Title: Functional Interference and the Dissociation between Morphology and Syntax in Kechwa-Spanish Bilingual Grammars

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Short title: Interference in Kechwa-Spanish Bilingual Grammars
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Abstract

This paper presents an exploratory study on cross-linguistic interference among indigenous Kechwa-Spanish bilingual children (n = 30) living in a language contact situation. Its preliminary findings show evidence of cross-linguistic interference from Kechwa desiderative progressive forms involving suffixes such as miku-naya-yka-n (eat-des-prog-3) ‘S/he wants to/is about to eat’ in Bilingual Spanish modal progressive structures involving auxiliary verbs such as está queriendo comer ‘wants to/is about to eat’. These latter verbal forms convey a desiderative and an imminent aspectual meaning not grammaticalized in other varieties of Spanish, as attested by the absence of these forms in the narratives of a comparison group of Spanish-speaking children (n = 25). The paper focuses on cross-linguistic interference that affects modal and aspectual features in Kechwa-Spanish bilingual grammars despite the striking differences in the morphological parametrization of the two languages. It is argued that similarities in syntactic structure and discourse conditions play an important role in favoring cross-linguistic interference in steady state bilinguals. These preliminary findings underscore the need to expand the study of the dissociation between morphology and syntax in L2 acquisition (Lardiere 1998, Prevost and White 1998, White 2003) to the study of dissociation in bilingual morphological and syntactic representations at the steady state.
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 (Meisel 1986, Genesee 1989, Paradis and Genesee 1996, Paradis 2000 Petito et al. 2001, among others). At the same time, cross-linguistic interference has been recognized as pervasive in the speech of young bilingual children (Müller, Hulk and Jakubowicz 1999). In order to reconcile the strong evidence in favor of autonomous syntactic representations in early bilingual acquisition 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 (Hulk and Müller 2000, Müller and Hulk 2001, Sorace and Serratrice 2003). Recently, studies focusing on cross-linguistic interference in heritage bilinguals (Montrul 2004, In press) have explored the question of what levels of linguistic representation are affected by interference in adult bilinguals. Several studies have provided evidence that it is the interface between syntax and the interpretive component (Zapata, Toribio and Sanchez 2004, Montrul 2004) that is sensitive to cross-linguistic interference.

In this paper, I present a preliminary study that raises the question of what is the role of diverging morphological patterns in cases of bilingual cross-linguistic interference. I concentrate on the case of cross-linguistic interference in modal and aspectual functional features in Lamas Kechwa, spoken in the Amazonian region of San Martin in Peru and Spanish spoken in the town of Lamas, a unique Kechwa-speaking community in the Amazonian region of Peru.
Cross-linguistic interference in aspect and modality between these two languages is of special interest given their striking differences in morphological marking. Progressive features are encoded on the verb in Lamista Kechwa using the suffix –yka (Coombs, Coombs and Weber 1976, Park and Wyss 1995):

(1) Kawa-yka-n

look-prog-3s

“Is looking”

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

(2) Está mirando

“Is looking.”

Additionally, Kechwa combines progressive forms with VP-internal modality using the 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). This is the case of expressions such as:

(3) Maka-naya-yka-n

“Wants to/is about to hit.”

In Spanish, the periphrastic form of the progressive involves the auxiliary modal verb *querer* ‘to want’ and the infinitival form, as in:

(4) Quiere comer

“Wants to eat.”
While the periphrastic form *está queriendo comer* ‘is wanting to eat’ is a possible grammatical derivation in Spanish, it does not convey the grammatical notion that the event referred to by the main verb is imminent.

Given the differences in morphological marking, the question that I address in this paper is: To what extent can interference affect modal and aspectual features without affecting morphology? This question is relevant since previous studies in the field of second language acquisition have shown that some dissociation between morphology and syntax is possible in L2 acquisition during development and even at the steady state (Lardiere 1998, Prevost and White 2000). In particular, data from a native speaker of Chinese that reached a steady state of development in her L2 English has shown that it is possible to master syntactic representations in an L2 without achieving native-like command of morphology (Lardiere 1998). The evidence in favor of patterns of dissociation between knowledge of syntax and knowledge of morphology comes also from the field of language contact. Studies on the restructuring of morphological paradigms have shown that simplification and convergence do not necessarily affect the syntactic representations of adult bilinguals (Klein 1980, Thomason and Kaufman 1988, Muysken 2000). There is also evidence that contact situations favor the grammaticalization of aspectual features without affecting the syntactic make-up of a language (Romaine 1999).

In this study, I analyze data from picture-based oral narratives by 30 Kechwa-Spanish bilingual children that indicate that, while bilinguals tend to clearly differentiate affixation and auxiliary selection in the two languages they speak, there is emergence in Bilingual Spanish of periphrastic forms such as (5) to convey imminent action in discourse.
(5) Está queriendo salir
   “Is wanting to come out”

These forms were absent from narratives based on the same task performed by a comparison group of 25 Spanish monolingual children.

