8

Variation in the Determiner Phrase

8.0. Introduction

This chapter analyzes variable number and gender agreement marking across the Afro-Bolivian Spanish (ABS) Determiner Phrase (DP). As I indicated in chapter 2, African slavery persisted in Bolivia until 1826, when, with the implementation of the new constitution, slaves were declared free (Brockington 2006). Nevertheless, in practice, black Bolivians had to work as unpaid peons until 1952, year of the Land Reform. Only after that date did black Bolivians become free people and acquire the right to vote and to receive an education (Crespo 1995). Basic public education was introduced in Yungan communities in 1957; this factor, in addition to the higher degree of mobility achieved by black Bolivians after the end of the hacienda system, provoked a gradual decrease in use of the traditional dialect spoken by Afro-Bolivians. This process has been described as a systematic substitution of stigmatized basilectal ABS features with more prestigious stSp ones (Lipski 2006a, b). As far as ABS gender/number marking is concerned, this substitution is not random. Rather, what can be observed is the transition from one agreement system to another, according to specific syntactic constraints.

The focus of the present chapter is on the linguistic implications of this transition. In line with several sociolinguistic studies (Guy 1981; Poplack 1979, 1980; Scherre 2001; etc.), this chapter provides detailed VARBRUL statis-
tical analyses for the cases of gender/number agreement marking variability found in this dialect. However, differently from traditional sociolinguistic accounts, results are explained by adopting recent minimalist assumptions on agreement and feature valuation processes (Frampton & Gutmann 2000). In doing so, the present chapter attempts to enhance dialogue between variationist sociolinguistics and generative theory.

8.1. Methodology

While the study of intra-speaker variation has long been one of the core topics of sociolinguistic research (Labov 1972), generative studies have traditionally paid less attention to this aspect of natural language. Intra-speaker variation, in fact, has often been considered an instance of E(xternal)-language, related to performance, thus not relevant to the core syntactic competence of the speaker and therefore, for the most part, ignorable (Chomsky 1986).

However, more recent generative proposals (Adger 2006; Adger & Smith 2005; Parrott 2007), developed within the architecture provided by the Minimalist Program (Chomsky 1995), postulate that variation may be accounted for as the overt result of covert lexical selections. This idea departs significantly from the notion of variable rules (e.g., Cedergren & Sankoff 1974), where probabilities could be built into the grammar itself (Labov 1972). Nevertheless, it represents a great step forward in attempting to reconcile the ‘biological’ and ‘social’ aspects of natural language (e.g., Cornips & Corrigan 2005).

In recent years, the combination of formal and sociolinguistic methodologies has led to a great number of fine-grained, empirically-testable generalizations (e.g., Cornips & Poletto 2005). In order to conduct research of this kind, it is crucial to gather both grammaticality judgments as well as naturalistic data. For this reason, the informants who participated in the present study were first interviewed and only later asked for grammaticality judgments. This was done in order to not influence the speakers during the interview by revealing in advance the nature of the linguistic phenomena under inspection.

When speakers of highly stigmatized languages are asked for grammaticality judgments, their answers may be partially influenced by the prescriptive notions they hold. Asking for grammaticality judgments in an indirect way may help overcome this problem (see Labov 1984). Thus, to discover whether or not a variable was present in the community, not only the direct
intuitions were elicited—‘Is X a grammatical construction?’ ‘Can you say X?’—also indirect questions were asked—‘Is variant X present in this community?’ ‘Do you know anybody who can say X?’ (Cornips & Poletto 2005: 944).

The comparison of these two different sources of data resulted in the interesting—but not unexpected—finding that almost everybody who claimed not to say X, but to know people who could say it, were found using X several times during the naturalistic interview. This would indicate that such a structure was indeed part of their grammar and confirmed the importance of relying on different sources. While grammaticality judgments can give us a good insight into the abstract idealized language of an informant, only a comparison of such information with empirical data can help us build a robust generalization.

