INTERLINGUISTIC INFLUENCE IN SIMULTANEOUS BILINGUALISM: CORE SYNTAX PHENOMENA AND LEXICAL TRANSPARENCY*

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Introduction

A central learnability issue addressed in bilingual child language acquisition research has been to determine whether and how interlinguistic influence would interact with the non-adult patterns of omission/production of functional categories (Müller, 1998; Döpke, 2000; Yip & Mathews, 2000; Hulk & Müller, 2000; Paradis, 2001; Nicoladis, 2002; Paradis & Navarro, 2003; Genesee *et al.*, 2005; Serratrice *et al.*, 2009; Fernández Fuertes & Liceras, 2010; Liceras *et al.*, 2010; Liceras *et al.*, 2012).

In this paper, we analyze the omission/production of subject pronouns in the developing Spanish grammar and the developing English grammar of two English-Spanish simultaneous bilingual children in order to address the issues of the locus and directionality of interlinguistic influence. We base our analysis on (i) Hulk & Müller's (2000) proposal regarding the linguistic and interface conditions that have to be met for interlinguistic influence to take place and (ii) a re-formulation of the null subject parameter in terms of EPP checking (Speas, 1994; Alexiadou & Anagnostopoulou, 1998; Kato, 1999). This allows us to compare English-like overt subjects with Spanish overt morphological markers and to clearly differentiate between English and Spanish overt subject pronouns.

We specifically aim at providing an answer to the following research questions: (1a) What are the patterns of production/omission of Spanish overt and null subjects displayed by three English-Spanish bilingual children (FerFuLice corpus in CHILDES; Paradis & Navarro, 2003)?; (1b) How do these patterns compare with those of a Spanish monolingual child, María, from the Ornat corpus in CHILDES?; (1c) Can we infer from the differences between the bilingual and the monolingual patterns that the obligatory nature of English subjects is responsible for the overproduction of overt subjects in bilingual Spanish?; (2a) What are the patterns of production/omission of English overt and null subjects that appear in the data of the bilingual children?; (2b) How do these patterns compare with those of the English monolingual child in the Sachs corpus in CHILDES?; and 2c) Can we infer from those patterns that the default presence of null subjects in Spanish influences bilingual English so that it displays more null subjects and for a longer period of time than monolingual English?

We hypothesize that core syntactic phenomena do not cause interlinguistic influence, which implies that we will not find interference effects in either bilingual Spanish or bilingual English. In fact, following Fernández Fuertes & Liceras (2010), Liceras *et al.* (2010) and Liceras *et al.* (2012), we argue that the existence of two different sets of lexical items (morphological markers and overt subject pronouns, with syntactic and pragmatic value respectively) in Spanish may facilitate the incorporation of obligatory subjects in bilingual English.

1. The linguistic framework

1.1 Directionality of interlinguistic influence

There is a substantial body of research which points at areas of grammar that are subject to interlinguistic influence. For instance, Paradis (2001) provides evidence for interlinguistic influence in the phonological domain, Nicoladis (2002) in the morphological domain and Genesee *et al.* (1995), Müller (1998), Döpke (2000) and Yip & Mathews (2000) in the syntactic domain. Interfaces have also been found to be sensitive to interlinguistic influence. For instance, many researchers have pointed at the syntax-pragmatics interface (e.g.: Hulk & Müller, 2000; Müller & Hulk, 2001; Serratrice *et al.*, 2004; Sorace *et al.*, 2009), and at the syntax-lexicon/syntax-semantics interfaces (Serratrice *et al.*, 2009; Liceras *et al.*, 2010; Liceras *et al.*, 2012).[1]

In the acquisition of two L1s, interlinguistic influence has been said to have either a facilitating effect—which could be reflected in the

quantity along the acquisition process and/or in the final attainment when bilinguals are compared to monolinguals—or an interfering effect—which could be reflected in the production of more non-adult-like forms and until a later period (Paradis & Genesee, 1996; Meisel, 2007).

