

# Kechwa and Spanish Bilingual Grammars: Testing Hypotheses on Functional Interference and Convergence

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This paper presents an exploratory study on cross-linguistic interference among indigenous Kechwa<sup>1</sup>–Spanish bilingual children ( $n=30$ ) living in a language contact situation. Its preliminary findings show evidence of cross-linguistic interference between Kechwa desiderative progressive forms such as *miku-naya-yka-n* (eat-des-prog-3) ‘S/he wants to/is about to eat’ and bilingual Spanish modal progressive structures such as *está queriendo comer* ‘wants to/is about to eat’. The latter convey a desiderative/imminent aspectual meaning absent in the narratives of a comparison group of Spanish-dominant children ( $n=25$ ). The paper focuses on showing how interference and convergence in functional features such as modal and aspect features are possible despite striking differences in the morphology of two languages spoken by a bilingual individual. It is argued that, as predicted by the Functional Interference Hypothesis and the Functional Convergence Hypothesis, functional features are the locus of language change, and that activation of functional features from language A in language B, under specific discourse conditions, may lead to convergence in some bilingual individuals. These preliminary findings underscore the need to study the relationship between knowledge of syntax and knowledge of discourse conditions in bilinguals as well as the ability displayed by some bilingual individuals to dissociate syntax from morphology.

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## Introduction

Studies on early childhood bilingualism have established that children are able to develop independent autonomous lexical and syntactic representations for each of the languages that they speak (Genesee, 1989; Meisel, 1986; Paradis, 2000; Paradis & Genesee, 1996; Petitto *et al.*, 2001, among others). At the same time, cross-linguistic interference has been recognised as pervasive in the speech of young bilingual children (Müller *et al.*, 1999). In order to reconcile the strong evidence in favour of autonomous syntactic representations and the evidence of cross-linguistic interference, instances of such interference have been attributed to pragmatic constraints that limit the syntactic representation of the bilingual child (Müller & Hulk, 2001; Sorace & Serratrice, 2003). Recently, studies focusing on cross-linguistic interference in heritage bilinguals (Montrul, 2004, 2006) have explored the question of what levels of linguistic

representation are affected by interference in adult bilinguals who live in language contact situations. Several studies have provided evidence that the interface between syntax and the interpretive component is sensitive to cross-linguistic interference (Montrul, 2004; Zapata *et al.*, 2005). It has also been shown that successive adult bilinguals do not attain native-like competence in morphology (Lardiere, 1998; Prévost & White, 2000; White, 2003).

In this paper, I present a study that focuses on cross-linguistic interference in modality and aspect in 30 Kechwa–Spanish bilingual children living in an indigenous community in the town of Wayku Lamas, in the Amazonian region of Peru. The main goal of the paper is to seek support for two previously proposed hypotheses: the Functional Interference Hypothesis (FIH) and the Functional Convergence Hypothesis (FCH) (Sanchez, 2003, 2004). According to the FIH, cross-linguistic interference that affects functional categories in the bilingual mind results in syntactic representations different from those of monolinguals, and according to the FCH, constant activation of functional features not present in one of the languages may result in convergence in the mental representation of the two languages.

The study of interference in modality and aspect in Kechwa–Spanish bilinguals is of interest because modal and aspect features are functional features whose interpretation is sensitive to discourse conditions. At the same time, they are features that receive different morphological encoding in Kechwa and Spanish. In what follows, I present some of the differences.

In Lamas Kechwa, aspect features related to progressive meanings are encoded on the verb using the suffix *-yka* (Coombs *et al.*, 1976; Park & Wyss, 1995):

- (1) Kawa-yka-n  
look-prog-3s  
'(S/he) is looking'

In Spanish, progressive aspect features are associated with a periphrastic form composed by the aspect-marked auxiliary verb *estar* 'to be' and a gerund (Zagona, 2000):

- (2) Est-á mir-ando  
Be-3 sg look-gerund  
'(S/he) is looking.'

A similar distinction is found in the encoding of modality. Kechwa has a desiderative suffix, *-naya*, that conveys volition on the part of the agent of the action as well as the imminent nature of the event (Cerrón-Palomino, 1989, 1994). This is the case of expressions such as:

- (3) Maka-naya-n  
Hit-des-3 sg  
'(S/he) wants to/is about to hit.'

In Spanish, volition is expressed with the auxiliary modal verb *querer* 'to want' and the infinitival form, as in:

- (4) Quier-e com-er  
 Want-3 sg eat-infinitive  
 '(S/he) wants to eat.'

In addition to these differences in the encoding of aspect and modal features, it is worth noting that the desiderative suffix *-naya* can be combined with the progressive suffix *-yka* in Kechwa in order to obtain a progressive desiderative expression that is mostly associated with the imminent reading, as shown in:

- (5) Maka-naya-yka-n  
 Hit-des-prog-3 sg  
 '(S/he) is about to hit.'

The periphrastic form *está queriendo comer* 'is wanting to eat' is a possible structure in Spanish as shown by similar structures such as *está pensando volver* 'is thinking of returning', but the combination of a modal verb and the progressive form is not frequent. To the extent that it is possible in monolingual varieties, it does not convey the notion that the event referred to by the main verb is imminent.<sup>2</sup> Thus, while in Kechwa progressive and desiderative features are expressed through affixes, in Spanish progressive and volitional features are expressed using verbal periphrastic forms involving auxiliary verbs. Additionally, the desiderative form has an imminent reading not present in the Spanish periphrastic form in most monolingual varieties.<sup>3</sup>

These differences in morphological markings and syntactic structure are ideal to test the FIH, namely the extent to which interference in modal and aspect features may result in changes at the syntactic level without affecting the bilingual's knowledge of morphological distinctions, and to test the FCH, as the activation of the imminent feature present in Kechwa but not in Spanish may lead to convergence in the two languages.