The results of this study provide support to the view that cross-linguistic interference in specific grammatical features is favored by similarity in syntactic representation and discourse conditions.

The paper is organized as follows. In the first section, I present the theoretical assumptions on grammatical features and cross-linguistic interference adopted in this paper. In the second section, I propose syntactic representations for modal and aspectual structures in Kechwa and Spanish. 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.

1. **Defining cross-linguistic interference in functional categories**

From a generativist perspective, human languages are characterized by exhibiting 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 mood 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 categories, however, are not necessarily minimal units clearly identifiable in syntax and morphology. In fact, they do not correspond to a single morphological unit in all languages. For example, the last morpheme in the word *com-ia*
“ate” in Spanish is marked for past tense, imperfective aspect, third person and singular number, all of these involving at least three different functional categories: tense, aspect and number. This syncretism poses a general problem for the analysis of correspondences between morphology and functional categories and a specific problem for the study of cross-linguistic interference in bilinguals, since interference in features might not correspond to interference in morphological units. Rather than focusing on categories as units with a correspondent morpheme, recent minimalist approaches focus on functional features defined as basic units in the lexicon of human languages that are used to form arrays or matrices used in the derivation of a sentence (Chomsky 1998). The exact correspondence between features and their morphological counterparts is subject to varied specifications across languages (Giorgi and Pianesi 1997). The logical possibilities range from languages in which there is a one-to one correspondence between functional features, syntactic nodes and morphological units to languages in which a matrix of features corresponds to a single syntactic node and a single morphological unit.²

The two extremes of this continuum are presented in (1) and (2):

(6) \[ F_a \rightarrow F_aX \rightarrow \text{morpheme}_a \]
(7) \[ F_{a,b,c,d} \rightarrow F_A X \rightarrow \text{morpheme}_A \]

In (6), \( F_a \) represents a single functional feature such as tense, \( F_aX \) is the corresponding syntactic projection, in this case a Tense Phrase (TP), and \( \text{morpheme}_a \) is the single morpheme associated with this feature. In (7), \( F_{a,b,c,d} \) represents a matrix of functional features such as tense, aspect and mood associated to a single syntactic node \( F_A X \), in this case a single Tense/Aspect/Mood Phrase projection and to a single morpheme\( A \) that encodes the three features.
Not all languages fall neatly into one of these extreme possibilities in all areas of the grammar. Some languages privilege one-to-one correspondences between functional features, syntactic nodes and morphological units whereas others privilege the syncretism represented in (7). It is also the case that languages allow (6) and (7) in different areas of the grammar. Additionally, it is also possible to conceive that some morphological units are not specified for features and that the correspondence between features and morphological units is not a precise one (Halle and Marantz 1993).

When languages come into contact in the bilingual mind, differences in correspondences between features, syntactic nodes and morphological units have important consequences for the development of different or convergent representations in the two languages. As noted by Muysken (2000), a wide range of processes that affect different components of language, from lexical semantic interference to syntactic interference and convergence, are at play in these contact situations.

Cross-linguistic interference may not affect independent morphological units or categories but functional features, regardless of their morphological form. Let us say that, in language A, a set of interpretable features F₁ {a, b, c} corresponds to a single syntactic node and a single morpheme. Feature c is activated under specific discourse conditions in language A but not in language B, which activates the set of features F₂ {a, b} associated to its corresponding morpheme. If activation of F₁ in language A is frequent in discourse, it may be extended to its equivalent F₂ matrix in language B. Over time the two grammars in the bilingual mind may converge in the use of F₁ under similar discourse conditions and a new feature specification is added to the correspondent morpheme in B.
resulting in cases of functional convergence in the bilingual grammar (Sanchez 2003, 2004).

In this paper, I propose that, under similar discourse conditions, the desiderative suffix –naya and the aspectual feature –yka that modify the meaning of the verbal root in Lamas Kechwa form a matrix of modality and aspectual features that is subject to cross-linguistic interference in Bilingual Spanish. In the next section, I focus on the syntactic representation of modal desiderative and progressive structures in Lamas Kechwa and Spanish.