My informants for this analysis consisted of twelve speakers of ABS. All of them were born and raised in the communities of Mururata, Chijchipa, and Tocaña, three small villages in the rural surroundings of Coroico, Department of La Paz, Bolivia. The speakers belonged to three different generations (21–50, 51–80, 80+). All the speakers reported for generation 80+ were illiterate, all those belonging to group 51–80 attended a few years of primary school, and all the speakers interviewed for the 21–50 age group had completed secondary education courses. As a consequence of this overlap between level of education and age, the language used by the youngest generation approximated more closely to standard Spanish than the one used by the older groups, particularly by the generation 80+, whose speakers showed the most significant divergences from standard Spanish.

8.2. Qualitative Data

An interesting discovery of my fieldwork was to find out that the informants participating in the study had diverging grammatical intuitions on DP gender agreement. All twelve Afro-Bolivian speakers interviewed indicated that in the most basilectal variety of this dialect gender agreement appears only on singular definite articles, while the remaining determines and adjectives show default-masculine morphology (151). Nevertheless, none of my speakers claimed to use this kind of language pattern. They considered it as an old dialect, which is not commonly heard these days.¹

¹ Lipski (2008: 82) suggests that ABS lu derives from stSp los. It results from the combination of two recurrent phonological rules in ABS: (1) the loss of final /s/; (2) the rising of unstressed /o/ to [u]. During his fieldwork, the author encountered some examples where lu
One subject in his 80s presented gender agreement also on plural definite articles and demonstratives (152), but not on other categories:

(152)

a. Todo la comida delicioso.
   all-M.SG the-F.SG meal-F.SG delicious-M.SG
   'All the delicious food.'

b. Todo las comida delicioso.
   all-M.SG the-F.PL meal-F.SG delicious-M.SG
   'All the delicious foods.'

c. Esta/esa comida delicioso.
   this/that-F.SG meal-F.SG delicious-M.SG
   'This/that delicious food.'

d. Mucho/un comida delicioso.
   much/a-M.SG meal-F.SG delicious-M.SG
   'Much/a delicious food.'

Informants with an age ranging from 51 to 84 (7/12) used agreement on plural and singular definite articles, demonstratives, pre-nominal adjectives, and also on weak quantifiers (153):

(153) Mucha/ una comida delicioso.
    much/a-F.SG meal-F.SG delicious-M.SG
    'Much/a delicious food.'
Finally, the youngest group, composed of four people from 21 to 50 years of age, used gender agreement for all the elements, including *todo* and post-nominal adjectives (154):

\[(154)\] Toda la comida delicosa.

\[\text{all-F.SG the-F.SG meal-F.SG delicious-F.SG} \]

‘All that delicious food.’

This would intuitively lead us to argue in favor of four different grammars; however, a closer look at the empirical data from the oral interviews complicates the picture. In fact, it was common for somebody to claim to speak a certain grammar but use patterns belonging to another. Sometimes, speakers would freely alternate between forms within the same sentence. For example, the conversation fragment in (155) is from an informant whose grammaticality judgments indicated a grammar of type (154):

\[(155)\] Todo la comunidad participaba; mucha

\[\text{all-M.SG the-F.SG community-F.SG participated much-F.SG} \]

 gente venía, mucho gente venía desde

\[\text{people-F.SG came much-M.SG people-F.SG came from} \]

lejos. Todas, toditas las personas se reunían.

\[\text{far all-F.PL all-F.PL the-F.PL people-F.PL reflex met} \]

Muy bonito la fiesta era . . .

\[\text{very nice-M.SG the-F.SG party-F.SG was} \]

“All the community used to participate, many people used to come, many people used to come from far away. All, all the people gathered. The party was very nice . . .”

Speakers like this present gender agreement on strong quantifiers in 50–60 percent of instances, thus indicating that cases of agreement mismatches are very common and should not be regarded as just E-language errors. On the other hand, as far as grammaticality judgments for number features are concerned, less variability was reported; nevertheless, much alternation could still be found when analyzing the transcripts from the naturalistic interviews. In fact, all informants, even the oldest ones, seem to be aware of the fact that, in traditional ABS, number is marked non-redundantly,
as in (156), while ‘at school’ or more generally in stSp, it is marked on all the DP elements (157). No one, for example, claimed to inflect nouns while keeping post-nominal adjectives bare or vice versa.

(156) ABS
Mis/ejes/lu/mucho/cuatro buen plato tradicional.
My-PL/this-PL/the-PL/much-SG/four good.SG dish.SG
‘My/these/the/many/four good traditional dishes.’