The paper is organised as follows. In the first section, I present the theoretical assumptions on functional features and cross-linguistic interference adopted in this paper. In the second section, I present a brief overview of some of the morphological and syntactic properties of the Kechwa and Spanish structures under study. The third section presents the study and the fourth section its results and the discussion of the data. Section five presents the analysis and is followed by a brief summary of conclusions.

## Defining Cross-linguistic Interference in Functional Categories

From a generativist perspective, human languages are characterised by a basic distinction between lexical and functional categories (Chomsky, 1995). While lexical categories, which include verbs, nouns and arguably adjectives (Baker, 2003), are common to a majority of human languages, functional categories such as tense or aspect are the locus of variation across languages (Chomsky, 1995). Therefore, functional categories should also be expected to be a focal point in cross-linguistic interference in bilinguals. Functional



In previous work (Sánchez, 2003, 2004) I have proposed two hypotheses that aim to predict the conditions under which interference and convergence in functional features take place and their consequences for the bilingual mental representation: the Functional Interference Hypothesis (FIH) and the Functional Convergence Hypothesis (FCH). The FIH states that functional interference, understood as the activation of functional features in one language triggered by input in another language, generates syntactic changes in bilingual grammars, but interference in lexical entries such as the insertion of noun or verbal roots at the word level, termed  $x^0$ -insertion by Muysken (2001), does not (Sánchez, 2003: 13). This hypothesis predicts that it could be possible to relexify a language by insertion of lexical categories at the root level without altering the syntax of a language,<sup>5</sup> but interference in functional features has consequences for the syntactic representation of at least one of the languages spoken by the bilingual.

Related to the notion of functional interference is the notion of functional convergence understood as the selection of a common set of functional features in the two languages spoken by a bilingual individual. The FCH states that convergence takes place when a feature or a set of features not activated in language A is frequently activated by input in language B (Sánchez, 2003: 15). This type of convergence is favoured in situations of societal bilingualism in which bilingual speakers are exposed to input from a wide range of speakers at different stages of language development and with different levels of dominance in each language. Thus, though it is possible for bilingual individuals to develop different and clearly distinct grammars based on different sets of functional categories (Meisel, 1986; Paradis & Genesee, 1996), for some individuals interference may result in convergent representations at the steady state (Sánchez, 2003).

The FCH assumes a view on convergence similar to that presented in Myers-Scotton (2002). Convergence is a mechanism and is also the linguistic result of a common selection of features for two languages. In Myers-Scotton's proposal, convergence as a mechanism 'is initiated in the mental lexicon when lemmas underlying content morphemes from what was the lesser dominant language (...) achieve a level of activation more similar to that of the more dominant language' (Myers-Scotton, 2002: 101). The FCH also assumes that convergence is a mechanism that activates a common set of functional features for equivalent functional categories in two languages in the bilingual mind. Another similarity to Myers-Scotton's proposal is that it deals with abstract properties of a language and not with morpheme units. The FCH differs from Myers-Scotton's proposal, in that it ascribes the properties of syntactic convergence exclusively to functional features to the exclusion of lexical items. The notion of a functional feature is closer, although not identical, to Myers-Scotton's notion of a lemma that supports system morphemes in the mental lexicon. In that respect the FIC and the FCH deal with interference and convergence as processes that affect abstract features, which are of a functional nature and not of a content or lexical nature.<sup>6</sup> The exact inventory of functional features in human languages can be a matter of open debate but in so far as tense, modality and aspect features are distinct from those that inform the lexical content of noun and verb roots, I will treat

desiderative and imminent features as functional features that are part of the tense/modal/aspect system of a language and as such can be the object of interference and convergence.<sup>7</sup>

In this paper, I test the adequacy of the predictions made by the FIH and the FCH. I look for evidence of syntactic changes in one of the languages spoken by the bilinguals due to interference in desiderative and imminent features irrespectively of differences in morphological encoding. I also look for evidence of functional convergence due to frequent activation of a feature not shared by the two languages, in this case the imminent feature. Finally, I discuss the role that discourse conditions play in favouring interference and convergence in functional features.

## Progressive Tenses and Modality in Lamas Kechwa and Spanish

### Kechwa progressive and desiderative suffixes

Lamas Kechwa is a SOV word order language with a rich paradigm of inflectional and derivational morphemes (Coombs *et al.*, 1976). Like many of the other languages in the Quechua family, it has a wide range of suffixes that modify the meaning of the verb root adding modality and aspectual values. I assume that the grammatical meanings associated with these suffixes are functional features that are part of the inventory of abstract features represented in the minds of Kechwa speakers. Thus, the modal abstract features {desiderative, imminent} are expressed in Kechwa with the suffix *-naya* and the aspect feature {progressive} with the suffix *-yka*.