2. Progressive tenses and modality in Lamas Kechwa and Spanish

Kechwa progressive and desiderative suffixes

Lamas Kechwa is a SOV word order language (Coombs et al. 1976). As many other of the languages in the Quechua family, it has a wide range of suffixes that modify the meaning of the verb root adding an aspectual value. According to Coombs et al. (1976) the desiderative suffix –naya, indicates desire on the part of the subject of the verb to take the action expressed by the verb and, according to Cerrón-Palomino (1994), it also expresses the imminent nature of the verbal action:

(8) Miku-naya-ni

   Eat- desiderative 1p

   “(I) want to/am about to eat”

The suffix –yka is considered by Cerrón-Palomino (1994) as an imperfective aspectual suffix that expresses an action that lasts in time. Coombs, Coombs and Weber (1976) also define –yka as a suffix that expresses continuous action and they add that it corresponds to the progressive form in Spanish:
(9) Kawa-yka-n
See-progressive-3p
“(S/he) is seeing”

Though both suffixes can be interpreted as having an aspectual meaning, they are not in complementary distribution. When they co-occur, they are ordered:

(10) Miku-naya-yka-n
Eat-desiderative-progressive-3p
“(S/he) is wanting to eat”

(11) *Miku-yka-naya-n
Eat-progressive-desiderative-3p
“(S/he) is wanting to eat”

There is evidence in the Quechua language of families that these suffixes do interact with other suffixes and that their scope is affected by differences in argument structure. In particular, this is the case when they co-occur with the causative suffix –tsi or -chi (depending on the variety) as noted for Ancash Quechua by Cerrón-Palomino (1989):

(12) Yaku-ta timpu-tsi-yka-:
Water-acc boil- causative-progressive-1s
“I am making somebody else boil the water”

In (12), the progressive –yka has scope over a complex VP formed by the verb and the causative suffix timpu-tsi. The causative suffix –tsi is the head of a higher VP that takes as its complement a lower VP. The subject position in this lower VP is occupied by a null pronoun that is interpreted as an indefinite (hence the use of somebody else in the translation) and the object position is occupied by the noun phrase yaku-ta ‘water’. The
fact that –yka has scope over the complex VP indicates that the aspectual progressive feature is in a syntactic position above the complex VP.

There are cases in which the causative morpheme appears after –yka in the linear ordering (Cerrón-Palomino 1989):

(13) Yaku-ta timpu-yka-tsi:

Water-acc boil-progressive-causative

“I am making the water boil”

Notice, however, that, according to the interpretation of this sentence, the noun phrase yaku-ta (water) is the subject of the intransitive verb timpu (boil) and the progressive suffix modifies the verb complex formed by the causative suffix and the intransitive verb. Thus, despite the linear ordering, –yka is interpreted as modifying the whole VP.

Similarly, the suffix –naya has scope over the verb modified by the causative suffix:

(14) Wañu-chi-naya-wa-n

Die-caus-desiderative-1-3

“I feel like killing (somebody)”

Unlike the aspectual suffix, however, if it precedes the causative suffix in the linear ordering, it is interpreted in the scope of the causative (Cerrón-Palomino 1989):

(15) Wañu-naya-chi-wa-n

Die-desiderative-caus-1-3

“(Somebody) makes me feel like dying”

This difference in interpretation and the strict ordering of the suffixes (see examples 10 and 11) indicate that –yka occupies a higher position than –naya. The interpretation of the suffixes also suggests that while –yka has a clearly aspectual interpretation, the meaning...
of –*naya* reflects modality rather and aspect. Assuming that aspect and modality features do not necessarily project independent syntactic nodes in Kechwa and can be interpreted as features of higher VP-projections, I propose the following syntactic representation for expressions containing the modal and aspectual suffixes:

(16)  

I will turn now to the expression of progressive aspect and desiderative mode in Spanish. While Kechwa expresses progressive tense through affixation, Spanish uses the auxiliary verb *estar* “to be” followed by a gerund form *mirando* “looking”:

(17)  

Spanish does not have desiderative suffixes although it has independent modal verbs such as *querer* ‘to want’ that express desire:

(18)  

“(I) want (to) see”

The phenomenon that is the focus of this study is a construction that appears in the Spanish narratives of Kechwa-Spanish bilingual children. In this structure, the modal verb *querer* ‘to want’ is combined with the progressive expression, as in:

(19) Est-á quer-iendo mir-ar

Be-3s pres want-gerund (to) see-inf

“(S/he) is about to/ wants to see”

This combination of the auxiliary verb, gerund and infinitival forms to convey progressive aspect and modality is not frequent in discourse in most monolingual varieties of Spanish. If it does occur, it does not convey the idea of an imminent action as (14) does in some contexts. The imminent meaning associated to (14) in Bilingual Spanish is a novel one. In fact, in her work on aspect in Spanish verbs, Zagona (2000) does not include this form. According to Zagona, auxiliary verbs in Spanish are independent heads that take complements with aspectual properties. In order to account for the special morphology of past participles and their aspectual properties, she proposes that auxiliary verbs such as *haber* ‘to have’ select as their complements functional projections involving perfectivity values as in:
In her analysis participles are VP-internal elements since they cannot be in the immediate scope of negation. This is also true of gerunds:

(21) *María había no estudiado

Maria had not studied

(22) *Ana está no estudiando

Maria is not studying

Zagona (2000) assumes, following Laka (1995), that there is a functional projection higher than INFL that hosts negation. The unavailability of negation with participles and gerunds supports the view that they are generated below INFL and inside the VP.