(157) stSp
Mis/esos/los/muchos/cuatro buenos platos tradicionales.
My.PL/this.PL/the.PL/much.SG/four good.PL dish.PL
‘My/these/the/many/four good traditional dishes.’

Nevertheless, besides the clear grammatical intuitions distinguishing ABS from stSp plural marking, the corpus used for the study of number agreement—composed of the interviews with the three eldest members of the community—reveals several additional patterns, which are neither limited to the traditional marking of plurality on one single element in the DP, nor to the marking of all DP elements, as in stSp. In fact, also in regard to number agreement, speakers would use different forms variably (158). In cases like these, where the rate of mismatch is around 40 percent, it is arguably difficult to draw a clear line between what can be considered as competence and what can be labeled as performance.

(158) ABS
Lu pequeño se ha muerto, mis hijas
The-M.PL small-M.SG reflex AUX died-SG my-PL daughter-F.PL

joven también se ha muerto. Mis hijo se ha muerto.
young-F.PL too reflex AUX died my-PL son-M.SG reflex AUX
died-SG

uno vivía aquí, uno a la Argentina.
one-M.SG lived here one-M.SG to the-F.SG Argentina-F.SG

‘The kids died, my daughters died too. My sons died. One of them lived here, the other in Argentina.’
8.3. Quantitative Data

Previous attempts to formalize similar cases of variation have often recurred to stylistic features. One such case, which appears to be highly relevant to the present study, is exemplified by DeCamp’s (1971: 352–53) generative analysis of the post-creole speech continuum. Faced with the amount of variability found in creole and post-creole contexts, the author admits the need to integrate the concept of systematic variation into the generative framework. While he indicates that certain phenomena have to do with performance (e.g., limitation on memory span, momentary lapses and reformulations, etc.), he indicates that there is room in the competence side of language for rule-governed variability:

The ratio of passive to active sentences in my speech in a given day, the median length and complexity of my sentences, the frequency with which I deviate from grammatical well-formedness, these are performance features and cannot be reduced to the same type of rules found in generative grammars. But some kinds of variation are indeed rule-governed behavior. If I shift into a formal, oratorical style, several rule-predictable things happen to my grammar: the contraction transformation is blocked, so that I say *is not* and *he has* instead of *isn’t* and *he’s*, [. . .]. I am performing a complex but related set of switching activities, all triggered by the presence of one stylistic feature [+ oratorical].

Also, a similar formalization is postulated by Henry (2005), who recurs to [+/- formal] stylistic features to account for cases of subject-verb (dis) agreement in Belfast English. In formal situations, speakers would use a grammar for which the forms *there is/there are* require agreement, while for informal situations a different grammar would allow the verb to not agree with the subject, thus resulting in the default singular construction.

These accounts are not able to explain what is observed in ABS. In fact, within the one-hour interview period I had with my informants, the switches between the four potential parallel gender grammars were so many for certain individuals that no formal/informal style alternation might serve as a reasonable justification. Cross-generational VARBRUL results for internal factors (Table 8.1; see also Sessarego & Gutiérrez-Rexach 2011) indicate that the unvalued gender-feature distribution among grammatical categories is highly variable (Range 72): post-nominal adjectives disagree the most (Factor Weight .95), while plural and singular definite articles show the
highest level of concord (Factor Weight .23). Additionally, if the data for plural marking are introduced into the picture, the number of potentially-competing grammars increases exponentially, thus further constraining the feasibility of such a proposal (see Table 8.2; see also Delicado-Cantero & Sessarego 2011).

In recent years, Lipski (2006a, b; 2011a, b) has tried to formalize the gender and number agreement variation encountered in the ABS DP within the Optimality Theory (OT) framework (see Prince & Smolensky 1993/2004). He has also proposed a Gradual Learning Algorithm (see Boersma 1997; Boersma & Hayes 2001; Tesar & Smolensky 1998), endowed with variable stochastic constraint weightings, to explain the apparent left-to-right cross-generational evolution of the agreement domain across the ABS DP.