These suffixes are not in complementary distribution. When they co-occur, they are ordered<sup>8</sup>:

- (8) Miku-naya-yka-n  
Eat-desiderative-progressive-3p  
'(S/he) is wanting to eat'
- (9) \*Miku-yka-naya-n  
Eat-progressive-desiderative-3p  
'(S/he) is wanting to eat'

Based on their surface ordering as well as on their interaction with other suffixes such as the causative suffix *-chi* (see endnote 8), I propose that the syntactic representation of sentences such as (8) mirrors the surface ordering of these suffixes. The suffix *-naya* heads a modal phrase located above the verbal phrase and the suffix *-yka* is the head of an aspect phrase located higher than the latter. The following schema shows the feature-morpheme-phrase correspondences:

- |      |              |   |                          |   |               |
|------|--------------|---|--------------------------|---|---------------|
| (10) | <i>-naya</i> | → | {desiderative, imminent} | → | modal phrase  |
|      | <i>-yka</i>  | → | {progressive}            | → | aspect phrase |
|      | <i>miku-</i> | → | verbal root              | → | verbal phrase |

I will turn now to the expression of desiderative modality and progressive aspect in Spanish. Spanish does not have desiderative suffixes. It has phonologically independent modal verbs such as *querer* 'to want' that express desire and requires a periphrastic verbal form to express modality:

- (11) Quier-o mir-ar  
 Want-1s present see-inf  
 '(I) want (to) see'

Progressive features are also associated with a periphrastic verbal form composed of the auxiliary verb and a gerund, as shown in (12):

- (12) Est-á mir-ando  
 Be-3s pres look-gerund  
 '(S/he) is looking'

In her work on aspect in Spanish verbs, Zagona (2000) proposes that auxiliary verbs in Spanish such as *está* 'is' in (12) are independent heads that take complements with aspectual properties such as the gerund *mirando* 'looking'. Picallo (1990) proposes that the modal verb *querer* 'to want' in (11) is also an independent verb with modal properties. If both proposals are correct, sentences (11) and (12) involve an independent auxiliary verb that takes as its complement a lower verbal phase with aspectual properties in the case of the gerund. The correspondences are shown in (13):

- |                           |   |               |   |                                  |
|---------------------------|---|---------------|---|----------------------------------|
| (13) <i>Está comiendo</i> | → | {progressive} | → | Verbal phrase +<br>aspect phrase |
| (14) <i>Quiero comer</i>  | → | {modal}       | → | modal phrase +<br>verb phrase    |

One of the most salient differences between the two languages is that while in Kechwa modality and aspect are expressed through suffixes, in Spanish periphrastic forms are required. Additionally, in most varieties of Spanish, the modal verb *querer* 'to want' does not have an imminent meaning and is not used in periphrastic expressions with progressive features.

Given these differences, in order to avoid cross-linguistic interference in these structures, the bilingual mind must keep separate: (a) syntactic representations involving similar phrasal projections (verbal phrase, aspect phrase and modal phrase), (b) a partially similar set of functional features (the only diverging feature is imminent) and (c) their association to different types of morphological units (affixes versus independent heads). If cross-linguistic interference targets only abstract features, as stated by the FIH, we expect changes in the syntactic component only and the morphological component can remain unaltered. In other words, while we might expect interference in abstract categories such as the imminent feature, we do not expect the use of affixes in bilingual Spanish to express modal progressive meanings, as in Spanish these are expressed using periphrastic forms and we do not expect the use of periphrastic forms in bilingual Kechwa as affixes convey those

meanings in Kechwa. If frequent activation of a divergent feature is responsible for convergence, then we expect that the activation of the imminent feature associated with sentences such as (3) and (5) in Kechwa will strengthen its association with periphrastic forms in bilingual Spanish.

## **The Study**

The data analysed in this paper are part of a larger body of data collected between 1998 and 2000 as part of a research project on cross-linguistic interference in Quechua–Spanish bilinguals living in language contact situations in Peru. That project focused on transitive verbs and direct object pronouns and its findings were reported in Sanchez (2003). Two of the data collection methods employed for that larger project were: (a) a questionnaire on biological data and patterns of language use at home and in school and (b) a picture-based story-telling task that sought to elicit transitive verbs using a sequence of pictures containing a frog story (Mayer & Mayer, 1992). In examining the bilingual Spanish data, the use of *estar + queriendo + V* ‘is wanting to + V’ forms became salient. In order to determine whether these were cases of functional interference, I examined the frequency of the periphrastic form as well as that of its Kechwa counterpart in the narratives of 30 Kechwa–Spanish bilingual children and in those of 25 Spanish-dominant children. The main goal of this particular study was to probe the predictions of the FIH and the FCH using the different types of morphological patterns present in Kechwa and Spanish as a test for alterations in syntax without morphological change and the diverging imminent feature as a test for convergence under constant activation. I must note that the bilingual participants in this study live in a language contact situation in which Spanish is viewed as a language of prestige by the larger society, while Kechwa, although it belongs to the most widely spoken indigenous family of languages in Peru, has low social prestige.

## **Participants**

The Kechwa–Spanish bilingual children who participated in the study are members of one of the most culturally representative communities among Kechwa-speaking groups in the San Martín area. The district of Wayku is the centre of Lamas cultural traditions and hosts the main organisations representing the Kechwa-speaking communities of the region. The efforts made by the teachers in the community, who are themselves bilingual in Kechwa and Spanish, to provide students with a bilingual education programme are indicative of a positive attitude towards the revitalisation of the language in the community. However, language shift is taking place in favour of Spanish and the number of speakers of Spanish is increasing. In such a language contact situation, it is difficult to determine for each individual to what extent he or she is an L2 learner of Spanish or a Kechwa–Spanish bilingual from birth. I will use the children’s patterns of language use at home and in school as indicators of their level of access to input and interaction in both languages.