Additionally, gerunds, like participles, are marked for an aspectual value, which is progressive. These characteristics are compatible with an analysis in which gerunds and participles are generated as complements of an aspectual head in Spanish (as in (20) and (23)): 
Let us now turn to modal verbs such as *querer* ‘to want’ in Spanish. They have also been analyzed as independent heads (Picallo 1990). Like auxiliary verbs in Spanish, they allow for clitic climbing as shown by the position of the clitic pronoun in (24 and 25a. and b.):

(24) Lo quiere comer

Cl-3s wants to eat

“(S/he) want to eat it”

(25) a. Lo había comido

Cl-3s had eaten

“(S/he) had eaten it”

b. Lo está estudiando

Cl-3s is eating

“(S/he) is eating it”

Unlike auxiliaries, they can take a negated infinitival clause as their complement:
(26) Martín quería no leer el libro

Martin wanted not to read the book

These characteristics are compatible with an analysis of modal verbs as independent verb heads but, unlike their auxiliary counterparts, they do not select aspectual heads but other VPs as shown in:

(27) \[[\text{IP} \text{pro} [\text{VP} \text{quiere} [\text{VP} \text{comer}]]]]

\[[\text{IP} \text{pro} [\text{VP} \text{wants} [\text{VP} \text{to eat}]]]]

“(He /She) wants to eat”

If this analysis of Spanish is correct, the modal progressive construction *está queriendo comer* found in Bilingual Spanish involves an aspectual head marked for [+progressive] features, an independent modal verb that heads its own projection and a VP headed by the infinitival as in:

(28) \[[\text{VP} \text{Está} [\text{ASP P +prog} [\text{VP} \text{queriendo} [\text{VP} \text{comer}]]]]]

\[[\text{VP} \text{Is} [\text{ASP P +prog} [\text{VP} \text{wanting} [\text{VP} \text{to eat}]]]]]

“(S/he) is wanting to eat”

In so far as aspect can be checked as a feature of the verb *queriendo* and to the extent that one could argue for theoretical reasons that a minimal number of functional projections is desirable, the intermediate Aspectual Phrase could be relabeled as a higher VP. This would result in a syntactic representation very similar to that proposed in (16) for the Kechwa construction. With respect to the array of features that is checked in the two languages, the verb *querer* ‘to want’ in Spanish shares with –*naya*, its desiderative counterpart in Kechwa, a volitional meaning, that is clearly grammaticalized in Kechwa and is partially grammaticalized in Spanish since the verb *querer* ‘to want’ also occurs as
a lexical verb. At the same time, in most varieties of Spanish, the modal verb *querer* ‘to want’ does not have an aspectual feature with an imminent meaning.\(^3\)

This specific construction raises the issue of how the bilingual mind deals with two very similar syntactic representations, a partially different array of grammatical features and different patterns of morphological spell-out. Below, I present a modified schema of Musyken’s (2004) proposal for how to begin to analyze the relationship between languages with different morphological spell out possibilities for categories such as tense, aspect and modality. In this modified schema, I focus on aspect and modality as two different matrices of features.

(29)             Kechwa  Bilingual Spanish / Spanish

Aspect affixes  *  \{ independent heads (gerunds, participles) \}

\[ F(w,x,y,z) \quad F(x,y,z) \]

Modality affixes  *  \{ independent heads (modal verbs) \}

\[ F(x,y,z) \quad F(x,y,z) \]

This schema shows that features that are spelled-out as affixes in Kechwa may be spelled out in Spanish as independent heads, as in the case of modal verbs (example 27), or as phonological/morphological affixes in Spanish, as in the case of tense and mood morphemes such as the present subjunctive illustrated in (30):

(30) Quier-o que veng-as

Want-1-pres that come-2-pres subj

“(I) want you to come”
In this view, in order to avoid cross-linguistic interference, the bilingual mind must keep the morphological spell-out possibilities in each language (affixes vs. independent heads + affixes) as well as the differences in sets of features clearly separate. Muysken’s schema also addresses the issue of the interconnectedness between apparently discrete functional categories such as aspect and mood and tense (the latter not included in this version of the schema). Such interconnectedness is directly evident in languages with synchretic morphemes such as Spanish or Italian (Giorgi and Pianesi 1997), but is less clear in languages in which features appear to be scattered, as proposed by Giorgi and Pianesi (1997) in an almost one-to-one correspondence between features and morphemes, as is Kechwa. The analysis of this particular construction opens up the possibility of viewing cross-linguistic interference among bilinguals living in a language contact situation as a very refined operation that could target morphological forms, partially divergent matrices of features or both. In the case in which it targets only features, it may result in convergence in the array of features selected for a particular derivation, irrespectively of their morphological spell out as independent heads or suffixes. In the next section, I present the data that indicate that this is the case.

