Impermeability of L1 Syntax: 
Spanish Variable Clitic Placement in Bilingual Children

Pablo E. Requena and Melisa Dracos

1. Introduction

Some researchers claim syntax is not vulnerable to cross-linguistic transfer except at the interfaces with other language domains and where there is structural overlap and ambiguity in one of the languages (Müller & Hulk 2001; Silva-Corvalán 1993; Tsimpli, Sorace, Heycock, & Filiaci 2004; Sorace, A. 2005; Montrul 2008). However, syntax could be indirectly impacted by changes in lexical activation or syntactic priming (Tsimpli, et al. 2004; Pérez-Leroux, Cuza, & Thomas 2011). This study asks whether Spanish (L1) clitic syntax is subject to transfer in simultaneous bilingual children.

Whereas English only allows post-verbal object pronouns (1a), Spanish exhibits optionality between enclisis (1b), where the clitic is attached to the non-finite verb, and proclisis (1c), where the clitic is preposed to the finite verb as a separate word.

(1) a. Mary has a dog. She is going to bathe it tomorrow.
   b. María tiene un perro. Ella va a bañarlo mañana. (Enclisis)
   c. María tiene un perro. Ella lo va a bañar mañana. (Proclisis)

Corpus research has revealed that Modern Spanish exhibits more proclisis than enclisis in spoken discourse (Davies 1995) and that variable clitic placement (VCP) is conditioned by the finite verb lexeme, as well as by the animacy and topicality of the clitic referent (Davies 1995; Myhill 1988, Schwenter & Torres Cacoullos 2014). Due to the partial structural surface overlap with English, Spanish VCP constitutes an ideal locus for the study of cross-linguistic effects.

Despite the lack of evidence of attrition of clitic syntax in bilinguals (Montrul 2004; Silva-Corvalán 1994), some cross-linguistic effects have been attested in VCP (e.g., Meijer & Fox Tree 2003). In a sentence repetition study of Spanish-English bilingual children Pérez-Leroux, Cuza & Thomas (2011) report shifts in VCP preferences in the direction of English word order, which the authors interpret as the result of cross-linguistic transfer at the level of structural...
configuration, i.e. transfer that affects the structure building process due to cross-linguistic activation of selectional features of lexical entries. These results contrast with those from corpus studies that indicate that bilingual adults (Darwich 2007; Gutiérrez 2008; Gutiérrez & Silva-Corvalán 1993; Peace 2013; Silva-Corvalán 1994) and children (Shin, Requena, & Kemp 2017) do not differ significantly from monolingual Spanish speakers in their VCP knowledge and preferences.

It could be the case that methodological differences between corpus and experimental studies are responsible for the diverging results. In order to determine whether syntactic transfer occurs, we need experimental studies that elicit production of VCP (beyond sentence repetition) and which examine whether simultaneous bilingualism impacts the combinatorial information encoded in lexical items. Alternatively, it could be the case that rather than the methodology used, it is the type of bilingual community examined which explains the converging findings with bilingual children. So, the present study examines whether simultaneous bilingual children from a high-density Hispanic community in Waco, TX display knowledge of lexical and semantic preferences that characterize monolingual VCP. Thus, through an elicited production study we seek to shed new light into the question of transfer in simultaneous bilingualism.

2. Spanish Variable Clitic Placement in Monolingual and Bilingual Adult Speakers

Corpus studies of Spanish-speaking adults indicate that (a) monolingual VCP constitutes a case of predictable optionality and that (b) bilingual speakers pattern like monolingual speakers in VCP use. In this section, we will address each of these findings.