Hulk & Müller (2000) have proposed that for interlinguistic influence to occur two conditions have to be met. One is that the structure in question be located at an interface in the influenc*ing* language. The other is that the language which is influenc*ed* contains structures that may be misanalyzed as mirroring those of the potentially influenc*ing* language. In particular, these authors argue that in the case of Dutch-French and German-Italian bilinguals, bilingual Dutch/German influences bilingual French/Italian in the production of null objects because: (i) in Dutch/German null objects are regulated at the syntax-pragmatics interface and (ii) in French/Italian there is deceiving input in that adult structures containing object clitic pronouns might be interpreted by children as instances of apparent null objects. Specifically, Hulk & Müller (2000) show that Dutch and German bilingual children produce null objects in sentence initial position, as in (1), which is possible in the adult grammar, but they also produce null objects in sentence internal position, as in (2), which is not possible in the adult grammar.

(1) [*ec*] Heeft mevrouwn de Wachter gemaakt [Joost 2;08;19]
[that] Has Mrs. De Wachter made

(2) Ik heef [*ec*] gevonden
I have [that] found [Hein 2;6]

[Examples taken from Hulk & Müller 2000, p. 230]

Note that in both (1) and (2), *ec* stands for the empty objects produced by these children. Thus, the assumption is that German (or Dutch) could potentially influence the Romance languages of Germanic-Romance bilinguals because in these Germanic languages the presence of null objects is regulated at the syntax-pragmatics interface.

The second condition put forward by Hulk & Müller (2000) pertains to the misleading or deceiving input provided by the Romance language. In fact, French, as well as the other Romance languages, has clitic pronouns which do not occupy the canonical position of DP objects, as shown in (3a) versus (3b).

(3) a. Marsias veut voir Marie/cette fille
Marsias wants to see Marie/that girl
'Marsias wants to see Marie/that girl'

b. Marsias veut la_i voir [ec_i]
Marsias wants her to see
'Marsias wants to see her'

What Hulk & Müller (2000) suggest is that the empty category (*ec*) which occupies the canonical object position in (3b) may constitute deceiving input for the Germanic-Romance bilingual children in that they may interpret this kind of sentences as evidence for the availability of null objects in French/Italian.

Based on the above, our interpretation of Hulk & Müller's (2000) proposal in terms of directionality is depicted in Diagram 1.

Diagram 1: Directionality of influence, as per Hulk & Müller (2000)

Language	Influenc***ING*** language **GERMANIC**	Influenc***ED*** language **ROMANCE**
Area of grammar	Null objects	Null objects
Property		Apparent null objects ***Deceiving input***
Interface	***Syntax-Pragmatics***	

Diagram 1 shows that an interface is involved in the case of the potentially influenc*ing* language (i.e. German or Dutch) and deceiving input is present in the potentially influenc*ed* language (i.e. French or Italian). Consequently, the two conditions required for interlinguistic influence to occur are met. A further consequence of this proposal is that it is only interface phenomena, not core syntactic phenomena, that transfer. In order to test the implications of this proposal for the directionality of interlinguistic influence, in sections 2 and 3 we analyze the status of null and overt subjects in the Spanish and the English developing grammars of the bilingual (English-Spanish) and monolingual (English or Spanish) children mentioned above.

1.2 Linguistic theory and the analysis of sentential subjects

An important development in the way the so-called null subject parameter has been depicted within the Minimalist Program (Speas, 1994; Alexiadou & Anagnostopoulou, 1998; Kato, 1999) pertains to the re-formulation of

this parameter in relation to the checking of the EPP feature. In this depiction of the parameter, the way the EPP feature is checked determines whether a language is a [+null subject] or a [– null subject] language.

