blocked in this context.

(43) a. Juće su uništena sva sel i jedna varošica.
    yesterday were destroyed.pl.neut all villages.neut and one town.fem
    b. *Sve varošice i jedno selo su juće uništena.
    all town.fem and one village.neut were yesterday destroyed.neut

We thus have another breakdown of the FCA/LCA parallelism. Can we capture it without positing mechanisms that would hold for only one of these agreement patterns, in line with the analysis pursued here? Example (43a) can be accounted for as discussed above. What about (43b), which has the abstract structure in (44)?

(44) Part[number, gender] \[ BP[pl] \ NP1[pl, fem] [.... NP2[sg, neut]] \]

Part in (43b)/(44) matches BP and NP1. If the subject were to stay in situ, the relevant elements would value the \( \Phi \)-features of Part, which would result in pl.fem \( \Phi \)-specification of Part, i.e. FCA. However, as discussed above, the Match in question cannot result in valuation of the \( \Phi \)-features of Part when the subject moves to SpecPartP, as in (43b)/(44), since it fails to uniquely identify the pied-piper, given (31). Instead, what happens in (43b)/(44) is that the gender feature of NP1 deletes, given (33), and then Secondary Agree is initiated, either before or after movement. Secondary Agree reaches all the way to NP2, since neither BP nor NP1 bears the gender feature (see also footnote 26). But then we get a conflict in the number specification of the goals, just as in (39): while BP is plural, NP2 is singular. As in (39), the derivation then fails to yield a legitimate result since the number feature of the probe cannot be valued. The ungrammaticality of (43b) and (39) is thus accounted for in the same way. Most importantly, the FCA/LCA parallelism breakdown in (43) 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 (39).

Finally, let me again reiterate that, as noted above, we cannot simply assume that in the cases of conjunct-sensitive agreement we are dealing with full (i.e. gender and number) first/last conjunct agreement with a single NP. Simply assuming full first/last conjunct agreement could not account for (45a) or (45b). We then cannot simply assume that the same element, namely the first conjunct with FCA and the last conjunct with LCA, controls both gender and number.
(45) a. *Juče je uništena jedna varošica i sva sela/jedno selo.
yesterday is destroyed.sg.fem one town.fem and all villages.neut/one village.neut
b. *Sva sela/Jedno selo i jedna varošica je juče uništena.
all villages.neut/one village.neut and one town.fem is yesterday destroyed.sg.fem

The reader can verify that such constructions can be easily captured under the current analysis, where BP, which is plural, is always involved in the relevant agreement process.

To summarize the analysis presented so far, I have argued that the probe responsible for participial agreement in SC is a non-split $\phi$-probe. It searches for a goal to value its number and gender features. Since the coordination phrase, BP, is specified only for number, in coordination cases the probe matches disjoint valuators, BP for number and the first conjunct for gender. These elements value the probe’s $\phi$ features, yielding the FCA paradigm. However, the existence of two potential valuators for a single $\phi$-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 initiates Secondary Agree with a larger search space, including the second conjunct. Since the second conjunct is in principle immobile, it is not a candidate for movement, which means that a pied-piping valuator can now be unambiguously determined, BP being the pied-piper. This results in the LCA pattern. The crucial assumption for the above analysis is that the gender feature of SC nominals is valued and uninterpretable and that such features undergo deletion as soon as they undergo Match, i.e. as soon as they are targeted by a probing operation. The problematic gender feature of the first conjunct is then deleted before the participial probe re-initiates search for an appropriate goal, so that the second probing operation can target the second conjunct for the gender feature. I have provided a uniform account of the contexts where only LCA is blocked. LCA fails in the cases where the gender feature of the first conjunct cannot be deleted, which makes it impossible for the probe to by-pass the gender of the first conjunct. This happens when the gender of the first conjunct is semantically motivated, which has been captured by treating semantically motivated gender features as interpretable features: being interpretable, such features do not undergo deletion. The FCA/LCA breakdown also happens when the second conjunct is masculine. I have argued that default features/values do not undergo deletion since they can be ignored by the semantics. There are also contexts where both FCA and LCA are blocked. FCA and LCA are both blocked with singular conjuncts for the same reason: in such cases the non-split $\phi$-probe cannot value its number feature due to the conflicting number specification of BP and NP1, the former being plural and NP1 being singular. Since the number feature is interpretable it cannot be deleted. While singular first conjunct blocks both FCA and LCA, only LCA is blocked when the second conjunct is singular. The reason for this is that the second conjunct is involved in valuation of the participial probe only with LCA. On a more abstract level, the current analysis in fact provides a uniform account of all the contexts where FCA and/or LCA are blocked. One way or another, all such cases involve a conflicting valuation, either with respect to Agree or determining pied-piping. The fact that the proposed analysis has managed to unify all FCA/LCA failures should be interpreted as a strong argument in its favor.