*Spanish VCP in monolingual adults*

Corpus studies with monolingual adults indicate a strong effect of finite verb lexeme in VCP (Myhill 1988). In the first large scale analysis of VCP in spoken and written Spanish across dialects, Davies (1995) provides a continuum of finite verb lexemes based on their selection of proclisis vs. enclisis. For example, whereas *ir a* ‘go to’ appears in proclisis in most cases (86%), *tener que* ‘have to’ appears in proclisis 38% of the time (see Figure 1). This finding has been replicated in a number of subsequent studies of particular dialects (see Requena 2015 for a review).
Another factor that has been shown to play a role in VCP is clitic animacy, either relative animacy (when the clitic outranks the subject in the animacy hierarchy, Myhill 1988) or animacy of the clitic exclusively (Davies 1995). These studies report that clitic animacy increases the rate of proclisis, a finding that has been replicated across dialects (see Requena 2015 for a review). One study, however, shows the effect of animacy in the opposite direction. In their study of Mexican Spanish, Schwenter & Torres Cacoullos (2014) find an interaction between animacy and topicality. In particular, they report that proclisis seems to signal inanimate DOs which are topical. That finding has not been replicated for Argentine Spanish (Requena 2015), which could indicate an instance of dialectal variation.

Finally, studies of monolingual adult speakers indicate that topic continuity (topicality) impacts VCP. Topical clitic referents favor proclisis while clitic referents that are not topical favor enclisis (Schwenter & Torres Cacoullos 2014; Requena 2015). The brief description of VCP provided in this section shows how, far from free (random) optionality, VCP is structured and predictable based on lexical (finite verb lexeme), semantic (animacy) and discourse (topicality) factors.
The study of bilingualism has hypothesized that some degree of cross-linguistic influence may exist in the bilingual linguistic system given the known connections between L1 and L2+ in the mind. For example, it has been widely reported how bilingual lexical activation is non-selective, meaning that a bilingual cannot switch off one of their languages (Dijkstra, 2005; Schwartz & Kroll, 2006; Sunderman & Kroll, 2006; van Hell & Dijkstra, 2002). In connection to this, it has also been posited that such co-activation may result in transfer of structure building processes (e.g. the point at which merge of elements to form larger constituents occurs in language, Pérez-Leroux et al. 2011). Further evidence of cross-linguistic activation comes from studies of code-switching (Gullifer, Kroll, & Dussias, 2013) as well as cross-linguistic priming (Meijer & Fox Tree, 2003). All these findings generate hypotheses about the nature of the bilingual linguistic system, about the effects that one language may have on the other/s, and about other general cognitive effects of bilingualism.

With respect to cross-linguistic effects, it is widely known that the L1 may impact L2 production and processing (e.g., Fernández, 2003; Juffs, 1998; Perpiñán, 2015). Other evidence reveals facilitatory or inhibitory effects of the L2 on the L1 (Dussias, 2003; Malt and Sloman, 2003; Dussias and Sagarrá, 2007; Schmid, 2010). For example, Dussias & Sagarrá (2007) report how exposure to a L2 influences sentence parsing in the L1.

Researchers interested in these cross-linguistic effects wonder what aspects of the L1 are amenable to attrition. For example, it has been proposed that structural overlap is one of the conditions that favor such cross-linguistic effects. Müller & Hulk (2001), for example, posit that cross-linguistic influence occurs when a syntactic construction in one language allows for more than one grammatical analysis and the other language contains positive evidence for only one of these possible analyses. Even through English accusative pronouns may differ from Spanish clitics, the presence of priming between the two (as shown by Meijer & Fox Tree 2003) points to sufficient surface overlap so as to make VCP a suitable phenomenon to test whether bilingualism impacts VCP preferences in children.

The available studies of Spanish-English bilinguals in the U.S. indicate that VCP in these bilingual communities follows the pattern reported for monolingual speakers, namely a preference for proclisis (~72%) (Darwich 2007; Gutiérrez 2008; Gutiérrez and Silva-Corvalán 1993; Peace 2013; Silva-Corvalán 1994). Even in the absence of quantitative differences, it has been hypothesized that given the fact that VCP lies at the intersection of syntax, semantics and pragmatics, it should be amenable to bilingual effects. A review of the literature offered in Shin et al. (2017) shows that such bilingual effects are not supported by the studies of corpora of Spanish-English adult speakers. Nevertheless, the question here is whether bilingual learners develop a grammar that specifies
these VCP preferences that have been attested in monolingual and bilingual adults.