3. The study

The data analyzed in this paper is 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. One of the data collection method employed for that larger project was a picture-based story-telling task that sought to elicit transitive verbs using a sequence of pictures containing a typical frog story (Mayer and Mayer 1992). In examining the Bilingual Spanish data, the use of progressive and the
desiderative progressive $estar+queriendo+V$ forms became salient. In order to assess their status in bilingual speech, I coded the frequency of these forms among all verbs that appeared in the narratives of a group of 30 Kechwa-Spanish bilingual children (9-13) and those of a comparison group of 25 Spanish-speaking children living in a monolingual environment.

The goal of this study was to find out whether there are differences in the use of the desiderative progressive forms between the bilingual groups and the Spanish-speaking group to elucidate the level at which interference takes place in modal desiderative forms in Bilingual Spanish. If knowledge of morphology is dissociated from knowledge of syntax, then interference must affect only the selection of functional features in these constructions but not the parametrical differences in morphology, that is, the use of affixes versus independent heads. If there is no interference at the surface morphological level, we expect that bilinguals will use independent heads and affixes appropriately in each of the languages. At the same time, if interference takes place at the feature selection level, we expect the bilingual Spanish grammar to encode the one feature in which the two languages diverge: +/-imminent.

An additional goal of this study was to identify the discourse conditions that favor the use of modal desiderative forms among bilinguals and that are presumably at the basis of cross-linguistic interference. In order to pinpoint which conditions favor the expression of desiderative progressive expressions I examined the types of verbs that appeared most frequently in this construction.
Participants

The study was conducted among 30 Kechwa-Spanish bilingual children. At the time of data collection, they spoke Kechwa and Spanish at home and in school where they attended a Kechwa-Spanish bilingual program in grades 4-6. Their ages ranged from 9-13. They lived in the town of Wayku in the province of Lamas, San Martin in Peru. Fourteen participants in the group were female and sixteen male. They were all second-generation Kechwa-Spanish bilinguals living in an indigenous community characterized by societal bilingualism. They used both languages in everyday life as well as in their academic environment and they had reached a steady state of language development in both languages.

The comparison group consisted of 25 Spanish-speaking children from the district of San Juan in the city of Lima. 12 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. The children in this group spoke Spanish at home and in the school, although at least one of their parents was bilingual in Spanish and some variety of Quechua. The children in this group reported that Quechua was not spoken to them beyond isolated words and they were not able to produce full sentences in that language. In the continuum of bilingualism that usually characterizes bilingual societies these children can be considered Spanish dominant with no functional use of Quechua, a language highly stigmatized in their environment.

Despite the higher social status of Spanish in the larger society, 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 Martin area. The
district of Wayku is the center of Lamas cultural traditions and hosts the main
organizations 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 program are indicative of a
positive attitude towards the revitalization of the language in the community.

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 Spanish dominant children narrated them only in Spanish since
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

(31) Suk wambriyu api-yka-n suk papel-ta

A boy pick up-prog-3sg paper-acc

“A boy is picking up a piece of paper”

Non-progressive

(32) Suk wambriyu tiyari-shka-n

A boy seat-past perf-3sg

“A boy sat down”
Desiderative and progressive

(33) 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”

Desiderative

(34) Sapitu urma-naya-n yaku-pi

Toad fall-desiderative-3p water-loc

“The toad wants to fall in the water”

Spanish loan/mixing

(35) Suk achku <rei> (Sp.)

A dog laughed

“A dog laughs”

Verbs in the Spanish narratives were coded according to whether they were progressive, non-progressive, involved the desiderative form está queriendo +infinitive or had some combination of auxiliaries with gerunds and infinitives as illustrated by the following examples:

Progressive

(36) Este hombre # está tocando un cartoncito

This man # is touching a board

“This man is touching a (little piece of) cardboard”

Non-progressive

(37) Este motelu murió

This turtle died
“This turtle died”

*Está +queriendo +infinitive*

(38) Un wamrillu (e)stá queriendo agarrar su sapo

a boy (i)s wanting (to) grab his frog

“A boy wants to grab his frog”

*Other combinations*

(39) Está viendo camino (for *caminar*)

Is looking walk

“(S/he) is looking at him walk”

**4. 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.

Tables 1, 2 and 3 show the average number of verbs produced in each category type in the Bilingual Kechwa, the Bilingual Spanish and the Spanish narratives respectively.