At the time of data collection, the bilingual children spoke Kechwa and Spanish at home, and attended a Kechwa–Spanish bilingual programme in Grades 4–6. Their ages ranged from 9 to 13. Fourteen participants in the group were female and 16 male. 73.3% of the children declared that their mothers speak to them in Kechwa and in Spanish at home, 16.7% said that their mothers speak to them only in Kechwa and 6.7% said that they speak to them only in Spanish. The remaining 3.3% corresponds to a child whose mother is not alive. A very similar distribution was found with respect to the languages used by siblings to address the children (Kechwa and Spanish 73.3%, Spanish only 16.7% and Kechwa only 10%). No child reported that his or her grandmother speaks to him or her in Spanish and 33.3% of the children reported that their grandmothers spoke to them only in Kechwa. 43.3% reported that they spoke to them in both languages. 40% of the children reported that their teachers addressed them in Kechwa and Spanish, 26.67% in Kechwa only and 33.33% in Spanish only. 30% of the children declared that they use both languages in the classroom, 23.33% only Kechwa and 46.67% only Spanish (Sánchez, 2003: 75–81). In general, one could say that most of these children have access to input in Kechwa and Spanish, although an important part of their Spanish input comes from L2 learners.

The comparison group consisted of 25 Spanish-dominant children from the district of San Juan de Miraflores in Lima, Peru. Lima is the urban centre that attracts the largest percentage of migrants from rural areas of Peru. The district of San Juan de Miraflores is one of the districts that traditionally attract rural immigrants, many of them indigenous Quechua speakers. The children were chosen as an appropriate comparison group because they have a similar socioeconomic background to that of the children in Lamas, although they live in an urban area. Also, they have at least one Quechua–Spanish bilingual parent. This characteristic could be revealing of the role that minimal input in Quechua and limited input in L2 Spanish has in favouring the use of the periphrastic form in Spanish. Twelve participants in the group were female and 13 male. They attended a Spanish elementary school in Grades 4–6. Their ages ranged from 8 to 12 years old. In terms of their patterns of linguistic input at home, 68% said that their mothers speak to them only in Spanish, 28% of the children declared that their mothers speak to them in Quechua and in Spanish and the remaining 4% corresponds to a child whose mother is not alive. No child declared that his/her mother spoke to him/her only in Quechua. 80% of the children said that their siblings address them in Spanish only and 20% have no siblings. No child reported that their siblings spoke Quechua to them. 29% of the children reported that their grandmothers spoke to them only in Spanish, 17% reported that they spoke to them in both languages and 4% reported that their grandmothers speak only Quechua; 50% of the children do not have a living grandmother or one living close to them. All the children reported that they used only Spanish to address all members of their families and to address their classmates and teachers in school. In the continuum that usually characterises bilingual societies, these children can be considered as receiving most of their input in Spanish, although part of this input comes from L2/bilingual speakers of Spanish. The children themselves have little

functional use of Quechua and perceive the language as highly stigmatised in their environment.

### **Task**

The children were asked to narrate a frog-story based on a series of pictures adapted from Mayer and Mayer's (1992) *One Frog too Many*. Bilingual children narrated the stories in the two languages and the Spanish-dominant children narrated them only in Spanish, as they have no functional use of Quechua.

### **Data-coding**

Verbs in the Kechwa narratives were coded distinguishing between progressive, non-progressive, desiderative only and desiderative and progressive forms as well as Spanish loans. The following examples illustrate each type:

#### *Progressive*

- (15) Suk wambriyu api-yka-n suk papel-ta<sup>9</sup>  
A boy pick up-prog-3sg paper-acc  
'A boy is picking up a piece of paper'

#### *Non-progressive*

- (16) Suk wambriyu tiyari-shka-n  
A boy seat-past perf-3sg  
'A boy sat down'

#### *Desiderative*

- (17) Sapitu urma-naya-n yaku-pi  
Toad fall-desiderative-3p water-loc  
'The toad wants to fall in the water'

#### *Desiderative and progressive*

- (18) Kay achku muku-chi-naya-yka-n kay sapitu-ta  
This dog bit-caus-desiderative-prog-3sg this toad-acc  
'This dog is wanting to have this toad bit'

#### *Spanish loan/mixing*

- (19) Suk achku <reí> (Sp.)  
A dog laughed  
'A dog laughs'

Verbs in the Spanish narratives were coded according to whether they were progressive, non-progressive, modal periphrasis (*quiere + infinitive*), modal progressive periphrasis (*está queriendo + infinitive*) or a different periphrasis:

*Progressive*

- (20) Este hombre #<sup>10</sup> está tocando un cartoncito  
 This man # is touching a board  
 'This man is touching a (little piece of) cardboard'

*Non-progressive*

- (21) Este motelu murió  
 This turtle died  
 'This turtle died'

*Modal: Quiere + infinitive*

- (22) Esta tortuga [/] quiere entrar en su cajón.  
 This turtle wants to get in his box  
 'This turtle wants to get inside his box'

*Modal progressive: Está + queriendo + infinitive*

- (23) Un wamrillu (e)stá queriendo agarrar su sapo  
 a boy (i)s wanting (to) grab his toad  
 'A boy wants to grab his toad'