4. Uniform conjuncts

I now turn to conjunctions where individual conjuncts agree in gender specification. Not
surprisingly, with masculine conjuncts, the participle always has masculine specification, as in (46).

(46) a.  Juče su prodani svi magarci i svi psi.
yesterday are sold.masc all donkeys.masc and all dogs.masc
‘All donkeys and all dogs were sold yesterday.’
b.  Svi psi i svi magarci su juče prodani.
all dogs.masc and all donkeys.masc are yesterday sold.masc

However, such conjuncts are not very helpful since it is impossible to determine whether the gender of the participle comes from one of the conjuncts or whether we are dealing here with a default specification.

Before proceeding, the reader should note that the analysis developed above is not particularly tailored to coordinations of NPs with mixed gender specification. We may therefore expect that it would carry over to coordinations where conjuncts agree in gender specification, an expectation that at first sight may seem rather strange since the odd pattern of gender marking with mixed conjuncts intuitively seems to result from conflicts in the gender specification of individual conjuncts. Surprisingly, uniform neuter conjuncts exhibit behavior that is quite similar to mixed feminine/neuter conjuncts. In fact, apart from one example, the uniform neuter conjunct paradigm from (47) tracks perfectly the paradigm with mixed feminine+neuter/neuter+feminine conjuncts, henceforth mixed coordinations.

Examples (47a) and (47b) show for FCA and LCA contexts respectively that the participle can bear neuter gender with coordinations of plural neuter nouns. However, coordinations of singular neuter nouns require default masculine gender, neuter gender on the participle being unacceptable. This surprising fact is illustrated by (47e) for FCA and (47h) for LCA. Coordinations of singular neuter nouns in this respect pattern with mixed coordinations. Moreover, plural/singular and singular/plural neuter combinations also pattern with mixed coordinations in the postverbal position. The relevant data are given in (47c,d) for FCA and (47f) for LCA. The only departure concerns preverbal coordinations. While, as with mixed conjuncts, a plural/singular coordination requires masculine gender on the participle, (47f) being unacceptable, a singular/plural coordination, a context that also requires default gender with mixed coordinations, allows neuter gender (47g). (Masculine prodani is possible in all the examples in (47).)

(47) a.  Juče su prodana sva telad i sva paščad.
yesterday are sold.neut all calves.neut and all dogs.neut
‘All calves and all dogs were sold yesterday.’
b.  Sva telad i sva paščad su juče prodana.
all calves.neut and all dogs.neut are yesterday sold.neut
c.  Juče su prodana sva telad i jedno paščo.
yesterday are sold.neut all calves.neut and one dog.neut
d.  *Juče su prodana jedno tele i sva paščad.
yesterday are sold.neut one calf.neut and all dogs.neut
e.  *Juče su prodana jedno tele i jedno paščo.
yesterday are sold.neut one calf.neut and one dog.neut
f.  *Sva telad i jedno paščo su juče prodana.
all calves.neut and one dog.neut are yesterday sold.neut
g.  *Jedno tele i sva paščad su juče prodana.
one calf.neut and all dogs.neut are yesterday sold.neut
To account for the dominant parallelism between mixed and neuter coordinations I suggest applying the analysis of mixed coordinations from section 3 to neuter coordinations. This way we can account for almost all of the data in (47), including the surprising impossibility of neuter gender on the participle in (47e,h). We are then left with (47g), which remains unaccounted for. I will have to leave accounting for that example for future research, merely pointing out that it is not out of question that we are dealing here with a processing effect, where the effect of an “intervener” is voided if the intervener is of the same gender as the agreeing NP, which agrees for both gender and number and is moreover linearly closer to the verb (see also footnote 34).)