INSERT TABLE 1 HERE

INSERT TABLE 2 HERE

INSERT TABLE 3 HERE

The results show that bilingual speakers favored progressive forms in both languages, unlike monolingual speakers who favored non-progressive forms. 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-speaking children produced narratives using past tense forms, the bilingual children made extensive use of picture description to narrate the events they saw in the picture. This difference in the treatment of narratives
has also been reported by Lanza (2001), as a feature of the frog-story narratives of very young Norwegian-English bilingual children. It has also been noted by Sebastian and Slobin (1994) that children who are monolingual 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 organizing 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-speaking children in this study. The last group patterns with the urban middle-class monolingual children in Sebastian and Slobin’s study.

Despite this different pattern, it is remarkable that no instances of the modal progressive form \textit{está queriendo + infinitive} were found among the monolinguals. This is consistent with Sebastian and Slobin’s data. They do not report any instances of the modal progressive form \textit{está queriendo + infinitive} in the narratives of monolingual Spanish-speaking children (ages 3 and 4). The average number of tokens for this expression is 3.64 among bilinguals and 0 among the Spanish-speaking group.

Non-progressive forms were less frequent in the bilingual narratives and desiderative progressive and \textit{estar queriendo + infinitive} forms were the least frequent in the narratives produced by the bilingual and the Spanish-speaking children. A closer inspection of the data shows that only nine bilingual participants used both the desiderative progressive construction in Kechwa and the modal progressive construction in Spanish. The average number of occurrences of the two expressions in each language among these nine participants was similar. This is shown in Table 4.
I take this to indicate that, although low in frequency, these constructions have a similar frequency of occurrence in the Kechwa and Spanish speech among bilinguals.

A total of thirteen participants used the desiderative progressive expression in Kechwa and sixteen participants used the modal progressive expression in Spanish. Although there was not an exact correspondence between the number of desiderative progressive tokens and modal progressive tokens used by each individual participant (see Tables 5 and 6), two participants produced similar numbers of tokens in both languages (see participants L8 and L16).

In order to further detail the contexts in which these forms occur, I looked at the types of verbs that favored the desiderative progressive expression in the Kechwa narratives and the modal progressive form in Spanish. They are semantically very similar (see Tables 7 and 8). As shown in Table 7, 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*

(40) 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

(41) Achku miku-naya-yka-n
    Dog eat-des-prog-3

    “The dog wants to/ is about to bite”

Participant L25

(42) Chay achku miku-naya-yka-n
    That dog eat-des-prog-3

    “That dog wants to/ is about to eat”

Participant L30

(43) 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 8:

INSERT TABLE 8 HERE

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

(44) 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

(45) 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

(46) 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 1:

INSERT FIGURE 1

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 a specific picture in the sequence indicate that the conditions imposed by the nature of the event being narrated favored the selection of the features involved in these constructions, at least for some of the participants in the study.

5. Analysis

I would like to propose that there are two factors that make the desiderative+progressive construction and the modal progressive construction in Spanish excellent candidates for cross-linguistic interference in the mind of some Kechwa-Spanish bilingual children, despite morphological differences in the two languages. These are: a) similarity in the syntactic representation of both constructions and b) the almost identical set of features involved in these modal-aspectual matrices. Under discourse conditions that require the
spell out of a +imminent feature in one of the languages, these similarities favor the
generalization of the imminent feature to the grammar of the two languages. In both
languages, desiderative modal and progressive features are part of the internal structure
of a higher VP. In Kechwa, desiderative and progressive features are V heads under a
maximal VP projection. In Spanish, the modal and the auxiliary verb *estar* ‘to be’ each
head a V projection. In terms of the relevant features for both constructions, while
Kechwa has a modal/aspectual matrix of features that incorporates desiderative features
and progressive features along with a feature that encodes imminent action, the Spanish
modal verb conveys a volitional meaning close to that of the desiderative suffix and the
gerund is marked for the aspectual feature +progressive. This is shown in:

**Bilingual Kechwa**

(47)  
   a. F (Mod) = +desiderative, +imminent  
   b. F (Asp) = +progressive

**Spanish**

(48)  
   a. F (Mod) = +volitional  
   b. F (Asp) = +progressive

If we add to this similarity in feature specification, a requirement imposed by discourse
contexts to overtly express the feature [+imminent] in Kechwa Spanish as in the case of
Figure 1, the transfer of this [+imminent] feature to the Bilingual Spanish matrix is only a
minimal extension of the array of features selected in Spanish, prompted by sensitivity to
a specific discourse condition. Thus, the closeness in syntactic representation as well as
the partial similarity in the array of features selected for each of the constructions creates
the perfect context for cross-linguistic interference. Notice that the difference in spell-out
options between phonologically independent heads and suffixes in the two languages is not the locus of interference for these bilinguals. What favors the emergence of the desiderative progressive form in Bilingual Spanish is the confluence of similar syntactic representations, partially similar arrays of features and a specific discourse condition that forces the selection of the +imminent feature in Kechwa.