*Other combinations*

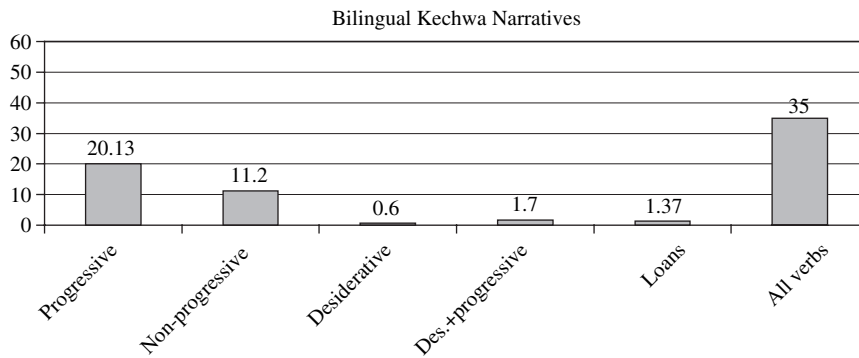
- (24) Está viendo caminó (for *caminar*)  
 Is looking walk  
 '(S/he) is looking at him walk'

**Results and Discussion**

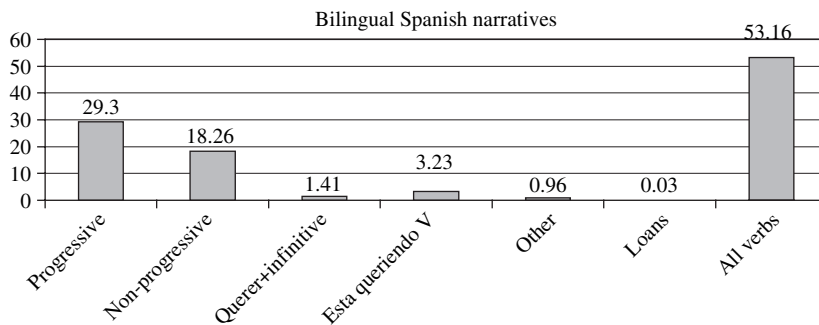
One important characteristic of the data is that the bilingual Spanish narratives did not contain instances of affixes to convey progressive desiderative meanings and that no child used independent auxiliary verbs in their Kechwa narratives to convey those meanings.<sup>11</sup> Even in instances of codemixing they inserted verbal roots with Kechwa suffixes, as in *agarrayka* 'is grabbing', or inserted full Spanish verb phrases such as *está corriendo* 'is running'. There were no instances of Kechwa auxiliary verbs conveying desiderative progressive meanings combined with Spanish gerunds either. This indicates that the morphological patterns of the two languages have remained unaltered in this group of speakers.

Figures 1–3 show the average number of verbs produced in each category of verbal expression in the bilingual Kechwa, bilingual Spanish and Spanish narratives respectively.

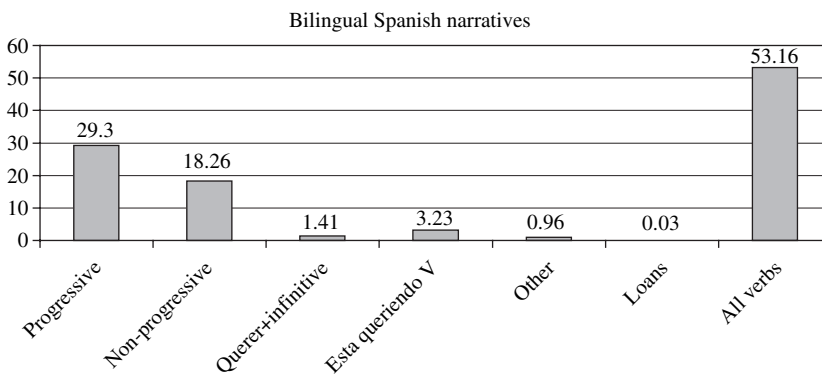
The results show that bilingual speakers favoured progressive forms in both languages, unlike Spanish-dominant children, who favoured non-progressive forms. These were mostly past tense verbs. This striking difference in the use of progressive forms in both groups could be attributed to a different interpretation of the task. Thus, while the Spanish-dominant children



**Figure 1** Average number of verbs in bilingual Kechwa narratives



**Figure 2** Average number of verbs in bilingual Spanish narratives



**Figure 3** Average number of verbs in Spanish narratives

produced more past tense forms than progressive forms in their narratives, the bilingual children made extensive use of picture description to narrate the events. This difference in the treatment of narratives has also been reported by Lanza (2001), as a feature of the frog-story narratives of a very young Norwegian–English bilingual child. It has also been noted by Sebastian and Slobin (1994) that L1 acquirers of some Latin American varieties of Spanish such as Argentinian and Chilean Spanish use the present progressive forms at