Turning now to feminine coordinations, we find a very different situation here. The participle can always bear feminine gender specification with uniform, feminine coordinations (see Corbett 1983).  

(48) a. Juče su prodane sve krave i sve ovce.
    ‘All cows and all sheep were sold yesterday.’

b. Sve krave i sve ovce su juče prodane.

c. Juče su prodane sve krave i jedna ovca.

   yesterday are sold.fem all cows.fem and all sheep.pl.fem
   ‘All cows and all sheep were sold yesterday.’

   all cows.fem and all sheep.pl.fem are yesterday sold.fem

d. Juče su prodane jedna krava i sve ovce.
    yesterday are sold.fem one cow.fem and all sheep.pl.fem

e. Juče su prodane jedna krava i jedna ovca.
    yesterday are sold.fem one cow.fem and one sheep.sg.fem

f. Sve krave i jedna ovca su juče prodane.
    all cows.fem and one sheep.sg.fem are yesterday sold.fem

g. Jedna krava i sve ovce su juče prodane.
    one cow.fem and all sheep.pl.fem are yesterday sold.fem

h. Jedna krava i jedna ovca su juče prodane.
    one cow.fem and one sheep.sg.fem are yesterday sold.fem

Feminine coordinations apparently need to be treated differently from neuter and mixed coordinations. This can be easily accomplished, and the above data accounted for, if we allow feminine gender specification of uniform feminine coordinations to percolate to the BP level. The

35 There are two broad classes of feminine nouns, those ending with a, and those with the zero ending. Default masculine is always possible with the latter, which are almost exclusively inanimate. With the former, sometimes it is acceptable (ib), and sometimes degraded (ia), a distinction that may reflect the possibility of interpreting gender as reflecting real world semantics (see Corbett 1983:204-205 for relevant discussion. Note that the participle can be feminine in both (ia) (došle) and (ib) (posvećene).)

(i) a. ?*Njegova žena i njegova tetka su juče došli.
    ‘His wife and his aunt arrived yesterday.’

b. Njegova snaga i njegova pažnja su posvećeni toj borbi.
    ‘His strength and his attention are dedicated.masc to that fight.

(i) a. ?*Njegova žena i njegova tetka su juče došli.
    ‘His wife and his aunt arrived yesterday.’

b. Njegova snaga i njegova pažnja su posvećeni toj borbi.
    ‘His strength and his attention are dedicated to that fight.’

23
BP in (48) would then be specified as plural, feminine in all the examples, as a result of which the participle would also bear plural, feminine specification. Notice that in all the examples above where conjunct gender agreement was blocked and default agreement forced, this happened because the probe attempted to agree for gender with one of the conjuncts. Under the analysis suggested above, this would never be the case with feminine coordinations, where the probe would agree with the BP.

How can gender percolation with feminine conjuncts be implemented? I suggest that in all relevant examples B, the head of BP, gets feminine gender specification upon First Merge. More precisely, when B merges with a feminine NP, with B projecting, B in the resulting label of the merger may also be specified as feminine. This is shown below, using Chomsky’s (1995) projection notation.

\[(49) \{B(fem) \{B NP(fem)\}\}\]

I assume that B can keep projecting feminine gender specification if additional conjuncts it merges with do not have a different gender specification.

An important question that now needs to be answered is why feminine and neuter gender would differ rather radically in their behavior in coordinations, a difference which I have implemented above by positing a difference in the ability to percolate gender specification through BP. Intuitively, the answer to this important question is rather simple. Whereas neuter gender is always grammatical (i.e. arbitrary), feminine gender is sometimes semantically grounded, i.e. interpretable (cf. section 3.3). Assuming that only interpretable gender can percolate to the BP level, as a result of which the BP would have gender specification, makes sense given that the number feature, which is clearly interpretable, also quite clearly has to be present at the BP level. The situation is, however, more complicated. It is not the case that only feminine NPs with a semantically-grounded gender specification percolate their gender feature; all feminine NPs do that. Apparently, a gender feature that is in principle interpretable can percolate. It is not clear to me how to capture this intuition formally without ugly stipulations.