I will turn now to two the limitations of this study. The first one is that some of the bilinguals did not use desiderative or modal progressives in either of the two languages. This could be due to the fact that they did not perceive the images as depicting an imminent action. Another limitation is the different interpretation of the task by bilingual and monolingual children. In order to overcome these difficulties, more experimental testing is required to elicit the modal progressive construction in contexts of imminent action.

**Conclusions**

The exploratory study presented in this paper sheds some light on the role that feature selection, similarity in syntactic structure and discourse constraints play in favoring cross-linguistic interference in bilinguals at the steady state. Interference in this case is not a phenomenon that affects the acquisition of overt morphological units. It differs from processes found in the early stages of L2 acquisition in which the learner constructs a mental representation for different linguistic levels using varied cognitive and grammatical strategies (Herschensohn 2000) and may exhibit incomplete acquisition of morphological units although she or he has acquired a specific syntactic property of the language (Lardiere 1998, Prevost and White 2003). It also differs from processes of creolization that lead to uniformity and simplification of some morphological paradigms.
in the languages in contact. One of such cases has affected a variety of Amazonian Quechua spoken in Ecuador (Muysken 2000) in which the full paradigm of person nominal markers has been lost. On the contrary, interference in the study reported in this article does not affect morphological realization but feature selection. This exploratory study shows that despite the fact that autonomous morphological representations have been developed in both languages, interference affects the activation of partially divergent matrices of grammatical features in the two languages. In this case, interference opens up the possibility of grammaticalizing a functional feature in a bilingual variety. In the context of bilingualism among indigenous communities, cross-linguistic interference gives rise to the emergence of new forms in the socially dominant language that provide communities with a sense of linguistic identity.

In terms of its potential theoretical implications, the results of this study indicate that dissociation between knowledge of morphological parameters (affixation versus independent heads) and knowledge of syntax (selection of interpretable features and syntactic representations) takes place in the bilinguals’ representations of language. They also indicate that the effects of discourse conditions on cross-linguistic interference are an area of potentially very productive research.
References


Muysken, P. (2004). Quechua and Spanish, Evidentiality and Aspect: Commentary on


Endnotes

1 The spelling Kechwa is the one used by the Lamas community and I will use it when referring to that community’s language. I will use Quechua when referring to other varieties.

2 Other possibilities include a scattered distribution of features across syntactic nodes (Giorgi and Pianesi 1997)

3 Apparently, in some Latin American varieties expressions such as:

(i) Quiere llover
   Wants to rain
   “It is about to rain”

can be found. Interestingly, these expressions are not found in Peninsular varieties and could be attributed to language contact.

4 Syncretism in functional features can also be found in Kechwa in tense and aspect as in different types of past forms associated to different evidential values (Sanchez 2004, see Fuller 2002 for a different view of past tense distinctions in Cuzco Quechua).

5 Cross-linguistic interference in sentence canonical word order is also pervasive in Bilingual Kechwa (Sanchez 2003).
Table 1: Average number of verbs in Bilingual Kechwa narratives

<table>
<thead>
<tr>
<th>Type</th>
<th>Average Number of Verbs</th>
</tr>
</thead>
<tbody>
<tr>
<td>Progressive</td>
<td>20.13</td>
</tr>
<tr>
<td>Non-progressive</td>
<td>11.2</td>
</tr>
<tr>
<td>Desiderative+progressive</td>
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<tr>
<td>desiderative</td>
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<tr>
<td>loans</td>
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<tr>
<td>all verbs</td>
<td>35.0</td>
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</tbody>
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Table 2 Average number of verbs in Bilingual Spanish narratives

<table>
<thead>
<tr>
<th>Category</th>
<th>Count</th>
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</thead>
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<tr>
<td>all verbs</td>
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</tr>
<tr>
<td>loans</td>
<td>0.03</td>
</tr>
<tr>
<td>other</td>
<td>1</td>
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<tr>
<td>gerund/gerund</td>
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</tr>
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<td>non-progressive</td>
<td>19.5</td>
</tr>
<tr>
<td>progressive</td>
<td>29.4</td>
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</table>
Table 3: Average number of verbs in Spanish narratives

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<table>
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<tr>
<th>Type</th>
<th>Count</th>
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<tbody>
<tr>
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<tr>
<td>non-progressive</td>
<td>42</td>
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<tr>
<td>modal progressive</td>
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</tr>
<tr>
<td>other</td>
<td>0</td>
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<tr>
<td>loans</td>
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<tr>
<td>all verbs</td>
<td>47</td>
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</tbody>
</table>
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Table 4: Average number of *desiderative*+*progressive* and *esta queriendo*+*infinitival* forms in bilingual children’s narratives