According to some minimalist accounts of the null subject parameter (Speas, 1994; Alexiadou & Anagnostopoulou, 1998), Spanish pronominal markers are said to be agreement features associated with a functional category (Inflection). In fact, these verbal agreement affixes are considered pronominal elements which have a categorial feature [+D] listed in the numeration along with the verbal root. As shown in (4a) and (4b), Spanish bound morphemes or affixal personal markers appear post-verbally (e.g. *-mos*), have semantic content and are therefore [+interpretable]. In particular, the checking of the EPP feature in Spanish is said to occur by merging the verb with the DP morpheme (X° movement).[2]

(4) a. Vamos
go$_{1st\ pp}$
'we go'

b. [$_{IP}$ **va$_i$ mos$_j$** [$_{VP}$ [$_{DP}$ *mos$_j$*] [$_V$ *va$_i$*]]]

EPP checking in English takes place by merging an overt pronominal element with the Spec IP position where the DP moves (XP movement), as shown in (5).

(5) [$_{IP}$ **we$_i$** [$_{VP}$ [$_{DP}$ *we$_j$*] [$_V$ **go**]]]

Spanish pronominal overt subjects, such as *nosotros (we)* in (6a) and (6b), convey a semantic or pragmatic effect. They are said to occupy a focus position (Fernández Soriano, 1989; Ordóñez, 1997; Kato, 1999) so that, rather than move from the Spec-VP position as the English pronoun *we* in (5), they are merged to a focus position (that we have termed AP—adjunct phrase—following Kato, 1999), as shown in (6b).

(6) a. Nosotros vamos
we go$_{1st\ pp}$
'we go'

b. [$_{AP}$ **nosotros** [$_{IP}$ **va$_i$ mos$_j$** [$_{VP}$ [$_{DP}$ *mos$_j$*] [$_V$ *va$_i$*]]]]

In terms of acquisition and in the case of [+null subject] languages like Spanish, the presence of null subjects is linked to the mastering of the stylistic conventions that regulate the distribution of overt subjects (Liceras, 1988, 1989; Paradis & Navarro, 2003; Serratrice et al., 2004; Montrul & Rodríguez-Louro, 2006).

2. Null and overt subject pronouns in child bilingual (English-Spanish) and child monolingual English and Spanish

Taking into consideration both the minimalist accounts on subject realization in English and in Spanish and using our interpretation of Hulk & Müller's (2000) proposal in terms of the directionality of interlinguistic influence (diagram 1), we have set to analyze the patterns of omission/production of subjects in the spontaneous data of English-Spanish bilingual children and English and Spanish monolingual children.

Regarding the overproduction of subject pronouns in child bilingual Spanish, if there is interlinguistic influence, as investigated by Paradis & Navarro (2003), we would expect bilingual Spanish to contain more overt subjects than monolingual Spanish because of influence from English. However, we hypothesize that this is not to be expected because (a) the obligatory presence of subject pronouns in English is a core syntactic phenomenon; and (b) null subjects —and agreement markers— are very pervasive in Spanish and occur both in matrix and in embedded sentences. This would in fact prevent children from interpreting the scarce instances of overt subjects in Spanish as misleading evidence. If there is no interlinguistic influence, bilingual Spanish would pattern like monolingual Spanish in terms of the number of overt subjects. This is what we expect because the obligatory presence of overt subjects in English, the potential influenc*ing* language, is regulated syntactically, which implies that, in contrast with null objects in German/Dutch, there is no interface involved.

Regarding the omission of subject pronouns in child bilingual English, it could be argued that Spanish could influence bilingual English. If this were the case, bilingual English would display a higher rate of omission of subject pronouns than monolingual English. However, this is not to be expected because (a) the licensing of null subjects in Spanish (the influenc*ing* language) is an operation of core syntax; and (b) the omission of subject pronouns is not grammatical in English, which implies that children will not encounter deceiving input in the influenc*ed* language. In fact, it is expected that bilingual and monolingual English patterns of subject omission will be similar because Spanish will not influence

English due to the fact that there is no interface involved in the influenc*ing* language, Spanish.

Also in relation to the omission of subject pronouns in child bilingual English, if it were the case that bilingual English showed a lower rate of omission of subject pronouns than monolingual English, we could argue that this is due to facilitating interlinguistic influence from Spanish as follows: Spanish has two different sets of subjects, strong pronouns (as in 6) which have pragmatic value, and pronominal agreement markers (as in 4) which only have syntactic value. This lexical specialization, transparency or saliency could influence the so-called Optional or Root Infinitive Stage (Wexler, 1994, 1998; Rizzi, 1993/1994, 1994) so that it would be shorter—and might have a lower incidence—in bilingual than in monolingual English.