3. Spanish Variable Clitic Placement in Child Language

The study of clitics in child language has attracted much interest and a number of essays and edited volumes have dealt with it already (e.g., Grohmann & Neokleous, 2014; Larrañaga & Guijarro-Fuentes, 2012). A lot of interest in clitics has revolved around the finding that children can omit clitics very early on, a finding that presents cross-linguistics differences. Since the time when clitics are first attested in child language around age 2;0, children need to learn the rules of their language for attaching clitics to their hosts. Thus, research on clitic placement have for the most part concentrated on how and when children acquire the grammatical placement of clitics. Studying VCP in Spanish-speaking children, Rodriguez Mondoñedo et al. (2004) conducted a corpus study of several child data sets available in CHILDES (MacWhinney, 2000). Albeit preliminary, the study reported that the children under investigation acquired both clitic positions (enclisis and proclisis) around the same time, which the authors interpret as indication that VCP could be tied to early parameter setting. Eisenchlas (2003) studied monolingual Spanish-speaking children’s use of clitics through a sentence repetition task. Her study reported that as young as 3;0 Spanish-speaking children have grammatical competence as to how clitics differ from lexical NPs and about the syntactic implications for clitic placement (e.g. children attach clitics only to verbs and in grammatically correct positions).

With respect to clitic placement preferences, Eisenchlas (2003) reported that monolingual children display a strong preference for proclisis, as evidenced by the child participants moving a large number of post-verbal clitics to a pre-verbal position during the sentence repetition task. In a more comprehensive study with monolingual children that manipulated finite verb and animacy, Requena (2015) reports that by age 4;0 children not only match adults in their community in the overall preference for proclisis over enclisis, but also that at that age children also use lexical and semantic constraints to VCP reported for monolingual adults. Research in progress indicates that from age 2;0 children already show sensitivity to the lexical finite verb constraint (Requena & Miller, in prep) and that at age 3;0 sensitivity to the lexical constraint and the animacy constraint is attested (Requena in prep).

Spanish VCP in Spanish-English bilingual children

To the best of our knowledge, only two studies have addressed Spanish VCP in bilingual children. Pérez-Leroux et al. (2011) replicated Eisenchlas’ (2003) elicited repetition study with Spanish-English bilingual children living in Toronto, Canada. Pérez-Leroux et al. showed that the influence from English
results in increased enclisis. Shin et al. (2017) conducted a corpus study where interviews and narrations produced by monolingual and bilingual children were scrutinized for a quantitative analysis of VCP not only of overall preferences of clitic placement, but also lexical and animacy effects. The results by Shin et al (2017) indicate that, unlike Pérez-Leroux et al. (2011), bilingual children (i) do not produce significantly higher rates of enclisis than monolingual children do, and (ii) bilingual children are similar to monolingual children with respect to constraints on variable clitic placement. Interestingly, children in each group (monolingual and bilingual) investigated by Shin et al (2017) closely match the patterns found in their community.

The diverging results between the results of Pérez-Leroux et al.’s (2011) repetition study and Shin et al.’s (2017) corpus study may point to methodological differences, namely the task and stimuli used in each study and/or to differences in the bilingual population selected (see table 1). For a discussion on the divergent results between corpus and experimental studies see Shin et al. (2017). As to the bilingual population examined in each study, we can say that one of the main differences is the fact that the bilingual children tested by Pérez-Leroux et al (2011) were living in Toronto, and were not part of a high-density Hispanic community (Pérez-Leroux et al. 2011b:155,161), whereas the bilingual children in Shin et al. (2017) belonged to a bilingual migrant community living in central Washington, an area with increasingly high-density Hispanic population (Villa, Shin, & Nagata 2014).  

