7

Gender and Number Agreement

7.0. Introduction

This chapter provides a formal account for processes of gender and number agreement in the Afro-Bolivian Spanish DP. Cross-dialectal differences between Afro-Bolivian Spanish and standard Spanish are explained in light of the Minimalist Program/Principles and Parameter framework. In line with recent works on the structure of DP (Carstens 2000) and on how valuation processes are obtained (Pesetsky & Torrego 2007), I explain why certain agreement configurations are allowed in ABS, while they represent ungrammatical constructions in standard Spanish (stSp).

7.1. Data

With respect to what pertains to traditional ABS DP gender-agreement, grammaticality judgments and oral questionnaires indicated the presence of a configuration starkly different from the one encountered in stSp. In fact, the eldest speakers’ intuitions indicated that gender agreement appears only on definite articles, while the rest of the DP elements show default-masculine concord (134).
As far as grammaticality judgments for number features are concerned, in traditional ABS, differently from stSp, plurality is marked only on determiners.

As shown by examples (134–135), number and gender features are present in traditional ABS; nevertheless, number and gender marking is limited to certain DP elements. Therefore, in stark contrast with stSp, where all DP elements carry overt number and gender marking, in ABS these features are marked non-redundantly.

### 7.2. Agree and Agreement

In Chomsky’s (2000) terms, overt morphological agreement is the result of the application of a formal operation: Agree. Agree applies in narrow syn-
tax when an unvalued instance of a feature F (probe) c-commands another instance of F (goal). This probe-goal relation serves the purpose of deleting uninterpretable features (uF[^]), which cannot be read at LF and must be eliminated before Spell-Out in order not to cause the derivation to crash. For this reason, Agree is seen as a case of feature assignment, which can be summarized in the following steps:

(136) Agree (Assignment version; following Chomsky 2000, 2001)

(i) An unvalued feature F (a probe) on a head H scans its c-command domain for another instance of F (a goal) with which to agree.
(ii) If the goal has a value, its value is assigned as the value of the probe.

The operation Agree serves the purpose of deleting uninterpretable features, which are unreadable at the interfaces. Deletion takes place in a cyclical fashion at the end of each phase. Uninterpretable features, however, cannot be deleted during the syntactic derivation just by virtue of the fact that they cannot be interpreted at LF. The only means that the framework has to eliminate such features is to assume a biconditional relation correlating unvalued features with uninterpretable ones (137):

(137) Valuation/Interpretability Biconditional (Chomsky 2001: 5)

A feature F is uninterpretable if F is unvalued.

By recurring to (137), the model can now delete uninterpretable features because they are unvalued and therefore act as probes. Such a stipulation inevitably leads us to the conclusion that once an uninterpretable feature has been valued, it will also get automatically deleted. Chomsky’s Agree operation is therefore a syntactic mechanism of ‘feature assignment,’ triggered during the derivation by an unvalued-valued (probe-goal) relation, which, by virtue of a feature-biconditional requirement, results in the cyclical deletion of uninterpretable features before Spell-Out.

Chomsky’s (2000, 2001) proposal has been revisited and refined by Pesetsky & Torrego (2007), among others—see, for example, Frampton & Gutmann (2000). In fact, recent work on Agree advocates a version of this operation that departs from the previous view of ‘feature assignment’ mechanism. Rather, the process is seen as an instance of ‘feature sharing,’ an idea in line with the view of agreement as feature unification common in HPSG
(Pollard & Sag 1994). Within the probe-goal theory of the syntactic computation, the operation Agree has been reformulated as in (138).

(138) Agree (Pesetsky & Torrego 2007)

(i) An unvalued feature $F$ (a probe) on a head $H$ at syntactic location $a$ ($F_a$) scans its c-command domain for another instance of $F$ (a goal) at location $b$ ($F_b$) with which to agree.

(ii) Replace $F_a$ with $F_b$, so that the same feature is present in both locations.

If a goal is valued for $F$, replacing the token-value of the probe with the value of the goal results in an instance of valued $F$ substituting for the specification of the unvalued probe. A valued $F$ may now serve as the goal for some ulterior operation of Agree triggered by an unvalued, higher instance of $F$ serving as a new probe. The result is that a single feature $F$ will be shared by several positions, and the process could iterate further.