<table>
<thead>
<tr>
<th>Type of Construction</th>
<th>Kechwa Narratives</th>
<th>Spanish Narratives</th>
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</thead>
<tbody>
<tr>
<td>progressive</td>
<td>33</td>
<td>22</td>
</tr>
<tr>
<td>non-progressive</td>
<td>16.3</td>
<td>16.5</td>
</tr>
<tr>
<td>desiderative+progressive/querer+gerund+V</td>
<td>5.15.22</td>
<td>1.221.4</td>
</tr>
<tr>
<td>other</td>
<td>0.6</td>
<td>0</td>
</tr>
<tr>
<td>loans</td>
<td>0</td>
<td>0</td>
</tr>
</tbody>
</table>

Chi-test $p<2.5495E-21$
Table 5: Individual results from Bilingual Kechwa narratives

<table>
<thead>
<tr>
<th>Participant</th>
<th>Progressive</th>
<th>Non-progressive</th>
<th>Desiderative+</th>
<th>other</th>
<th>loans</th>
</tr>
</thead>
<tbody>
<tr>
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<td>11</td>
<td>3</td>
<td>0</td>
<td>0</td>
</tr>
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<td><strong>L8</strong></td>
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<td>71</td>
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<td>4</td>
<td>4</td>
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<td>2</td>
<td>2</td>
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<td>1</td>
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<tr>
<td>L25</td>
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<td>3</td>
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<tr>
<td><strong>L30</strong></td>
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Table 6: Individual results from Bilingual Spanish narratives

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<tr>
<th>Participant</th>
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<th>Non-progressive</th>
<th><em>Esta queriendo</em> +infinitive</th>
<th>Other</th>
<th>Loans</th>
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<tbody>
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<td>7</td>
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<tr>
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<td>21</td>
<td>13</td>
<td>1</td>
<td>0</td>
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<tr>
<td>L14</td>
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<td>63</td>
<td>5</td>
<td>0</td>
<td>0</td>
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<tr>
<td>L16</td>
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<td>20</td>
<td>13</td>
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<td>0</td>
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<td>17</td>
<td>1</td>
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<td>L23</td>
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<td>1</td>
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<tr>
<td>L24</td>
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<td>L25</td>
<td>34</td>
<td>12</td>
<td>3</td>
<td>1</td>
<td>0</td>
</tr>
<tr>
<td>L30</td>
<td>21</td>
<td>11</td>
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</table>
Table 7: Number of progressive-desiderative tokens

<table>
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<tr>
<th>morpheme</th>
<th>meaning</th>
<th>count</th>
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</thead>
<tbody>
<tr>
<td>mikunayaykan/ mukunayaykan</td>
<td>wants to/is about to eat/bite</td>
<td>15</td>
</tr>
<tr>
<td>Apinayaykan</td>
<td>wants to/is about to pick up/hold</td>
<td>11</td>
</tr>
<tr>
<td>yuka-(~yuku)-nayayka/brinkanayaykan</td>
<td>wants to/is about to jump</td>
<td>10</td>
</tr>
<tr>
<td>Makanayaykan</td>
<td>wants to/is about to hit</td>
<td>4</td>
</tr>
<tr>
<td>Urmanayaykan</td>
<td>is about to fall</td>
<td>2</td>
</tr>
<tr>
<td>Rinayaykan</td>
<td>is about to go/leave</td>
<td>2</td>
</tr>
<tr>
<td>Wakanayaykan</td>
<td>is about to/wants to yell/cry</td>
<td>2</td>
</tr>
<tr>
<td>Ratichanayaykan</td>
<td>wants to be together</td>
<td>1</td>
</tr>
<tr>
<td>pusanayaykan</td>
<td>is about to lead them</td>
<td>1</td>
</tr>
<tr>
<td>Chukanayaykan</td>
<td>is about to pull</td>
<td>1</td>
</tr>
<tr>
<td>Rikunayaykan</td>
<td>wants to/is about to look</td>
<td>1</td>
</tr>
</tbody>
</table>
Table 8: Number of modal progressive tokens

| (e)sta queriendo agarrar | Wants to/is about to pick up/grab/hold | 18 |
| esta queriendo morder/comer | Wants to/is about to bite/eat | 18 |
| esta queriendo brincar | Wants to/is about to jump | 7 |
| esta queriendo ir/salir | Wants to/is about to go/leave | 9 |
| esta queriendo subir | Wants to/is about to go up | 4 |
| esta queriendo bandeara(r) | Wants to/is about to stir | 3 |
| esta queriendo botar | Wants to/is about to throw | 2 |
| esta queriendo abrir | Wants to/is about to open | 2 |
| esta queriendo sacar | Wants to/is about to take out | 2 |
| (e)sta queriendo dar | Wants to/is about to give | 2 |
| (es)ta queriendo entrar | Wants to/is about to enter | 2 |
| other intransitive | | 6 |
| other transitive | | 18 |