Indeed, faced with the high rates of gender and number agreement mismatches found in his sociolinguistic interviews, Lipski (2006b: 9) has classified ABS as a case of “DP impoverished agreement.” Lipski suggests that gender and number features in DP percolate up from the noun to the determiner, and eventually to the post-nominal element (see Grimshaw 1997). He notices that in his linguistic corpus no case of post-nominal gender concord is found unless pre-nominal elements agree, as shown in (159):

**Table 8.1**
Variable Rule Analysis of Gender Agreement Variation in the Afro-Bolivian Spanish DP

<table>
<thead>
<tr>
<th>Grammatical Category</th>
<th>Factor Weight</th>
<th>% Lack Agreement</th>
<th>N</th>
<th>% Data</th>
</tr>
</thead>
<tbody>
<tr>
<td>Post-Nom. Adj.</td>
<td>.95</td>
<td>50</td>
<td>272</td>
<td>19</td>
</tr>
<tr>
<td>Strong.Q.</td>
<td>.66</td>
<td>35</td>
<td>275</td>
<td>11</td>
</tr>
<tr>
<td>Pre-Nom. Adj.</td>
<td>.64</td>
<td>14</td>
<td>220</td>
<td>19</td>
</tr>
<tr>
<td>Indef. Art.</td>
<td>.62</td>
<td>12</td>
<td>280</td>
<td>11</td>
</tr>
<tr>
<td>WeakQ</td>
<td>.60</td>
<td>10</td>
<td>102</td>
<td>4</td>
</tr>
<tr>
<td>Dem.</td>
<td>.24</td>
<td>3</td>
<td>84</td>
<td>3</td>
</tr>
<tr>
<td>Def. Art.</td>
<td>.23</td>
<td>2</td>
<td>1,371</td>
<td>53</td>
</tr>
</tbody>
</table>

*Note.* Log likelihood = –624.215, Significance = 0.001, N = 2,604.
My data, when analyzed cross-generationally, are generally in line with those reported by Lipski. However, an important difference can be noticed in the speech of several informants. Many speakers present almost a complete lack of gender agreement in strong quantifiers, as shown in (160) and also in examples (151–152):

(159)

a.  
Una curva ancha  
a-F.SG. curve-F.SG. large-F.SG.

b.  
Una curva ancho  
a-F.SG. curve-F.SG. large-M.SG.

c.  
Un curva ancho  
a-M.SG. curve-F.SG. large-M.SG.

d.  
*Un curva ancho  
a-M.SG. curve-F.SG. large-F.SG.  
'A large curve.'

(160)

a.  
Todo las cosa bonito  
all-M.SG. the-F.PL. thing-F.SG. nice-M.SG.  
'All the nice houses.'

b.  
Todo la chica de Tocaña  
all-M.SG. the-F.SG. girl-F.SG. of Tocaña  
'All girls from Tocaña.'
c. *Todo la comunidad*

all-M.SG. the-F.SG. community-F.SG.

‘All the community.’

Cases like these seem to violate the pre-nominal to post-nominal percolation order, unless we postulate that strong quantifiers are elements external to the DP, and then we argue—independently—in favor of a different mechanism for the checking of the gender feature in languages where they agree in gender and number with N, like Standard Spanish. Additionally, the feature-percolation account of gender agreement runs into problems when compared with data from other Romance varieties in which post-nominal adjectives may agree with N and disagree with D (see Pomino & Stark 2009 for Fassano Ladin).

Alternatively, one might propose a system with one or more Agreement Projections inside the DP and with the relevant displacement operations applied to agreeing elements so that they enter into a specifier-head relation (Koopman 1997; Sportiche 1990). This type of approach would be problematic too in that the number of internal Agreement Projections required would not be limited, and would most likely be established on an ad hoc basis. It also runs against recent minimalist ideas supporting the elimination of Agreement Projections (Chomsky 2002). For these reasons, an account of number and gender agreement based on a minimalist model seems more adequate to describe the phenomena encountered in ABS. In fact, within the minimalist framework, agreement is conceived as the result of valuation processes, which do not necessarily require movement but just a configurational feature checking mechanism (Picallo 2008).

### 8.4. A Formal Analysis

Traditionally, linguistic intra-speaker variation has never been a core topic in formal syntactic studies. Nevertheless, more recently, within the framework provided by the Minimalist Program, several scholars have taken into consideration variation beyond the usual parametric inter-language domain (Adger 2006; Adger & Smith 2005; Parrott 2007; etc.) by paying closer attention to previously disregarded phenomena—considered to be cases of performance errors (Chomsky 1957).