To summarize, while uniform neuter coordinations almost perfectly track mixed coordinations, uniform feminine coordinations behave differently in that they always allow feminine gender on the participle. I have suggested a tentative way of capturing the exceptional behavior of feminine coordinations, leaving the search for a more principled explanation for future research.

5. First conjunct agreement crosslinguistically

A rather standard conjunct-sensitive agreement paradigm involves languages where FCA involves first conjunct number agreement, as in English/Spanish (50). I will refer to this pattern as the standard FCA below.

\[(50) \text{a. There is a woman and a man in the garden.} \]
\[
\text{b. Llegó Juan y Miguel.} \\
\text{arrive.sg Juan and Miguel} \\
\text{‘Juan and Miguel arrived.’} \\
\]

---

36We would then expect masculine to pattern with feminine in the relevant respect, since masculine can also be interpretable. The prediction is, however, impossible to test because masculine is also the default gender.
FCA in such languages is more permissive than in SC in that it is allowed even with singular conjuncts. If an existing account of such an FCA paradigm is adopted we would need to make sure that it does not incorrectly extend to SC FCA, ruling in cases that are not allowed. I will offer here only a very brief speculation regarding this issue, since a detailed analysis of the pattern in question is beyond the scope of this paper.

If an ellipsis analysis along the lines of Aoun, Benamoun, and Sportiche (1994, 1999) is adopted for the standard FCA paradigm, all we would need to assume to prevent this pattern from extending to SC (see section 1 for arguments that the analysis should not be extended to SC) is that the relevant ellipsis operation is not available in the relevant contexts in SC, which is not that strange given that under this analysis we anyway need to assume that languages differ in this respect. Since the ellipsis analysis is controversial (see, e.g. Camacho 2003 and Doron 2000 for relevant discussion with opposing views) I will make another suggestion that does not treat FCA in terms of ellipsis.

In her analysis of the standard FCA pattern Doron (2000) argues that the conjunction, i.e. BP in the current system, does not have morphosyntactic specification for the feature number. Adopting Doron’s claim and the current analysis would mean that languages differ with respect to the number specification of BP (see also Badecker 2007 for some relevant discussion). Evidence for such a crosslinguistic difference is straightforward: In SC, agreement with a conjoined subject always results in plural, regardless of the position of the subject or the number specification of individual conjuncts. The fact that BP always governs plural agreement in SC makes sense if BP itself is specified as plural. In English or Spanish, on the other hand, agreement with conjoined subjects does not always result in plural agreement. This would then suggest that BP should not be inherently specified as plural: if it were, we would always get plural agreement. When the \( \phi \)-probe initiates Agree in Spanish/English (50) then, the closest element with the number feature is NP1, which results in first conjunct number agreement. This is in contrast to SC, where the closest element with the number feature is always BP.

37 Notice also that SC differs from English in that even in some cases where the denotation of a conjunction can be semantically viewed as an atomic individual, which typically allow singular in English, SC still requires plural.

(i) a. Milan i Ana su/*je dobar par.
   Milan and Ana are/is good couple
b. Jagode i šlag su/*je na jelovniku.
   strawberries and cream are/is on menu
c. Jagode i šlag čine/*čini dobru kombinaciju.
   strawberries and cream make/makes good combination

(ii) a. John and Mary is a nice couple.
b. Strawberries and cream is on the menu.
c. Strawberries and cream makes a good combination.

38 First conjunct agreement is actually optional in Spanish (see Camacho 2003 and Doron 2000), which may indicate that BP optionally has the number feature in Spanish. The situation is less clear in English, where it in fact appears that first conjunct agreement is obligatory in existential constructions, see Sobin (1994), Bošković (1997), and Doron (2000).

It is worth noting in this respect that an NLLT referee claims that there is some variation regarding examples like (i), some of his/her informants accepting it and some rejecting it. The referee also gives (ii) as acceptable for his/her informants.

(i) a. (*)Juče je uništena jedna varošica i sva sela.
   yesterday is destroyed.sg.fem one town.fem and all villages.neut
   ‘One town and one village/all villages were destroyed yesterday.’
b. (*)Knjige su bile t.i časopisi na istom stolu.
   books were been and magazines on same table
Now, what happens when the subject moves in Spanish/English, where the only possibility is plural agreement, other options being unacceptable.