Based on the above interface assumptions concerning directionality of influence as well as on the analysis of English and Spanish in terms of the way in which the EPP feature is checked, our working hypotheses are as follows:

1. THE DIRECTIONALITY OF INTERLINGUISTIC INFLUENCE. The grammatical operations that are candidates for causing interlinguistic influence are not core syntax operations but rather operations regulated at an interface; therefore, directionality of interlinguistic influence would go from the influenc*ing* language where the operation in question is interface-bound. In this respect, and since the obligatory realization of English overt subjects is regulated by core syntax, we expect no influence from English into Spanish in the case of Spanish pronominal subjects (as in Liceras *et al.*, 2008; and Liceras *et al.*, 2011). Similarly, we do not expect an influence from Spanish into English in terms of the existence of null subjects in Spanish, given the fact that their realization is also regulated by an operation of core syntax. Furthermore, we do expect interlinguistic influence from Spanish into English because Spanish has two sets of pronouns: agreement markers with a syntactic value and overt pronominals whose realization is regulated at the syntax-pragmatics interface. This leads us to our second issue, saliency.

2. LEXICAL SPECIALIZATION (SALIENCY). It has been argued (Fernández Fuertes & Liceras, 2010; Liceras *et al.*, 2012) that in a bilingual situation, as compared to a monolingual one, lexical specialization in one of the languages of the bilinguals would facilitate the acquisition of the other language. In this respect, the fact that Spanish has two different sets of subjects, strong pronouns which have pragmatic value and occupy a focus position (as in 6 above and 7 below), and pronominal agreement markers which only have syntactic value (as in 4 above), could

be interpreted as an instance of saliency: Spanish lexical saliency would facilitate the implementation of subject obligatoriness in English, since in English both pronominal functions are realized by the same set of lexical items (overt subject pronouns).

(7) Ellos no piden un alto el fuego pero nosotros sí
they not ask a cease the fire but we yes
'They are not asking for a cease-fire but we are'

The presence of two different types of subjects parallels the situation of the Spanish copula versus the English copula, as in Fernández Fuertes & Liceras (2010) and Liceras *et al.* (2012): Spanish influences English in terms of a lower rate of copula omission because of lexical specialization, i.e. the different lexical realization of Individual Level (*ser* as in 8) and Stage Level predicate types (*estar* as in 9) which are both realized as copula *be* in English.

• Individual Level predicates

(8) a. Patsy's a girl [(Peter, 2;03), L. Bloom, 1970]
'Patsy es una chica'
b. Elmo is blue [(Simon, 2;05), FerFuLice]
'Elmo es azul'

• Stage Level predicates

(9) a. Lady (is) on that [(Nina, 2;02), Suppes 1974]
'La señora (está) en eso'
b. I (am) hungry [(Leo, 2;11), FerFuLice]
'(Estoy) hambriento'

If our hypotheses regarding directionality of interlinguistic influence and lexical specialization are on the right track, we dot not expect to find overproduction of overt subjects in the Spanish of the bilinguals but expect to find fewer instances of RIs and of null subjects in the English of the bilinguals.

3. Methodology: Data selection and codification

3.1 Data selection

In order to analyze the production of subjects in English and in Spanish, we have selected (table 1) data from 5 children: Simon and Leo, the bilingual twins from the FerFuLice corpus in CHILDES[3]; Manuela, the bilingual child from the Deuchar corpus in CHILDES (as analyzed by Paradis & Navarro, 2003); María, the Spanish monolingual child from the Ornat corpus in CHILDES; and Naomi, the English monolingual child from the Sachs corpus in CHILDES.