Recent proposals within the Minimalist program (Chomsky 2001, 2002) advocate for the distinction between interpretable and non-interpretable
features. The former can be read at LF; thus they carry a semantic meaning; while the latter lack such a semantic contribution and are present to trigger the necessary operations during the derivation. Said uninterpretable features have to be matched via Agree and are finally deleted before Spell-Out. In this model, number and gender agreement involves the transmission or sharing of features with nominal origin to lexical items (adjectives) or to functional elements (articles, demonstratives, quantifiers). Determiners and adjectives do not come from the lexicon with a value for number/gender; the number/gender feature of determiners and adjectives is lexically unvalued, and gets valued as a consequence of a syntactic process of agreement with the phi-feature of the noun (Chomsky 2001).

As illustrated in chapter 7, I am adopting the notion of agreement proposed by Pesetsky & Torrego (2007). These authors, in line with Frampton & Gutmann (2000), have proposed a model where agreement is conceived as ‘feature sharing.’ Their formulation of the operation Agree ensures that a feature value, once introduced into the derivation, will be probed by all unvalued items c-commanding it, thus resulting in the sharing of such a value across probes. Pesetsky & Torrego (2007) also argue against Chomsky’s (2001) Valuation/Interpretability Biconditional and provide a new annotation, which includes four possible feature specifications: two probes (i.e., $uF[]$, $iF[]$) and two goals (i.e., $uFval$, $iFval$) for a given feature F (see section 7.2). Relevant to my present analysis is also the annotation of a category underspecified for a certain feature F as no-$F[]$. In such a case, the given category will not be able to act as either a probe or a goal for Agree operations. Example (161) illustrates the feature-sharing process described above.

(161) Example of feature sharing across categories bearing an F specification

$$uF[\text{val}] \ldots \ldots \ldots iF[\text{val}] \ldots \ldots uF[\text{val}] \ldots \ldots uF[\text{val}] \times \ldots \text{no-}F[\ ]$$

Therefore, if we postulate that an uninterpretable instance of a feature such as gender and number may be present in certain DP elements but absent in others, and that variation is the result of differences in the feature specification of certain items in the initial numeration, it follows that contrasts in overt syntax will be the result of differences in the computation of varying specifications. I propose an account of the different gender and number agreement configurations across DP strings in ABS that can be summarized in the following fashion:
Gender features valuation

(162)

a. \[\text{[DP mucho \ [NumP \ [nP \ [NP comida \ delicioso]]]]}\]
\[\text{no-Gen[ \ ]} \hdashline \text{iGen[F]} \hdashline \text{no-Gen[ \ ]}\]

b. \[\text{[DP mucha \ [NumP \ [nP \ [NP comida \ delicioso]]]]}\]
\[\text{uGen[F]} \hdashline \text{iGen[F]} \hdashline \text{no-Gen[ \ ]}\]

c. \[\text{[DP mucha \ [NumP \ [nP \ [NP comida \ deliciosa]]]]}\]
\[\text{uGen[F]} \hdashline \text{iGen[F]} \hdashline \text{uGen[F]}\]

'Much delicious food.'

Number features valuation

(163)

a. \[\text{[DP mucho \ [NumP \ [nP \ [NP plato \ AP tradicional]]]]}\]
\[\text{no-Num[ \ ]} \hdashline \text{iNum[PL]} \hdashline \text{no-Num[ \ ]} \hdashline \text{no-Num[ \ ]}\]

b. \[\text{[DP muchos \ [NumP \ [nP \ [NP plato \ AP tradicional]]]]}\]
\[\text{uNum[PL]} \hdashline \text{iNum[PL]} \hdashline \text{no-Num[ \ ]} \hdashline \text{no-Num[ \ ]}\]

c. \[\text{[DP muchos \ [NumP \ [nP \ [NP platos \ AP tradicional]]]]}\]
\[\text{uNum[PL]} \hdashline \text{iNum[PL]} \hdashline \text{uNum[PL]} \hdashline \text{no-Num[ \ ]}\]

d. \[\text{[DP muchos \ [NumP \ [nP \ [NP platos \ AP tradicionales]]]]}\]
\[\text{uNum[PL]} \hdashline \text{iNum[PL]} \hdashline \text{uNum[PL]} \hdashline \text{uNum[PL]}\]

'Many traditional dishes.'