(51) a. A woman and a man are in the garden.
    b. *A woman and a man is in the garden.
    c. *Juan y Miguel llegó.
    d. Juan y Miguel llegaron.
    Juan and Miguel arrived.

I suggest that since these languages do not allow violations of the Coordinate Structure Constraint, NP1 cannot determine the pied-piper since it cannot undergo movement. If there is an option where BP has number specification, which should be available for languages where FCA is optional (see footnote 38), this option will then be enforced, yielding plural agreement. If a language does not have this option, given the above discussion the derivation cannot converge via “regular” Agree. I suggest that what happens then is that BP is assigned default number, which, as noted by an anonymous referee and argued quite convincingly by Sauerland (2003, 2004), is plural crosslinguistically. BP then triggers plural on the verb.

Interestingly, both of these examples could be accounted for if for the speakers in question BP has the option of not having number specification. (As far as I can tell, allowing this as an option would not affect other examples discussed in the paper.) BP would then not prevent number agreement with the first conjunct in (ia), and would not cause a problem for determining the unique pied-piper in (ib): since the first conjunct would value both the number and the gender feature it would be the only candidate for pied-piping. I am, however, skeptical that this option is real. All my informants find the examples in question unacceptable. It is in fact quite possible that there is no real speaker variation here—we may be dealing here merely with a different criterion for when a speaker calls an unnatural/degraded sentence unacceptable, such sentences being unnatural/degraded for all speakers when compared to the base-line data. This issue often arises in free word order languages, where violations of many requirements typically yield sentences that are much less unacceptable than in English. (E.g. strongly ungrammatical improper movement cases in English are only mildly degraded in Japanese, typically getting only ??, as in Saito 1994, which an informant who compares Japanese with English can easily miss). Furthermore, it is also possible that the speakers who accept (ia) treat the second conjunct as an afterthought, which means the real subject for them would not be a coordination. Moreover, there is a requirement that the remnant of extraction out of coordinate structures precedes the verb, the reason for this being that the remnant must be focalized and focalized elements precede the verb. This condition, which as far as I know is not subject to variation, is also not met in (ib) (this could also suggest an afterthought treatment for the second conjunct). At any rate, since my informants do not find (ia)-(ib) acceptable I am unable to further verify the suggestions made in this footnote.

Sauerland argues for this on semantic grounds, and I assume that BP gets the semantically default number (given the semantic import of coordination). As shown by Sauerland, his approach also explains exceptional singulars with preverbal coordinations, such as those in (ii) in footnote 37.

Adopting Citko’s (2004) proposal that standard FCA languages have at their disposal the standard BP structure and the structure where a null plural pronoun takes BP as its complement, with movement contexts being compatible only with the latter, would also work here and obviate the need for default number. If this analysis is adopted, a question arises whether the null pronoun coordination should be allowed as an option in SC. An intriguing possibility presents itself here that the option is available, and that the pronoun is masculine, which would account for the fact that masculine gender is almost always available, even in the cases where nothing goes wrong with the non-masculine gender derivation. Since, as noted in footnote 6, I am leaving for future research examining the reasons for the general availability of masculine gender derivations, I will put aside this option here.

There is also an alternative analysis based on a proposal made in Bošković (2005b). Following Lasnik (1995) and Bošković (1997), Bošković (2005b) assumes that agreement in the there existential construction is established via there, which is freely generated with any agreement features. There then establishes an agreement relation with both I and its associate (by probing both of them), which by transitivity end up agreeing with each other although there is no direct probe-goal relation between the two. Bošković (1997) argues that BP cannot serve as an associate of there, which requires the associate to be an NP (see Bošković 2005b for an account of this). Under this analysis we can allow BP to
As noted above, I am confining myself here simply to making speculatory remarks regarding how the standard FCA pattern could be handled in a way that is not inconsistent with the analysis of the conjunct-sensitive agreement pattern examined in this work. A detailed analysis of the FCA pattern in question is beyond the scope of this paper.