| Table 1. Comparison of studies with bilingual children |
|------------------------------------------|-----------------------------------------------|-----------------------------------------------|
| Pérez-Leroux et al. (2011) | Shin et al. (2017) | This study |
| Type of study | Experimental | Corpus | Experimental |
| Hispanic community density | Low (Toronto) | High (Central WA) | High (Waco, TX) |
| Participant ages | 3;7-8;4 | 6;0-11;9 | 9;0-12;0 |
| Increased enclisis? | ✓ | ✗ | ? |

The question remains as to whether it is the experimental nature of the study or the type of bilingual context that might play a role in the possible bilingual effect. Therefore, in this study, we report on the results of elicited production task administered to children living in a high-density Hispanic community in Waco, TX.

1 We thank Ana Teresa Pérez-Leroux (p.c.) for bringing this point to our attention.
4. Experiment
4.1. Participants

Twenty-nine Spanish-English bilingual children (9;0–12;0) from Waco, TX participated in the study. The children were born in the U.S. to parents of Mexican origin. Accuracy scores on the Bilingual English Spanish Assessment (BESA) indicated that the participants achieved a greater percentage of accurate responses in the English test (95%) than in the Spanish test (80%). A t-test indicates that the participants were English dominant ($t(28)=-9.486, p<.001$). Written consent from the parents was collected and oral consent from each child. Only participants who provided their consent were tested.

4.2. Method, materials and procedure

A Sentence Elicitation Task was used to test children’s VCP preferences. The task was an adaptation of Requena (in prep) for which terms were modified to reflect vocabulary commonly used in Mexican Spanish (the dialect of the child participants’ parents). The task introduced the children to three cartoon characters at a time who possessed a particular masculine object or pet (the three characters in a set possessed the same object or pet, e.g. each one possessed a candy). Depending on the trial, then children were told that the characters either were going to do ($ir$ a ‘go to’ + infinitive) something with that object/pet, or had to do something ($tener$ que ‘have to’ + infinitive) with it. However, the experimenter made clear to the child that she did not know what the character was going to/had to do with the object or pet and asked the child to take cards from an envelope one-by-one in order to answer: What is/does each one going to do/have to do with the [name of object/pet]? The participant was expected to take a card showing one of the characters as well as an action that such character performs to the object/pet in order to answer, for example, ‘Mickey Mouse is going to eat it’ or ‘Donald duck is going to cut it in half.’ The experiment was conducted entirely in Spanish and a response was entered into the analysis if it contained a subject, a finite verb followed by a transitive infinitive and a direct object clitic$^2$. Figure 2 shows a sample trial.

A total of four envelopes were used eliciting a maximum of 12 sentences per participant. For two of the envelopes, stories and questions presented to participants made use of one of the two finite verb constructions tested. The animacy of the object (- animate) or pet (+ animate) was also manipulated for each of the verbs. A practice envelope was created for each participant to produce two practice sentences.

$^2$ Cases in which the participant produced double clitics and lack of gender agreement were also included.
STEP 1:
La Princesa Sofía, Caillou y Elsa tienen un perrito. Mañana, ellos van a hacer algo. Sí, mañana ellos van a hacer algo con el perrito. Pero yo no sé qué van a hacer con el perrito mañana!!! Cuéntame, ¿Qué van a hacer cada uno con el perrito mañana? Yo no miro.

‘Princess Sophia, Caillou, and Elsa have a puppy. Tomorrow, they are going to do something with the puppy. Yes, tomorrow they are going to do something with the puppy. But I don’t know what they are going to do with the puppy tomorrow!! Tell me, what is each of them going to do with the puppy tomorrow? I won’t look.’

STEP 2: (The participant takes one card from the envelope and answers)
Expected responses:
Elsa lo va a bañar / Elsa va a bañarlo.
‘Elsa is going to bathe it.’

4.3. Results

Eight participants did not produce any responses with VCP, so their data were excluded from the analysis. These responses consisted mainly of sentences containing full lexical NPs instead of a DO clitic or a truncated VP consisting of the non-finite verb plus the clitic. A total of 235/348 responses which do not allow VCP were excluded from the analysis.