This minimalist approach can account for all the agreement configurations found in the ABS Determiner Phrase by postulating the presence/absence of unvalued gender/number features on the different DP components. Results from cross-generational statistical analyses (Sessarego & Gutierrez-Rexach 2011) suggest that ABS is undergoing a cross-generational change in which stigmatized basilectal ABS features are being substituted by more prestigious stSp ones. One result of this transition is the introduction of a wider range of agreement configurations in a language that originally made little use of it. In minimalistic terms, this phenomenon can be seen as the emergence and development of unvalued features on elements that previously were not specified for them.
This analysis is capable of accounting for the agreement variability found in ABS, without postulating the existence of several competing grammars (e.g., DeCamp 1971; Henry 2005) or the presence of variable syntactic rules (Labov 1972). On the other hand, variation is limited to the presence/absence of uninterpretable features in lexical items. Note that, as pointed out by Adger & Smith (2005: 164), “this is a very minimal theory, since the idea that speakers have to choose lexical items is one which we simply cannot do without.” At the same time, localizing morphosyntactic variation in the choice of lexical items implies that we do not need to postulate special mechanisms to deal with variation; rather “variation is precisely what we should expect” (Adger & Smith 2005: 164).

The presence of identical lexical entries differing only in their uninterpretable feature specification may be considered as a case of morphological doublets à la Kroch (1994). In fact, in Kroch’s view, the historical evolution of competing morphological doublets (different elements with the same morphological function occurring in the same context) is diachronically unstable: either the two forms specialize, and therefore stop being doublets, or “one form tends to drive the other out of use and so out of the language” (Kroch 1994: 17). This would be due to the “Blocking Effect” (Aronoff 1976), which does not allow morphological doublets. The blocking effect, in Kroch’s words, does not prevent doublets from arising in a language through social processes (e.g., language contact). Rather, it acts as an economy constraint on their storage. Therefore, morphological doublets are frequently found in natural language but they are diachronically unstable. ‘Blocking,’ in Kroch’s words, is the process by which the “languages always evolve [. . .] in such a way that one or the other variant becomes extinct” (1994: 4). This seems to capture what is happening in ABS, where alternating forms can be frequently encountered in the speech of the same informant, and where this Afro-Hispanic vernacular appears to be gradually transitioning from one agreement system to another.

8.5. The Local Agreement Gradience Function

Recall that findings from grammaticality judgments led to the identification of four different patterns of gender agreement (see 151–54). Nevertheless, there is a considerable amount of variability, thus indicating that agreement patterns are not completely stable. For this reason, certain ideas proposed by
Adger & Smith (2005) to account for unvalued uninterpretable features seem more adequate to capture the nature of the phenomena found in ABS. The nature of the element occurring with the nominal head (e.g. articles, adjectives, strong/weak quantifiers, etc.) has a clear effect on the output; however, not only computational factors condition the agreement operation, but also lexical ones seem to play a crucial role.

While grammaticality judgments were discordant for certain syntactic categories among informants, every participant agreed on the use of *el* and *la* as respectively the masculine singular definite article and the feminine singular definite one. Nevertheless, there are several cases indicating that certain nouns in ABS possess a different gender from the one found in their standard Spanish counterparts. For this reason, ABS *el* may appear with nouns that in standard Spanish are feminine, while ABS *la* may precede nouns that in standard Spanish are masculine.  

(164)

a. ABS: Ele dice que es el máximo autoridad.  
   stSp: Él dice que es la máxima autoridad.  
   ‘He says he is the maximum authority.’

b. ABS: La sistema de hacienda no sirve pa’ nada.  
   stSp: El sistema de hacienda no sirve para nada.  
   ‘The hacienda system is useless.’

Gender mismatches on adjectives and determiners, when comparing ABS and stSp are common, with the masculine gender prevailing over the feminine one. I claim that these differences are due to two separate factors: (a) certain words listed in the stSp lexicon as feminine, are listed in the ABS as masculine and vice versa; (b) the valuation process in ABS departs from standard Spanish in that certain ABS elements lack the unvalued features present in their Spanish counterparts.