Table 1: Data Selection

Child	Age range	MLUw range [Spanish]	MLUw range [English]	Corpus
Simon [EN/SP]	1;10 – 2;11	1.070 – 3.705	1.000 – 2.765	FerFuLice, CHILDES
Leo [EN/SP]	1;10 – 2;11	1.143 – 3.438	1.000 – 3.018	
Manuela [EN/SP][4]	1;07 – 2;06	1.114 – 2.510	1.160 – 3.355	Deuchar, CHILDES
María [SP]	1;07 – 2;06	1.481 – 4.647	---	Ornat, CHILDES
Naomi [EN]	1;06 – 2;07	---	1.058 – 3.689	Sachs, CHILDES

Table 2 shows the number of utterances that we have selected and analyzed. The numbers in bold correspond to the total number of utterances that we have codified to carry out this analysis. The numbers shown in square brackets correspond to the total number of utterances which were produced by each child during the periods depicted in Table 1.

Table 2: Number of utterances analyzed per child

Child	# Spanish utterances	# English utterances
Simon [EN/SP]	**2,464** [2,852]	**154** [2,749]
Leo [EN/SP]	**3,181** [3,673]	**292** [3,206]
María [SP]	**4,718** [7,023]	---
Naomi [EN]	---	**4,442** [10,162]

3.2 Data classification/codification

An important contribution of this study is the fact that, in order to determine whether, and if so how, adult input shapes child production, both the production of the children and that of the adults (a representative sample of the input they receive) have been considered.

In the case of the Spanish data, instances of null subjects have been codified in terms of the different agreement markers (i.e. 1st 2nd 3rd person singular/plural; 2nd person *tú—you* singular informal—versus *usted—you* singular formal—); unclear referent cases (i.e. when we could not identify the null subject of a verbal form); RIs in the case of infinitives, gerunds and participles as in (10); and cases of mismatches, that is, when there was a mismatch between the person-number expressed in verbal morphology and the actual referent as in (11).

(10) a. *poner* instead of "pongo"
to put put$_{1st\ ps}$

b. *cantando* instead of "estoy cantando"
singing (I) am singing

c. *venido* instead of "han venido"
come$_{participle}$ (they) have come

(11) a. *ves* instead of "veo"
(you) see (I) see

b. *come* instead of "como"
(he/she/you formal) eat (I) eat

Instances of Spanish overt subjects have been codified distinguishing personal pronouns from other types of overt subjects. Within this last group, overt subjects have been classified as follows: proper nouns; DPs (singular, plural); CPs (sentences); indefinites; demonstratives; coordinated subjects; RIs as in (12); post-verbal subjects as in (13) where the subject is the theme of an experiencer verb; other overt subjects (e.g. with transitive verbs, unaccusative verbs, state verbs, etc.) as in (14); and cases of mismatches, that is, cases in which the person-number used in the subject was different from the information in the verbal form as in (15).

(12) a. el niño comer
the boy to eat
b. el nene comiendo
the boy eating
c. yo comer
I to eat

(13) a. me gusta [el] *blanco*
me like the white
['I like the white one']
b. le duele *la cabeza* al muñeco
him hurts the head to the male doll
['The male doll's head hurts']

(14) a. ahí estás tú
there are you$_{\text{singular informal}}$
['you are there']
b. queda poco
left little
['there isn't too much left']

(15) a. *los niños viene* instead of "los niños vienen"
the boys come$_{\text{3rd ps}}$ the boys come$_{\text{3rd pp}}$
b. *el niño como* instead of "come"
the boy eat$_{\text{1st ps}}$ eat$_{\text{3rd ps}}$
c. *Pedro vas* instead of "va"
Pedro go$_{\text{2nd ps informal}}$ go$_{\text{3rd ps}}$

Null subjects in the English data were codified in terms of their referent (1st 2nd 3rd person singular/plural) or as unclear referent when we could not identify the null subject of a verbal form. We also codified non-adult-like uninflected forms such as bare forms [RI], gerunds and participles as in (16) and tense, in particular, present, past and use of a modal as in (17). Instances of English overt subjects have been codified distinguishing personal pronouns from other types of overt subjects; and, within this last group, overt subjects have been classified as follows: non-nominative pronouns as in (18); proper nouns; DPs (singular, plural); CPs; indefinites; demonstratives; coordinated subjects; non-adult-like uninflected forms such as bare forms [RI], gerunds and participles as in (19); tense, that is, present, past and use of a modal as in (20); post-verbal subjects as in (21);

and instances of a null copula, that is, predications where copula *be* is omitted and which corresponded to non-adult forms as in (22).