6. Checking uninterpretable features

The analysis presented in this paper crucially relies on the assumption that gender of SC nouns is a valued uninterpretable feature. The assumption is well-motivated. Consider, e.g., (52). (*Kola* is a pluralia tantum noun, i.e. it is always plural in form, and the relevant elements agree with it in number in (52a)).

(52) a. Ta zelena kola su juče kupljena.
    that.fem green.fem car.fem are yesterday bought.fem
    ‘That green car was bought yesterday.’

b. To zeleno auto je juče kupljeno.
   that.neut green.neut car.neut is yesterday bought.neut

c. Taj zeleni automobil je juče kupljen.
   that.masc green.masc. car.masc is yesterday bought.masc

The gender specification of the adjective, the demonstrative, and the verb clearly depends on the gender specification of the noun. The adjective *green* can be feminine, neuter, or masculine; which gender specification the adjective will have depends on the noun it modifies. As noted by Pesetsky and Torrego (2007), the dependence of the gender specification of adjectives, demonstratives, and verbs on the syntactic context in which these elements occur can be easily captured if they are lexically unvalued for gender: they receive their gender value after undergoing agreement with a noun that already has a valued gender specification. In contrast to the adjective, the demonstrative, and the participle in (52), nouns like *kola*, *auto*, and *automobil* (all of which mean ‘car’) have a fixed gender specification: *kola* is always feminine, *auto* is always neuter, and *automobil* is always masculine.\(^{41}\) As noted by Pesetsky and Torrego, the most straightforward way of capturing this state of affairs is to assume that the gender of nouns is lexically valued; nouns do not receive their gender value during syntactic derivation, hence their gender value does not depend on the syntactic context in which they are found, in contrast to adjectives, demonstratives, and participles.\(^{42}\) SC gender is be specified as plural even in English, i.e. we do not need to posit a difference between SC and English in the relevant respect. We would still get singular agreement in (50) because BP is not a potential agreement target for *there*, which must target an NP. In movement constructions like (51), none of the above considerations is relevant, *there* not being present. In such constructions the agreement probe targets the closest element with the number feature, i.e. BP, which is specified as plural. This analysis requires treating postverbal subject constructions in all languages that exhibit the standard FCA pattern as involving a null expletive even when no overt expletive is present, including the cases where no definiteness effect is present. This is a controversial move although by no means without a precedent since in several works the definiteness effect is dissociated from the presence of an expletive (see e.g. Uriagereka 1988). Nevertheless, due to the controversial status of the assumption in question, we may have a reason to favor the analysis presented in the text.

\(^{41}\)Actually, for some speakers *auto* (which may be a clipping from *automobil*) can be masculine or neuter.

\(^{42}\)Recall also that the noun in (52a) is a pluralia tantum noun, i.e. its number is plural although it is interpreted as singular. These kinds of lexical quirks also call for full lexical specification of ϕ-features of nouns (i.e. considering them to be lexically valued). As pointed out by Pesetsky and Torrego (2007), there are no pluralia tantum verbs or adjectives, which is not surprising if the ϕ-features of these elements are lexically unvalued: such treatment does not leave room for lexical quirks like the one exhibited by the number specification of the noun in (52a).
quite clearly grammatical (putting aside a few nouns where the gender is semantically predictable, discussed in section 3.3.)—it depends on the declension class a noun belongs to. We then have here evidence for the existence of valued uninterpretable features, a possibility that is disallowed in Chomsky’s (2000, 2001a) system essentially by a stipulation. We have already seen that the possibility has to be allowed on strictly empirical grounds. Allowing for the existence of valued uninterpretable features also allows us to simplify the feature-checking process (see also Pesetsky and Torrego 2007). Since in Chomsky’s system uninterpretable features are always unvalued, the system does not allow feature checking between two uninterpretable features. Feature checking is supposed to result in valuation of unvalued features. If both the feature of the goal and the corresponding feature of the probe are unvalued, feature checking between the two cannot result in feature valuation. Disallowing the possibility of checking two uninterpretable features against one another forces Chomsky quite generally to tie checking of an uninterpretable feature F of a goal to checking of a different uninterpretable feature K of its probe (note that interpretable features, which are always valued for Chomsky, cannot serve as probes due to Last Resort; since there is no need for them to initiate probing they are not allowed to do it). This makes feature checking rather cumbersome and leads to a proliferation of features involved in checking. Thus, (53a) and (53b) cannot result in feature-checking of the F feature of Y; (53a) because, being unvalued, the uninterpretable feature uK of X cannot value the uK of Y, and (53b) because X will not function as a probe due to the lack of uninterpretable features. As a result, Chomsky is forced to posit (53c), where the uK of Y is checked as a reflex of the F feature-checking relation. As noted above, this kind of reflex checking considerably complicates the feature-checking mechanism and leads to a proliferation of features involved in checking (we cannot simply have K-feature checking in (53); rather, we need to assume that an additional feature, F, is involved in feature checking between X and Y.)