Several external factors may affect the item selection: age, education, social class, etc. (Adger & Smith 2005: 164). When looking at Table 8.3, we can observe that generation is, in fact, a significant factor group, with the oldest group (80+) strongly favoring lack of agreement (Factor Weight .67) and the 21–50 group disfavoring it (Factor Weight .35). These data reflect

2. The examples in (164) are instances of natural speech extracted from the sociolinguistic interviews of two elderly women (generation +80). When these speakers were asked for grammaticality judgments on such constructions, they indicated that the gender value of *sistema* ‘system’ was feminine and that of *autoridad* ‘authority’ was masculine.
the presence of a cross-generational change, pushing ABS in the direction of stSp. Younger generations did not experience the segregation imposed by the *hacienda* system and had more opportunities to have contact with the Spanish spoken outside the community. These elements, in addition to the stigmatization attached to the Afro-Hispanic vernacular, are pushing the younger members of the community to quickly replace the basilectal features with more prestigious stSp ones.

Even though there are no wider diachronic data available, by looking at the synchronic results for the three generations under analysis, we can get an idea of how the gender-agreement domain might have expanded in ABS. The three relevant generations show three different levels of gender agreement. While for the +80 generation agreement is mainly limited to demonstratives, definite articles, weak quantifiers and pre-nominal adjectives; for the 51–80 generation, strong quantifiers also agree in the majority of instances. On the other hand, post-nominal adjectives agree in more than 50 percent of cases only for the 21–50-generation informants.

Gender agreement evolution seems to develop cross-generationally in a systematic way. In fact, for all three figures, the following gender agreement ranking holds across the grammatical categories analyzed (where < indicates earlier development and increased frequency):

\[(165) \text{DEM/D < WEAK Q < PRE-N A < STRONG Q < POST-N A}\]

This property, in addition to the fact that all singular definite articles agree with the noun in gender, might indicate that in a previous stage gender agreement was limited to singular definite articles, and it gradually extended
Figure 8.1. Gender Agreement Patterns for 80+ Generation according to Grammatical Category (Percentages and Raw Numbers).

Figure 8.2. Gender Agreement Patterns for 51–80 Generation according to Grammatical Category (Percentages and Raw Numbers).
to the rest of the categories. Setting aside those mismatches that are due to different specifications in the lexicon, all the rest have to be viewed as the by-product of a specific locality constraint on gender agreement/valuation. This constraint is conditioned by the derivational position of the affected probes with respect to the nominal head. Additionally, I assume that pre-nominal adjectives agree because they are in the domain of the Q probes, either by direct insertion or movement (Gutiérrez-Rexach & Mallén 2001).

Interestingly, these findings are also in line with Second Language Acquisition (SLA) research on the acquisition of gender agreement in DP. In fact, Hawkins (1998) showed that English students speaking French as a second language presented more agreement on definite articles than on indefinite ones, and more agreement on determiners than on adjectives; similar findings have also been reported for English speakers of Spanish by Bruhn de Garavito & White (2000), and more recently by Franceschina (2005), who tested advanced speakers of Spanish coming from a variety of backgrounds (Italian, Portuguese, English, Arabic, German, and French). All these studies on gender agreement also share the common view that masculine is the default value, as it appears significantly more on determiners, and on adjectives in cases of agreement mismatches. These data indicate that language evolution follows certain hierarchical steps (see Pienemann 1998).
When we try to frame this analysis within current formal SLA models, we may recur to the framework proposed by Herschensohn (2000), Minimalist Constructionism. Minimalist Constructionism is an SLA model assuming that cross-linguistic variation is limited to the lexicon and to its formal features (Borer 1984), while syntax is universal and therefore invariable (Chomsky 1995). Within this framework, the locus of cross-linguistic variation is limited to the features of lexical and functional items. This model argues that the acquisition of L2 features is gained through a phase of L1–L2 transition. Constructionism is based on empirical evidence supporting the idea that languages are acquired gradually. This fact may be formalized by saying that, during the acquisition process, certain features, after having lost their L1 values, are unspecified and will incrementally gain new L2 values, thus giving rise to variation. This process consists of the progressive mastery of the target language functional and lexical categories, through the gradual acquisition of its lexicon (Herschensohn 2000: 81). Contrary to previous claims in SLA literature (e.g., Clahsen & Muysken 1986), within the constructionist framework, Universal Grammar (UG) is not only available during L1 acquisition; rather, it drives L2 development through a set of possible, acquirable grammars, thus suggesting that UG is fully accessible during L2 acquisition (see Epstein, Flynn, & Martohardjono 1996; Schwartz 1996, 1998; Schwartz & Sprouse 1996). In Herschensohn’s words, “L2 grammars are constrained by universal principles in that intermediate and final state grammars are possible human languages” (2000: 80).