Pesetsky and Torrego’s proposal is different from Chomsky’s approach not only in its feature-sharing view of Agree, but also in the absence of the Valuation/Interpretability Biconditional in (137). By removing this last constraint, the authors postulate the presence of features containing combinations of properties not available in the model previously suggested by Chomsky: (i) uninterpretable but valued; and (ii) interpretable but unvalued.

Lexical entries can now enter the derivation with four different kinds of features:

(139) Types of features (boldface = disallowed in Chomsky [2000, 2001])

\[
\begin{align*}
 uF & \text{ val uninterpretable, valued} \\
 iF & \text{ val interpretable, valued} \\
 uF & \text{ [ ] uninterpretable, unvalued} \\
 iF & \text{ [ ] interpretable, unvalued}
\end{align*}
\]

This new framework, which stipulates the independence of valuation and interpretability, seems to be validated by several syntactic phenomena: the relationship between Tns and the finite verb, the formation of an interrogative CP, the formation of a declarative CP that supports successive-cyclic wh-movement; etc. Pesetsky & Torrego (2007) illustrate this approach by explaining how the relationship between Tns and the finite verbs is obtained.

In fact, an example of an interpretable unvalued feature acting as a probe
is the T feature of the category Tns. In line with Pollock (1989), who positted a distinct Tns node as the locus of semantic tense interpretation, an uninterpretable feature that participates in an Agree relation with the T feature on Tns has been postulated for languages in which finite verbs bear morphological tense markers. Since Tns c-commands the finite verb, its T feature will act as a probe. For this reason, the T feature on Tns is seen as an interpretable unvalued feature searching for a goal, represented by the T feature on the finite verb, which is uninterpretable but valued:

\[(140)\] The relationship between Tns and the finite verb

\[\text{Agree}\]

\[
\ldots \text{Tns} \ldots [\text{v walked}] \ldots \ldots \text{Tns} \ldots [\text{v walked}]
\]

\[
iT[\ ] \quad uT + \text{past} \quad iT[2] \quad uT + \text{past}[2]
\]

Nevertheless, the authors do not completely reject Chomsky’s model. They maintain that Agree serves the purpose of deletion to avoid a crash in the derivation. At the same time, they share Brody’s view on Radical Interpretability, which states the following:

\[(141)\] Thesis of Radical Interpretability (Brody 1997)

Each feature must receive a semantic interpretation in some syntactic location.

Therefore, if all features must have an interpretation at a certain point, it follows that what is deleted is not the feature itself, but rather its uninterpretable instances. Radical Interpretability and the feature sharing framework provide an account for the fact that an uninterpretable valued feature (like \([uT \text{ val}]\) on the finite verb) must enter an Agree relation with an interpretable counterpart (\([iT [ ]]\) on Tns). In fact, if this Agree relation could not be obtained, then the T feature could not receive an interpretation in any syntactic location, thus violating the thesis of Radical Interpretability.

### 7.3. Applying the Theory to the Data

Before entering into the details of this analysis, it is important to mention that I am assuming the DP structure provided in (142); where the loci of interpretation for person, number, and gender are \(D^\circ\), \(\text{Num}^\circ\), and \(N^\circ\), respectively (see also Carstens 2000).
However, it must be kept in mind that because of the elimination of Valuation/Interpretability Biconditional (Pesetsky & Torrego 2007), I am not claiming that such interpretational loci will always come from the lexicon valued in ABS and stSp. In fact, the assumption is that in ABS, N enters the derivation with a value for gender [γ] and one for person [α], while Num carries a value for number [β] and D lacks person value [α]. On the other hand, in stSp N introduces into the derivation all phi-values [α], [β], and [γ], so that Num and D do not introduce valued features into the derivation.

In order to account for the presence of plural morphology on English nouns, Chomsky (2000, 2001) postulates the presence of a valued interpretable number feature on this element. By assuming such valued number specification, all DP entries specified for an unvalued uninterpretable number feature would be able to probe for it, in line with the c-command restriction imposed by Agree. On the other hand, if a higher element were bearing the interpretable feature, N would not be able to c-command such value and its overt morphological marking could not be explained.