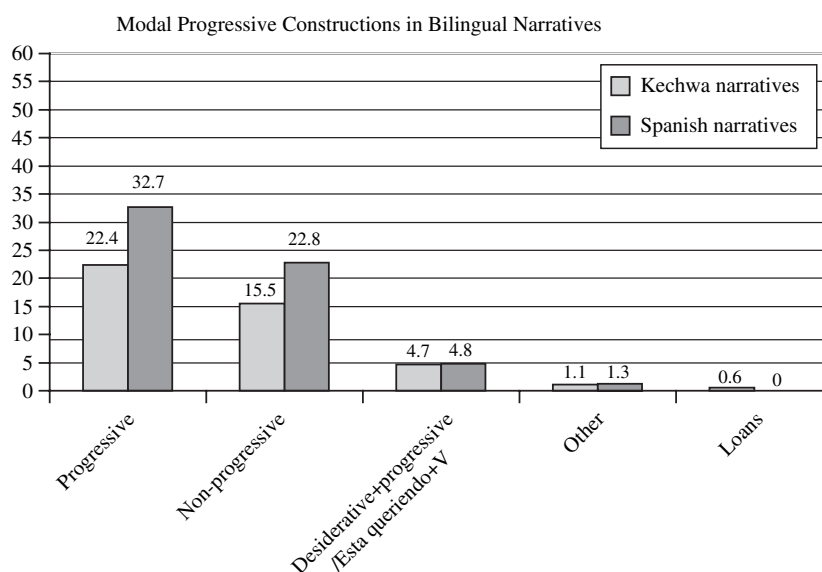
ages 3–4 more often than older children in their frog stories. They also use the strategy of organising the narration as a series of picture descriptions more frequently than older children. This difference could be indicative of differences in literacy practices between the indigenous bilingual children and the Spanish-dominant children in this study. Despite this different pattern, it is remarkable that no instances of the modal progressive form were found in the Spanish-dominant group's narratives, especially as 21 children did produce some progressive forms (5 tokens on average) and eight children produced the modal periphrasis (1.3 tokens on average). The average number of tokens for the modal progressive among bilinguals was 3.64 and 0 among the Spanish-dominant children.

A closer inspection of the distribution of these forms shows that out of the 30 bilingual children, three (10%) used modal progressive expressions only in Kechwa, ten (33.33%) used them in both languages, eleven (36.6%) used them only in Spanish and six (20%) did not use them in either of the languages. Thus, 69.9% of the bilingual children used modal progressive expressions in Spanish while no child in the Spanish-dominant group used them.

Desiderative progressive and modal progressive were the least frequent forms in the narratives of the bilingual children, but among the children who used them in both languages, the average number of occurrences of the expressions in each language was similar, as shown in Figure 4.

The number of tokens used by each of these nine children in both languages is shown in Tables 1 and 2.

Participants with the higher number of desiderative progressive forms in the two languages combined were participants L16, L8 and L30. Participant L16 produced 13 tokens in Kechwa and 16 in Spanish. This speaker



**Figure 4** Average number of *desiderative progressive* and *modal progressive* forms in the narratives of bilingual children

**Table 1** Individual results from bilingual Kechwa narratives

<i>Participant</i>	<i>Progressive</i>	<i>Non-progressive</i>	<i>Desiderative + progressive</i>	<i>Other</i>	<i>Loans</i>
L6	39	11	3	0	0
<b>L8</b>	<b>2</b>	<b>5</b>	<b>4</b>	<b>0</b>	<b>0</b>
L14	10	71	2	4	4
<b>L16</b>	<b>6</b>	<b>10</b>	<b>13</b>	<b>2</b>	<b>2</b>
L19	26	6	1	0	0
L21	24	0	1	0	0
L23	32	34	3	0	0
L24	41	2	2	2	0
L25	25	6	3	3	0
<b>L30</b>	<b>19</b>	<b>10</b>	<b>15</b>	<b>0</b>	<b>0</b>

**Table 2** Individual results from bilingual Spanish narratives

<i>Participant</i>	<i>Progressive</i>	<i>Non-progressive</i>	<i>Esta queriendo + infinitive</i>	<i>Other</i>	<i>Loans</i>
L6	58	24	2	7	0
<b>L8</b>	<b>13</b>	<b>21</b>	<b>13</b>	<b>1</b>	<b>0</b>
L14	40	63	5	0	0
<b>L16</b>	<b>18</b>	<b>20</b>	<b>13</b>	<b>0</b>	<b>0</b>
L19	30	10	1	0	0
L21	32	17	1	0	0
L23	34	33	3	1	0
L24	47	17	2	3	0
L25	34	12	3	1	0
<b>L30</b>	<b>21</b>	<b>11</b>	<b>5</b>	<b>0</b>	<b>0</b>

declared that he interacted with his mother and siblings in Kechwa and with his father in Kechwa and Spanish and that he used only Spanish in school.

Participant L8 produced 4 desiderative progressive forms in Kechwa and 13 in Spanish. He declared that he interacted only in Kechwa with his mother and grandmother and in both languages with his father and siblings. In school he used only Spanish.

**Table 3** Number of progressive-desiderative tokens

Mikunayaykan/mukunayaykan	Wants to/is about to eat/bite	15
Apinayaykan	Wants to/is about to pick up/hold	11
Yuka-( ~ yuku)-nayayka/ brinkanayaykan	Wants to/is about to jump	10
Makanayaykan	Wants to/is about to hit	4
Urmanayaykan	Is about to fall	2
Rinayaykan	Is about to go/leave	2
Wakanayaykan	Is about to/wants to yell/cry	2
Ratichanayaykan	Wants to be together	1
Pusanayaykan	Is about to lead them	1
Chukanayaykan	Is about to pull	1
Rikunayaykan	Wants to/is about to look	1

**Table 4** Number of modal progressive tokens

(E)stá queriendo agarrar	Wants to/is about to pick up/grab/hold	18
Está queriendo morder/comer	Wants to/is about to bite/eat	18
Está queriendo brincar	Wants to/is about to jump	7
Esta queriendo ir/salir	Wants to/is about to go/leave	9
Está queriendo subir	Wants to/is about to go up	4
Está quer(i)endo bandea(r)	Wants to/is about to stir	3
Esta queriendo botar	Wants to/is about to throw	2
Está queriendo abrir	Wants to/is about to open	2
Está queriendo sacar	Wants to/is about to take out	2
(E)stá queriendo dar	Wants to/is about to give	2
(Es)tá queriendo entrar	Wants to/is about to enter	2
Other intransitive		7
Other transitive		18

Participant L30 produced 15 tokens in Kechwa and 5 in Spanish. He declared that he interacted in both languages with his mother and father but mostly in Kechwa with his grandmother and some siblings and mostly in Kechwa in school.