The advantage of this approach on previous generative attempts—such as the Principles & Parameters model—is that parameter resetting is no longer considered as the fundamental difference accounting for L1 vs. L2 development. Rather this distinction is now explained as an incomplete command over a language-particular lexicon that interfaces with the syntax. Instead of a ‘yes/no’ parameter switch, the gradual acquisition of the lexical and morphological features naturally accounts for the variability encountered in all second languages. L2 acquisition happens gradually and the most peripheral morpholexical items will be the last ones to be mastered since the learner constructs the “grammar from the core to the periphery” (Herschensohn 2000: 81).

Thus, by looking at our data on the progression of gender agreement in the ABS DP, we can formulate the following Local Agreement Gradience Function (LAGF), which provides us with an evolutionary “core-periphery” path for the development of uninterpretable gender features across the DP:
(i) If A and B are potential probes for feature F in goal G and B is closer (more local) to G than A, then AGREE can apply between A and G only if it applies between B and G. The closer a functional head is to the noun, the more likely it is to enter into an agreement (sharing) relation with it. Additionally, (ii) A functional element becomes a potential probe for F when it is specified as unvalued for F, and (iii) There is speaker variation with respect to the specification of F.

The main consequence of LAGF is that it predicts gradience of agreement in ABS: Definite Articles and Demonstratives are more likely to agree with N; Weak Quantifiers and Prenominal Adjectives are less likely; Strong Qs and Postnominal Adjectives are the least likely.

From a biolinguistic perspective, the data show how evolutionary dynamics meets dialectal variation: LAGF determines a coherence measure for performance differences in the candidate grammars of a population, consistent with Nowak's (2002) and Nowak, Komarova, & Niyogi's (2001) findings. Population and social dynamics move the convergence point (ideal fitness) of LAGF in ABS closer to standard Spanish. This eventually entails a generalized application of Agree/gender valuation within the DP in younger generations. The main consequence of this situation is that contact with HBS/standard varieties leads younger speakers to apply Agree to higher probes. Agreement is triggered when the relevant probe becomes [uGen] rather than [No-Gen] (see Sessarego & Gutiérrez-Rexach 2012).

8.6. Conclusion

This chapter has offered a quantitative approach to variable agreement within the DP in Afro-Bolivian Spanish. My findings and proposal try to bridge the gap between the study of variationist and generativist studies. Variation is a component of human languages, and my results confirm that it should be taken into account when analyzing structural properties in specific syntactic domains, such as agreement in the DP. The goal here is to characterize the ingredients of variation in a structurally systematic fashion, as computationally determined by differences in the specification of lexical items and by restrictions on syntactic operations, more specifically, as a locality condition on agreement. Accounts of this sort are now possible after recent developments in the minimalist (and related) frameworks, which are trying to account for alternation and variation phenomena affecting syntactic elements (Adger & Smith 2005).
This research also unveils fundamental sociolinguistic issues. The underlying reasons pushing Afro-Bolivian in the direction of a more prestigious Spanish variety are essentially the stigmatization of the Afro-Hispanic vernacular and the increasing contact with a more prestigious Spanish dialect. Contact with Bolivian Spanish increased substantially after 1952, the year of the Bolivian Land Reform, which freed Afro-Bolivians from forced peonage and introduced education in the black communities. These changes, which have affected the socioeconomic scenario of black Bolivia during the last six decades, are reflected in the speech of the community members. This scenario would explain why ‘generation’ was proven to be a significant factor group affecting the studied variation. From a theoretical perspective, this study sheds some light on the linguistic constraints regulating agreement in an Afro-Hispanic vernacular approximating to a more prestigious Spanish dialect. The process is driven by social factors through a path that is highly constrained by syntactic ones.