(16) a. *sing* instead of "he sings"
b. *singing* instead of "I am singing"
c. *gone* instead of "he is/has gone"

(17) a. *goes* instead of "he/she/it goes"
come instead of "they come"
b. *talked* instead of "he/… talked"
had gone instead of "we had gone"
c. *can go* instead of "I/… can go"
will eat instead of "he/… will eat"

(18) *me read you* instead of "I read you"

(19) a. *the boy eat* instead of "the boy eats"
b. *the boy eating* instead of "the boy is eating"
c. *I gone* instead of "I am/have gone"

(20) a. *he goes; they come; they have gone*
b. *he talked; we went; we had said*
c. *I can go; they will eat*

(21) gone the boy; goes the boy

(22) I_man; I_sleepy; I_here

A number of structures were not incorporated into the analysis because other issues such as word order due to pragmatic or syntactic requirements might interact with the use of null and overt subjects or their position. Thus, the following structures were not codified: imperatives, adult infinitives, existentials, impersonals, interrogatives, exclamatives that involve a *wh-* word, relatives that involve the subject, vocatives, and unproductive forms or fixed expressions as in (23).

(23) a. the ball *that is blue* is here
b. that's right
c. no veas
don't see
'you cannot imagine…', 'you should see…'

d. es que
is that
'well...'

We should point out that only forms that are productive in the children's discourse and that are integrated in a complete sentence were considered.

4. Patterns of omission/production of Spanish subjects

Tables 3.1 and 3.2 show the use of Spanish subjects by the English-Spanish bilingual twins, Simon and Leo, while table 4 refers to the English-Spanish bilingual child, Manuela, as presented in Paradis & Navarro (2003).

Table 3.1: Spanish null subject production: Simon & Leo (FerFuLice)

NULL				
		Simon	**Leo**	**Adults**
AGREEMENT MARKERS	1	61	98	281
	2A	1	6	366
	2B	0	1	0
	3	149	155	630
	4	12	3	438
	5A	0	1	101
	5B	1	0	3
	6	3	9	162
UNKNOWN REFERENT		0	0	0
ROOT INFINITIVES	INFINITIVE	3	0	0
	GERUND	0	0	0
	PARTICIPLE	2	7	0
MISMATCHES		1	0	0

Table 3.2: Spanish overt subject production: Simon & Leo (FerFuLice)

OVERT				
		Simon	**Leo**	**Adults**
AGREEMENT MARKERS	1	31	31	149
	2A	3	6	91
	2B	0	0	0
	3	1	8	31
	4	0	0	10
	5A	0	0	3
	5B	0	0	0
	6	0	0	12
PROPER NOUN		0	5	118
DP	SINGULAR	22	16	189
	PLURAL	4	2	39
CP		0	0	29
INDEFINITE	SINGULAR	0	2	23
	PLURAL	1	0	5
DEMONSTRATIVE	SINGULAR	15	36	376
	PLURAL	0	0	25
COORDINATED		0	0	7
ROOT INFINITIVES	INFINITIVE	1	1	0
	GERUND	0	1	0
	PARTICIPLE	2	3	0
VERB + SUBJECT	EXPERIENCER VERB	1	1	10
	OTHER	21	24	230
MISMATCHES		3	3	1

Tables 3 and 4 reveal that the vast majority of Spanish pronominal subjects used by all three bilingual children are 1st person singular and that there are significant differences among children in the omission/production patterns of sentential subjects: Simon and Leo produce significantly more null subjects than Manuela ($p = .02$ and $p = .005$). However, when we compare the number of overt pronominal subjects versus other lexical subjects produced by Manuela and the twins, we see that Manuela uses fewer pronominals (table 3.3 versus table 4). Therefore, it is not the use of a higher number of pronominal subjects that differentiate her from the monolingual children and the twins. Since lexical subjects are present in all languages, these data provide further evidence that Manuela's Spanish is not influenced by the English option of the null subject parameter.[5]