These patterns indicate more frequent interaction in Kechwa than in Spanish and presumably dominance in Kechwa. I would like to point out

that, although they might be dominant in Kechwa, these children were able to produce complete narratives in Spanish and they attend a bilingual school with bilingual teachers themselves who have high levels of proficiency in Spanish.<sup>12</sup> It is possible that dominance as well as higher levels of activation of Kechwa in these children strengthen the association of the imminent feature to the periphrastic form in Spanish.

As for the 10 participants who used the expression in both languages, they all declared that they used both languages at home with relatives and only one of them said that she used Spanish only to interact with her parents although they are bilingual. This participant also declared that she uses both languages to interact with her grandfather at home.

It is difficult to identify distinct patterns of language use at home or in school for those children who used the form only in Kechwa or only in Spanish. I would like to point out, however, that there were no children who were addressed by all of their relatives at home only in Kechwa or only in Spanish. Finally, five out of the six children who did not use the form in either language declared that they use both languages at home and one declared that she uses Kechwa with parents and grandparents but Spanish with her siblings. An interesting fact about these children is that on average they had more non-progressive forms in their Spanish narratives than the other children (24.33%) compared to the general average of (18.26%). To summarise, a total of 43.3% of the bilingual children used modal progressive forms in Spanish and 66% used them in Kechwa. Among those who used them in both languages, those with a family network that privileges the use of Kechwa seem to have the highest frequency of modal progressive forms.

In order to examine the discourse conditions that favour this kind of interference, I looked at the lexical verbs used in desiderative progressive form in the Kechwa narratives and in modal progressive form in the Spanish ones. They are semantically very similar (see Tables 3 and 4). As shown in Table 3, the verbs *mikuy* 'eat' and *mukuy* 'bite' and *yukay*, *brinkay* 'jump' were the most frequent in the Kechwa narratives.

The following examples from the narratives of participants L8, L16, L25 and L30 illustrate the use of these verbs.

### **Participant L8**

- (25) Kay uchku (achku) muku-chi-naya-yka-n kay sapitu-ta  
 This dog bite-caus-des-prog-3 this toad-ac  
 'This dog is about to/ wants to bite this toad'

### **Participant L16**

- (26) Achku miku-naya-yka-n  
 Dog eat-des-prog-3  
 'The dog wants to/is about to bite'

**Participant L25**

- (27) Chay achku miku-naya-yka-n  
That dog eat-des-prog-3  
'That dog wants to/is about to eat'

**Participant L30**

- (28) Chay achku miku-naya-yka-n chay sapitu-ta  
That dog eat-des-prog-3 toad-ac  
'That dog wants to/is about to eat that toad'

Similarly, in the Spanish narratives produced by the bilingual children, the verbs *agarrar* 'to grab or hold', *morder* 'to bite' and *comer* 'to eat' as well as *brincar* 'to jump' elicited most of the instances of modal progressive forms, as shown in Table 4.

The following sentences illustrate the use of these forms with the verbs *morder* 'to bite' and *comer* 'to eat' by participants L8, L16, L25 and L30.

**Participant L8**

- (29) El perro le (e)stá queriendo morder al motelu  
The dog cl is wanting to bite the turtle  
'The dog wants/ is about to bite the turtle'

**Participant L16**

- (30) Y el perro le (e)stá queriendo morder a ese sapo.  
And the dog is wanting to bite the toad  
'And the dog wants to/ is about to bite the toad'

**Participant L25**

- (31) Y (a) su sapo le está queriendo morder su perro  
And his toad cl is wanting to bite his dog  
'And his dog wants to/ is about to bite his toad'

The figure that elicited most of the instances of desiderative progressive forms in Kechwa and modal progressive forms in bilingual Spanish is Figure 5 (Sánchez, 2003: 163).

The similarities in the semantic content of the verbs that elicited the desiderative progressive forms in Kechwa and the modal progressive in Spanish and their correspondence to specific events in the sequence suggest that the children's perception of an event as imminent as well as a discourse condition that forces the overt grammatical expression of imminent events in Kechwa favoured the selection of the divergent feature for Spanish.



**Figure 5** Source: Sánchez (2003: 163)

## Analysis

These preliminary results provide some support for the FIH, as interference in the imminent functional feature results in changes at the syntactic level, namely the use of the modal progressive periphrastic form *está queriendo + infinitive* in the narratives of 69.9% of the bilingual children. These forms were absent in the narratives of the Spanish-dominant group performing the same task. I take this to indicate that these forms are part of the mental representation of Spanish for a majority of the bilingual children. Despite receiving partial input from L2/bilingual speakers of Spanish, the children in the Spanish-dominant group have not developed these forms or, if they have a mental representation for them at all, they do not use them under the same discourse conditions that favour their own use of progressive forms or the use of these forms by bilingual children.