However, Chomsky’s postulation has been criticized because it fails to identify Num as the locus of number interpretability (Carstens 2000; Picallo 2008), contrary to what generally is assumed in the literature. Nevertheless, if we hold to the Valuation/Interpretability Biconditional and accept that number is interpretable in Num, Agree cannot account, at least in stSp, for some crucial morphological facts: First, there is no way to account for plural marking on N; second, postnominal adjectives, which are generally believed to be based generated in projections lower than NumP (Cinque 1994), should not carry number morphology either.

A way to circumvent such problems would consist of resorting to a different operation, Concord (Carstens 2000; Demonte 2008), which does not depend on c-command. On the other hand, Franceschina (2005) has sug-
gested an ad hoc co-indexation between N and the postnominal A, so that when N moves to Num, the noun and the adjective will simultaneously agree and get identical number value.\textsuperscript{1} Arguably, such moves are undesirable, since they eliminate any generalization of agreement.

As far as the valuation of number and gender features in the Spanish DP is concerned, the elimination of the Valuation/Interpretability Biconditional seems to account perfectly for the data. In fact, if we postulate that N contains an interpretable valued gender feature and an uninterpretable valued number feature, while Num contains an interpretable unvalued number specification, all DP elements become able to probe a gender and number value from N while obeying the principle of c-command.

Pesetsky and Torrego do not provide a detailed explanation of how such a reconfiguration would be implemented in the Spanish DP. They limit themselves to suggest that locating [\textit{i}num] on Num and the number value on N would provide an explanation for Latin \textit{pluralia tantum} nouns (Pesetsky & Torrego 2007: 264 n. 1). Therefore, to provide a better account of how the syntactic framework adopted here works in stSp, we may analyze the derivation of a stSp DP (143) (see Franceschina 2005 for a similar analysis).

\begin{align*}
(143) \text{stSp: Esas pequeñas casas rojas} \\
\text{this-F.PL small-F.PL house-F.PL red-F.PL} \\
\text{‘These small red houses.’}
\end{align*}

The noun \textit{casa}- ‘house’ is specified for an uninterpretable valued number feature [\textit{unum: +PL}], an interpretable valued gender feature [\textit{igen: +F}], and an uninterpretable valued person feature [\textit{upers: + third}]; it enters the derivation and merges with \textit{n}. After the Merge operation has applied, N raises and adjoins to \textit{n}.

\begin{align*}
(144) \quad & \begin{array}{c}
n' \\
NP \\
\end{array} \\
& \begin{array}{c}
casa- \\
\text{[igen: +F]} \\
\text{[unum: +PL]} \\
\text{[upers: +3rd]}
\end{array}
\end{align*}

\textsuperscript{1} Franceschina (2005: 87 n.14) remains uncommitted about the exact implementation of this operation.
In line with Cinque (1994), I assume that post-nominal adjectives are merged at this point of the derivation; while pre-nominal ones are merged higher in the structure. Therefore, the first AP (roj-) is merged in the specifier projected by \( n \). Subsequently, the uninterpretable unvalued number and gender specifications ([\( u_{\text{num}}: \)], [\( u_{\text{gen}}: \)]) carried by A act as probes and scan their local c-command. These features get valued resulting in the “sharing” of the number and gender values between N and A (see Frampton & Gutmann 2000).

The nP so far created will merge with Num. In line with Carstens (2000) and Picallo (2008), Num is assumed to be the locus of number interpretation. Therefore, it bears an interpretable unvalued number feature ([\( inum: \)]), which acts as a probe and gets valued. N moves to Num, Num projects a specifier, which hosts the second AP (peque\( n \)-). From this position, its \( u_{\text{num}} \) and \( u_{\text{gen}} \) features act as probes and the Agree operation applies again.
As a final point, example (147) illustrates how the D head is merged and its unvalued phi-features probe for a value. This process results in the valuation—and deletion—of all uninterpretable number features, which—if not eliminated—would cause the derivation to crash at the point of Spell-Out.
The system so far provided seems to work perfectly for stSp, where gender and number are marked redundantly across all the DP elements. Nevertheless, this model, given the c-command restriction on Agree and the valued number feature on N, cannot account for the ABS data. In fact, all stSp demonstratives, quantifiers, nouns, and articles come from the lexicon with a specification for number and gender features. Such specification, as shown in (144–147), is what will result in overt number and gender morphological marking after all the Agree operations have applied. On the other hand, traditional ABS does not possess the richness in feature specification characteristic of stSp and other Romance languages. In traditional ABS, nouns are specified for gender; this feature is not morphologically marked on the majority of the DP elements (it only appears on definite articles). Also, the morphological distribution of number marking is much more restricted; it is limited to determiners, and it never applies to adjectives, nouns, and quantifiers.