Among variable contexts (N=113) there were two cases of clitic copying, where the clitic appears in both positions, as in (2).

(2) Caillou lo va a... secar=lo  (Participant 8)
Caillou it is going to dry=it

Some participants also produced responses using a different finite verb than the one in the experimental prompt. These spontaneously produced finite verbs were: deber que ‘must’ + Infinitive (N=1), estar ‘be’ + Gerund (N=3), necesitar ‘need to’ (N=4) and querer ‘wants to’ + Infinitive (N=16). From these unexpected responses only those with querer were included since they were the most frequent ones. As the result of data cleaning, N=103 responses were analyzed. Proclisis was found in 87% of the participant responses across finite verb constructions.
With respect to the lexical effect on VCP attested in monolingual speakers, Table 2 shows all the responses analyzed by verb. As can be seen, the three most frequent verbs used by participants in this study display different rates of proclisis each. A Chi-square test indicates that children’s use of proclisis differed between verbs ($X^2 (2, N=103)= 16.233, p<.001$). In particular, *ir* and *tener* significantly differed from each other at the .05 alpha level (Figure 3).

Table 2. Rate of proclisis by finite verb construction

<table>
<thead>
<tr>
<th>Finite verb construction</th>
<th>Proclisis</th>
</tr>
</thead>
<tbody>
<tr>
<td><em>ir a ‘go to’ + infinitive</em></td>
<td>96% (59/61)</td>
</tr>
<tr>
<td><em>querer ‘want to’ + infinitive</em></td>
<td>87% (14/16)</td>
</tr>
<tr>
<td><em>tener que ‘have to’ + infinitive</em></td>
<td>65% (17/26)</td>
</tr>
<tr>
<td><strong>TOTAL</strong></td>
<td><strong>87% (90/103)</strong></td>
</tr>
</tbody>
</table>

Figure 3. Clitic placement by finite verb lexeme

With respect to the animacy effect on VCP attested in monolingual speakers, Table 3 shows how proclisis is higher with animate referents than inanimate referents. As in Davies (1995), proclisis was 14 percentage points higher with animate referents than inanimate referents. Figure 4 shows how referent types affect preferences in clitic placement. Chi-square tests indicate that the relationship between clitic placement and referent animacy is significant ($X^2 (1, N=103)=4.797, p<.05$).
Table 3. Rate of proclisis by finite verb construction

<table>
<thead>
<tr>
<th>Referent</th>
<th>Proclisis</th>
</tr>
</thead>
<tbody>
<tr>
<td>Animate</td>
<td>94% (50/53)</td>
</tr>
<tr>
<td>Inanimate</td>
<td>80% (40/50)</td>
</tr>
</tbody>
</table>

Figure 4. Clitic placement by clitic referent animacy

5. Discussion and conclusion

The overall rate of proclisis used by participants here (87%) replicates findings with monolingual speakers (see Déniz 2003 in Déniz & Pérez 2011, Zabalegui 2008, Sinnott & Smith 2007, Schwenter & Torres Cacoullos, 2014, Requena 2015) and is even higher than the rates found in some of those corpus studies. This indicates that, at least in the context tested here where the referent was activated by the child’s interlocutor immediately before production, the pattern of use of simultaneous bilinguals resembles that of monolingual speakers. As Shin et al. (2017) have demonstrated through an analysis of naturalistic corpora, bilingual children pattern like the adults in their own community when it comes to VCP. Therefore, it can be assumed that the first generation caregivers (the parents of the participants of this study who migrated from Mexico) would resemble the monolingual patterns of use. Adult data is currently being collected to test this prediction.