The data also provide support to the view that functional interference affects only the syntactic component. There was no evidence that the morphology of either of the two languages was affected as there were no uses of independent modal verbs in Kechwa and no uses of suffixes to convey desiderative or imminent readings in Spanish.

The fact that modal progressive forms were found in the Spanish narratives of 69.9% of the bilingual children and that they were favoured by an image depicting an action that the children viewed as imminent indicates that the link between the imminent feature and this construction is becoming strong in this community and it suggests that frequent activation of a language with a divergent feature has resulted in a shared {imminent} feature associated with

the desiderative progressive form in Kechwa and with the modal progressive form in Spanish. This lends support to the FCH.

I will now turn to a limitation of this study that needs to be addressed in further research: the different interpretation of the task by bilingual and Spanish-dominant children. The absolute absence of modal progressive forms in the narratives of Spanish-dominant children could be due to the absence of such forms in the mental representation of monolinguals or to the fact that they did not perceive the images as depicting an imminent action. As noted before, the Spanish-dominant children had on average a higher frequency of non-progressive forms in Spanish than the bilingual children. Most of these were past forms. Perhaps progressive forms are in complementary distribution with past tense forms in narration. If this is the case, the use of past tense forms by the Spanish-dominant children precluded the occurrence of modal progressive forms in the narratives and the main difference between the bilingual children and the Spanish-dominant children was a different set of discourse conditions applied to the task. However, the absence of modal progressive forms in L1 acquisition data from other varieties of Spanish as well as their absence in some Spanish-dominant children's narratives despite the presence of other progressive forms points in the direction of a lack of such a representation among the Spanish-dominant group. In order to overcome this difficulty, more experimental testing is required to elicit the modal progressive construction in contexts interpreted as involving an imminent action by Spanish-dominant children.

## **Conclusions**

This exploratory study sheds some light on the role that feature selection, similarity in syntactic structure and discourse constraints play in favouring functional interference in bilingual children who live in a language contact situation. Functional interference is a phenomenon that can affect the syntactic component without altering the morphological component. It is favoured by similarity in discourse conditions and in feature specification and it may lead to convergence in features in some speakers, due to frequent activation of a divergent feature. These preliminary findings lend support to the FIH and the FCH's focus on interference in abstract functional features as the locus of cross-linguistic interference and on frequent activation of both languages in language contact situations as the source for convergence.

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### Notes

1. The spelling Kechwa is the one used by the Lamas community. I will use it when referring to that community's language. I will use Quechua when referring to other varieties.
2. See Romaine (1999) for a grammaticalisation account of the emergence of the marker *laik* 'want/like/desire' (from English *like*) with an imminent or proximate meaning in Tok Pisin. I will argue in favour of cross-linguistic interference as the source of the desiderative/imminent reading of the *estar queriendo* + infinitive construction in Kechwa–Spanish bilinguals based on the fact that several studies have shown evidence of cross-linguistic interference in the tense, evidentiality and aspectual systems of the two languages (Escobar, 1994; Klee & Ocampo, 1995; Sánchez, 2004).
3. Apparently, it is possible in some Latin American varieties for the modal verb *querer* 'to want' to have an imminent meaning with weather-related verbs in forms such as *quiere llover* 'it is about to rain' but not with all verbs. Contact with indigenous languages might have rendered the imminent reading more likely to emerge in Latin American Spanish but its distribution seems more limited than in Quechua. That language contact is at the origins of this phenomenon is supported by the total absence, to the best of my knowledge, of the modal progressive construction in European Spanish.
4. Other possibilities include a scattered distribution of features across syntactic nodes (Giorgi & Pianesi, 1997).
5. An example of this type of language is Media Lengua, a language in which most of the lexicon comes from Spanish while morphological markings and syntactic properties are Quechua (Muysken, 2001).
6. I do not explore in this study codeswitching or codemixing practices, although they are evidence of the constant activation of the two languages in the bilingual.
7. The focus on functional features does not preclude that cross-linguistic interference might take place in the interface between the lexicon and syntax as is the case in the mapping of argument structure onto lexical items. However, focusing on functional features might help in the understanding of why some types of cross-linguistic interference are more pervasive than others. In particular, TMA systems appear to be more prone to evolution and change in language contact situations.
8. There is evidence in Quechua that these suffixes do interact with other suffixes and that their scope is affected by differences in argument structure. When *-yka* co-occurs with the causative suffix *-tsi* or *-chi*, it always has wide scope over the *verb* + *causative* form, but when *-naya* co-occurs with the causative, it may have wide scope (Cerrón-Palomino, 1989), as shown in (i), or narrow scope, as shown in (ii):
  - (i) Wañu-*chi-naya*-wan  
Die-causative-desiderative-1obj-3subj  
'I feel like killing (somebody)'
  - (ii) Wañu-*naya-chi*-wan  
Die-desiderative-causative-1obj-3subj'  
(Somebody) makes me feel like dying'
9. Cross-linguistic interference in sentence canonical word order is also pervasive in bilingual Kechwa (Sánchez, 2003).
10. The symbol # is used to indicate a pause.

11. No uses of the verb *munay* 'to want' as a modal with a progressive form were found:
  - (i) \*Miku-y-ta muna-yka-n  
eat-infinitive-acc want-progressive-3 sg  
'(S/he) is wanting to eat'
12. In oral interviews with the three teachers and the school principal, they all demonstrated high fluency in Spanish. All of them received teaching education in Spanish. They use both languages in differentiated classroom activities.

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