Table 3.3: Spanish null/overt subject production: Simon & Leo (FerFuLice)[6]

	NULL	OVERT		
		TOTAL	PRONOMINAL	LEXICAL
Simon	74.7 % [227]	25.3% [77]	45.45% [35]	54.55% [42]
Leo	72.03% [273]	27.97% [106]	42.45% [45]	57.55% [61]
Adults	62.14% [1981]	37.86% [1207]	32.8% [396]	67.2% [811]

Table 4: Spanish subject production: Manuela (Paradis & Navarro 2003)[7]

	NULL	OVERT		
		TOTAL	PRONOMINAL	LEXICAL
Manuela	64.68 % [152]	35.32% [83]	31.33% [26]	68.67% [57]
Mother	38.24 % [104]	61.76% [168]		
Father	40% [116]	60% [174]		

In the case of Simon and Leo, 12 cases of RIs were found with null subjects (5 for Simon and 7 for Leo), as in (24a) and (24b), and 8 with overt subjects (3 for Simon and 5 for Leo), as in (24c) and (24d). These cases represent at the most 3.6% of all the cases and differences between RIs with null versus RIs with overt subjects are never significant.

(24) a. _ no tener café [(Simon, 2;07), FerFuLice]
b. _ caer todas [(Simon, 2;00), FerFuLice]
c. yo corriendo [(Leo, 2;05), FerFuLice]
d. yo poner entonces [(Leo, 2;08), FerFuLice]

Inversions in the case of overt subjects are fairly common both in the case of the children (28.6% for Simon, 23.6% for Leo) and in the case of the adults (19.9%).

Regarding the adult input, significant differences appear in the distribution of null/overt Spanish subjects between the adult input to which Simon and Leo are exposed and that of Manuela's ($p \approx 0$). That is to say, in the case of Manuela adults use overt subjects significantly more frequently than null subjects. Therefore, Manuela and the twins differ in their use of null subjects and this difference is even more obvious in the adult input to which the children are exposed.

In fact, Manuela's higher number of overt subjects could be a result of the type of input to which she was exposed, and not of interlinguistic influence, as argued in Liceras *et al.* (2012) and Liceras (2011), and as Paradis & Navarro (2003) and Paradis (2011) have suggested. In particular, Manuela's higher number of overt subjects may be a reflection of the adults' overwhelming production of subject pronouns due to (a) non-native production in the case of the mother (and exposure to the Cuban variety); and (b) the Cuban variety of Spanish spoken by the father.

Tables 5.1, 5.2, and 5.3 show the use of Spanish subjects by the Spanish monolingual child, María. When we compare these data to the bilingual data in terms of the distribution of null/overt subjects (tables 3 and 4), we notice that Simon and Leo, the bilingual twins, produce more null subjects in Spanish than María, the monolingual child (in the case of Simon this difference is statistically significant, $p = .01$). In turn, Manuela, the other bilingual child, produces more overt subjects than María (although this difference is not statistically significant).

With regards to the adult input, Simon and Leo's patterns with that of María's in that they are all exposed to input that favours the use of null subjects, while overt subjects are favoured in Manuela's input. Significant differences appear between Manuela's input (39.5% average) and Simon and Leo's (62.14%), on the one hand, and María's (65.12%) ($p = 0$), on the other hand.

Table 5.1: Spanish null subject production: María (Ornat)

NULL			
		María	**Adults**
AGREEMENT MARKERS	1	264	247
	2A	21	241
	2B	1	0
	3	167	283
	4	22	101
	5A	0	3
	5B	6	0
	6	19	36
UNKNOWN REFERENT		27	1
ROOT INFINITIVES	INFINITIVE	35	1
	GERUND	3	0
	PARTICIPLE	2	0
MISMATCHES		2	0

Table 5.2: Spanish overt subject production: María (Ornat)