Significant differences in proclisis with particular finite verb lexemes suggest that children’s patterns of use distinguish between syntactic preferences
by particular lexical items, just as monolingual adults and children do. A comparison of the rates of proclisis by finite verb construction in the present study and in Davies’ (1995) cross-dialectal study, as well as Schwenter & Torres Cacoullos’ (2014) study of Mexican Spanish indicates that, at least for the two verbs manipulated here (i.e., \textit{ir a} and \textit{tener que}) bilingual children resemble monolingual adults in differentiating between finite verb constructions in VCP (see Figure 5).

**Figure 5. Rate of proclisis by finite verb construction: Comparison between monolingual adults and bilingual children (present study)**

Shin et al (2017) show that verbs such as \textit{tener} and \textit{querer}, known to disfavor proclisis, follow this pattern in bilingual children as well\(^3\). Conversely, phrases with more grammaticalized finite verbs (such as \textit{ir a }‘go to’), known to favor proclisis, also do so in bilingual children. The present experimental data provide further support to their findings in that children differentiate between \textit{tener que} and \textit{ir a} in VCP. Despite its high rate of proclisis, \textit{querer}, a finite verb not used in the experimental prompt but used by some participants, did not show strong preference in any one direction in the statistical analysis.

A significant difference in proclisis across animacy levels, not tested in previous studies with bilingual children, indicates that the simultaneous bilingual children in the present study use animacy in a way that resembles the way monolingual speakers constrain VCP based on the animacy of the clitic

\(^3\) The high rates of proclisis, even with \textit{tener}, need to be considered in the light of how widespread proclisis is in contemporary spoken Spanish. Thus, when research describes verbs as “disfavoring” proclisis, it means that relative to other finite verb constructions, some finite verbs present consistently lower rates of proclisis.
referent, as indicated by Davies (1995) and others. Our results differ, however, from those reported by Schwenter & Torres Cacoullos (2014) for monolingual Mexican Spanish.

Schwenter & Torres Cacoullos (2014) found that “rates of proclitic position for 3rd person DOs are higher with persistent DOs with an inanimate referent and previous mention as a DO” (p. 532). In the present experimental study, almost all the tokens can be considered “persistent” in that participants knew that at least one more mention of the same referent followed most trials (since there were three characters per envelope, all of which were going to/had to conduct an action with the same referent). So, for 2/3 elicited sentences, participants knew that the clitic referent would be persistent since there was one more character to talk about. Additionally, all the elicited sentences were preceded by uses of the clitic referent NP as object of a preposition (since the prompt asked children ‘What does Mickey have to do with the puppy?’). Thus, since these aspects were kept almost constant throughout our experiment, it would be expected, based on Schwenter & Torres Cacoullos (2014), that if bilingual children’s patterns of VCP resemble monolingual patterns for Mexican Spanish, clitics with inanimate referents should favor proclisis as a way of marking non-prototypical topics. However, this is not the case, which suggests that either our participants do not use animacy in the same way as the speakers in the corpora analyzed by Schwenter & Torres Cacoullos (2014) or that the dynamics of the animacy-topicality interaction is not fully tapped into by our experimental design. Alternatively, the fact that the present results mirror the effect reported in most other studies of monolingual adults (e.g., Davies 1995, see Requena 2015 for a review) could also mean that further research is necessary to prove the dialectal variation with respect to animacy/topicality reported for Mexican Spanish by Schwenter & Torres Cacoullos (2014).

This study set out to investigate a discrepancy in the literature about the effect of English on Spanish VCP in simultaneous bilingual children. The couple of existing studies differed in their methodology (experimental vs. corpus) as well as in the community (low vs. high density Hispanic community). The study presented here suggests that rather than the methodology employed, the bilingual context in which these simultaneous bilingual children grow up may be the critical factor behind the effect of bilingualism on Spanish VCP, found in Toronto (Canada) but absent in bilingual communities in high-density Hispanic communities in the U.S. Future studies ought to examine the uniformity of bilingual communities in the U.S. with regard to language transmission in the second generation and beyond. The results presented here support the impermeability of clitic syntax in simultaneous bilingual children growing up in high-density Hispanic communities.
Referencias