The ABS counterpart of (143) is (148).

(148) ABS: Ejes pequeño casa rojo.
   this-M.PL small-M.SG house-F.SG red-M.SG
   ‘These small red houses.’

As we want to keep syntactic processes constant and universal (Brody 2003),\(^2\) neither ad hoc modifications to the operation Agree nor the introduction of special mechanisms to account for the data are available options. Nevertheless, the theory offers a different solution to this problem. Within the Minimalist Program framework, an account of cross-linguistic variation can be found in the different distribution of feature specifications among the lexical entries of the varieties under analysis. Therefore, to account for constructions like (148) in ABS, we may postulate that in this language, contrary to stSp, nouns only carry interpretable valued gender features and uninterpretable valued person ones, so that they are not specified for number. On the other hand, Num is the element carrying interpretable valued number features; D bears uninterpretable unvalued number features and interpretable unvalued person ones; while adjectives do not have any specifications for phi-features. In other words, traditional ABS DP elements lack many of the unvalued uninterpretable features encountered on their stSp counterparts. Such a deficiency results in the default singular and default masculine mor-

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2. Brody refers to that as ‘perfect syntax.’
phological realizations, so that the stSp example (147) can be derivationally represented as (149) for ABS.

```
(149)  
  DP
  | 
  D  
  | 
  ejes  
    |    [NO-gen] [num: PL] [pers: 3rd]
    AP  
      NumP
      | 
      Num
      | 
      nP
      | 
      n
      | 
      | 
      casa
      | [i: +F] [NO-num] [pers: +3rd]
      | 
      rojo
      | [NO-gen] [NO-num]
      | 
      n
      | 
      | 
      | 
    casa
    | [i: +F] [NO-num] [pers: +3rd]
```

Besides the difference in feature specification between the two varieties, it is important to state another clear parametric distinction: in ABS the number value enters the derivation as a specification of Num (i.e., [num: +/-PL]); in stSp it is carried by N. Note that this parametric distinction could arguably also be postulated for the contrast in number marking found between standard Brazilian Portuguese (stBP) (redundant plural marking) and popular Brazilian Portuguese (pBP) (non-redundant plural marking), where constructions like (150) are grammatical (see Simioni 2007).

```
(150) pBP: As casa vermelha.
the-F.PL house-F.SG red-F.SG
stBP: As casas vermelhas.
the-F.PL house+F.PL red-F.PL
'The red houses.'
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Moreover, note that ABS poverty of feature specifications does not prevent this language from presenting the same adjective+noun and noun+adjective order combinations encountered in other Romance languages. In fact, as Carstens (2001: 154) and Alexiadou (2001: 223), among
others, have demonstrated, raising of N to Num is not prompted by number feature checking, but rather by other mechanisms such as EPP or categorial features. This indicates that agreement, at least in these clear examples, cannot feed movement. In sum, the model proposed can account for important parametric differences between stSp and ABS—and potentially also between stBP and pBP. More cross-linguistic research is definitely needed to make a broader generalization. Nevertheless, the framework and the data seem highly promising.

7.4. Conclusion

This chapter has provided an overview of the distribution of phi-features across the ABS and the stSp DPs. Results indicate that while the computational operation Agree (Chomsky 2000) is constant and presumably universal, overt cross-dialectal variation is due to differences in the lexicon, namely in the feature specification of the elements entering the numeration. Based on the parametric differences encountered between stSp and ABS, I proposed an implementation of the Agreement framework able to account for the data.