(53) a. X Y
   uK uK
b. X Y
   iK uK
c. X Y
   uF iF
   uK

Allowing for the possibility of valued uninterpretable features enables us to simplify the feature checking relations from (53c). In particular, (53a) is now allowed, if one of the K features is valued. The option in (53a) was in fact taken advantage of above in the gender checking relation between Part and NP subjects, where the gender feature of both Part and the NP is uninterpretable. However, the feature is unvalued only on the Part head.

As noted in section 2, the current feature checking system is valuation driven. In Chomsky’s (1995) system, what was driving feature checking was uninterpretability; all uninterpretable features had to undergo feature checking so that they can be eliminated from the derivation before reaching semantics, where they would cause a Full Interpretation violation. What drives feature checking in the current system is valuation; i.e. the need to value unvalued features. Uninterpretable features that are unvalued still need to undergo feature checking (so that they can get valued, which is a prerequisite for their deletion). However, valued uninterpretable features do not need to undergo
feature checking since they can get deleted even without feature checking. This is an important departure from Chomsky’s (1995) system, where all uninterpretable features had to undergo feature checking. SC conjunct sensitive agreement provides strong evidence in favor of the current feature checking system, i.e. it provides evidence that valued uninterpretable features indeed do not need to undergo checking. Consider again the following example.

(54)  Juče su uništena sva sela i sve varošice.
    yesterday are destroyed.neut all villages.neut and all towns.fem
    ‘All villages and all towns were destroyed yesterday.’

The participle in (54) agrees in gender (i.e. undergoes feature checking for gender) with the first conjunct, which means the second conjunct is not involved in gender feature checking. Notice also that the second conjunct does not have the default masculine gender. Its non-default gender feature simply goes unchecked in (54). This is exactly what is expected given the above discussion: the gender feature of the noun is uninterpretable, but valued. As a result, it can be deleted (so that it does not enter semantics, where it would cause a Full Interpretation violation) without checking. The SC gender paradigm thus provides evidence that one type of uninterpretable features, namely valued uninterpretable features, does not need to undergo feature checking.

Another relevant case concerns Case checking. Case is quite clearly uninterpretable on both the traditional Case assigner, e.g. finite Tense, and Case assignee. A particular Case assigner always governs the same Case, while the Case of an NP depends in its syntactic context. As a result, the Case of traditional Case assigners should be valued, and the NP’s Case should be unvalued. Now, it has often been argued, both in the Government and Binding framework and within Minimalism, that just like NPs have to be assigned Case (I will refer to the requirement, which is stated in a somewhat different form within Minimalism, as the Case Filter), traditional Case assigners have to assign their Case, a requirement I will refer to as the Inverse Case Filter, following Bošković (1997). The valuation driven system makes an interesting prediction regarding the Case Filter and the Inverse Case Filter. Since the Case feature of traditional Case assigners is valued, which means it can be deleted even without checking, it does not have to undergo checking. This is in contrast to the Case feature of NPs, which is unvalued, hence needs to be checked. This amounts to saying that the traditional Case Filter holds, but the Inverse Case Filter does not hold. There is strong empirical evidence that this is indeed correct. It is pretty clear that the Case Filter holds. As for the Inverse Case Filter, all attempts to enforce it (see, e.g. Bošković 2002a and Epstein and Seely 1999 for recent minimalist attempts to do that) have come up short against facts, facing persistent empirical problems which pretty clearly indicate that traditional Case assigners do not have to check their Case, which means the Inverse Case filter does not hold. E.g., the existence of verbs that assign Case only optionally, as in (55), goes against the spirit of the Inverse Case Filter.

(55)  a. John laughed.
        b. John laughed himself silly.
        c. Mary is dressing (herself).
        d. Peter is eating (apples).

Slavic genitive of quantification/negation also provides evidence against the Inverse Case Filter (see Franks 2002). In a number of Slavic languages verbs that assign structural accusative fail to assign

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43 This does not mean that they cannot undergo feature checking. The point here is narrower: if they do not undergo feature checking the derivation will not necessarily crash.
it when their object is a higher numeral NP. (*Kola* in SC (56b), which must bear Genitive, receives its Case from the numeral.) The same happens when a verb is negated, as illustrated by Polish (57b), where genitive of negation is obligatory. (There are similar arguments against obligatory assignment of nominative as well as some lexical cases; see Franks 2002).

(56) a. On kupuje kola.       (SC)
    he buys car.acc
b. On kupuje pet kola.
    he buys five cars.gen

(57) a. Janek czyta książkę.       (Polish)
    Janek read books.acc
b. Janek nie czyta książkę.
    Janek neg read books.gen

Like the SC conjunct-sensitive agreement paradigm, Case licensing relations thus provide evidence that valued uninterpretable features do not need to undergo feature checking. This represents an important departure from the earlier feature-checking system of Chomsky (1995), where all uninterpretable features had to undergo feature checking.

7. Conclusion

The main goal of the paper was to establish the empirical domain of the phenomenon of FCA and LCA in SC, a language that exhibits a rather complex pattern of conjunct-sensitive gender agreement. We have seen that with plural conjuncts with mixed gender specification, we get both LCA and FCA when the individual conjuncts are mixed feminine/neuter. When a non-agreeing conjunct is masculine, we still get FCA, but LCA is blocked. Both FCA and LCA are blocked when the individual conjuncts are singular. While the LCA is also blocked with singular+plural/plural+singular combinations, FCA is allowed with plural+singular, though not with singular+plural combinations. Uniform neuter+neuter conjuncts for the most part behave like mixed feminine/neuter conjuncts, while uniform feminine conjuncts exhibit rather different behavior. (It is difficult to test masculine conjuncts in this respect since masculine is also the default.) I have presented a uniform account of FCA/LCA which does not posit any mechanisms that would be specific to either FCA or LCA. The account captures both the contexts where FCA and LCA exhibit parallel behavior and the contexts where the parallelism between FCA and LCA breaks down. LCA has been argued to pattern with FCA in the cases where the relevant feature of the first conjunct can be deleted, voiding potential intervention effects. I have presented a uniform account of all the contexts where only LCA fails: in such contexts the relevant feature of the first conjunct cannot be deleted. More abstractly, the current analysis in fact offers a uniform account of all FCA/LCA failures; they are all ultimately due to a conflicting valuation, either with respect to Agree or determining pied-piping. The main ingredient of the analysis was the operation Agree. To the extent that Agree successfully accounts for the rather complex conjunct-sensitive agreement paradigm in SC, this paper can be interpreted as providing strong evidence for the mechanism of Agree in general, as well as the particular approach to Agree adopted here. The current approach preserves Chomsky’s matching/valuation distinction and allows head X to probe more than once for feature(s) Y (as in Bejar 2003; however, the ϕ-probing head in SC is not a split-ϕ probe--it is in fact

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44The account is admittedly based on some stipulations, as is often the case with initial accounts of very complex paradigms, like the SC conjunct-sensitive gender agreement paradigm investigated in this paper.
crucial that it probes for all $\phi$ features together), as well as a particular approach to gender, where grammatical gender is a valued, but uninterpretable feature of nominals (though in a few cases where it is semantically motivated it is interpretable). I have argued that valued uninterpretable features are deleted after Match, a condition which has played an important role in the proposed analysis by neutralizing potential intervention effects of the first conjunct with LCA. We have also seen that allowing the possibility of valued uninterpretable features makes possible feature-checking relations between two uninterpretable features, which in turn enables us to simplify the feature-checking mechanism. We have also seen that valued uninterpretable features do not have to undergo feature checking, which represents a departure from Chomsky’s (1995) feature checking system, where all uninterpretable features had to undergo feature checking.

References


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