OVERT			
		María	**Adults**
AGREEMENT MARKERS	1	32	48
	2A	13	44
	2B	0	2
	3	3	6
	4	0	1
	5A	0	0
	5B	0	0
	6	2	0
PROPER NOUN		43	28
DP	SINGULAR	82	172
	PLURAL	14	37
CP		2	48
INDEFINITE	SINGULAR	6	5
	PLURAL	0	2
DEMONSTRATIVE	SINGULAR	36	92
	PLURAL	1	2
COORDINATED		0	1
ROOT INFINITIVES	INFINITIVE	3	0
	GERUND	0	0
	PARTICIPLE	0	0
VERB + SUBJECT	EXPERIENCER VERB	10	10
	OTHER	95	137
MISMATCHES		5	1

Table 5.3: Spanish subject production: María (Ornat)[8]

	NULL	OVERT		
		TOTAL	PRONOMINAL	LEXICAL
María	68.12 % [500]	31.88% [234]	21.37% [50]	78.63% [184]
Adults	65.12 % [911]	34.88% [488]	20.7% [101]	79.3% [387]

Therefore, in the case of Simon and Leo, there is no overproduction of subject pronouns, which evidences that there is no transfer from English. We would like to argue that this is a reflection of the fact that core syntactic phenomena (i.e. English overt subjects) do not transfer.

5. Patterns of omission/production of English subjects

Tables 6.1, 6.2, and 6.3 show the use of English subjects by the English-Spanish bilingual twins, Simon and Leo; and tables 7.1, 7.2, and 7.3. the production of the English monolingual child, Naomi.

A comparative analysis of the English bilingual data (tables 6) and the English monolingual data (tables 7) shows that, regarding the distribution of null and overt subjects, the bilingual children, Simon and Leo, produce a larger percentage of English overt subjects than Naomi, the monolingual child (Simon $p = .051$; Leo $p = 0$). This is also the case when we compare the null subjects with the overt pronominals. In fact, in this latter case the significance is even higher (Simon $p = .01$; Leo $p = 0$). In the case of uninflected forms, bilingual children produce less non-adult uninflected forms (8% in the case of Leo and 17.4% in the case of Simon) than the monolingual child (22%), a difference that is statistically significant between Leo and Naomi ($p = .009$).

Table 6.1: English null subject production: Simon & Leo (FerFuLice)

NULL				
		Simon	**Leo**	**Adults**
REFERENT	1	0	2	1
	2	0	0	1
	3	3	0	2
	4	0	0	0
	5	0	0	0
	6	0	0	0
UNKNOWN REFERENT		0	0	0
UNINFLECTED	BARE	2	0	0
	GERUND	1	0	0
	PARTICIPLE	0	1	0
TENSE	PRESENT	1	1	3
	PAST	2	0	0
	MODAL	0	0	1

Table 6.2: English overt subject production: Simon & Leo (FerFuLice)

OVERT				
		Simon	**Leo**	**Adults**
PERSONAL PRONOUNS	1	12	31	69
	2	22	1	97
	3	1	2	61
	4	1	4	24
	5	0	0	2
	6	0	0	6
NON-NOMINATIVE		0	0	0
PROPER NOUN		1	2	28
DP	SINGULAR	2	4	35
	PLURAL	0	0	8
CP		0	0	0
INDEFINITE	SINGULAR	0	0	0
	PLURAL	0	0	0
DEMONSTRATIVE	SINGULAR	1	4	28
	PLURAL	0	0	3
COORDINATED		0	0	4
UNINFLECTED	BARE	1	3	1
	GERUND	0	0	0
	PARTICIPLE	0	0	0
TENSE	PRESENT	18	45	270
	PAST	1	0	35
	MODAL	0	2	59
VERB+SUBJECT		0	0	3
NULL COPULA		0	2	0

Table 6.3: English subject production: Simon & Leo (FerFuLice)

	NULL	OVERT					
		TOTAL		PRONOMINAL		LEXICAL	
Simon	13.04%	[3]	86.96%	[20]	80%	[16]	20% [4]
Leo	4%	[2]	96%	[48]	79.17%	[38]	20.83% [10]
Adults	1.08%	[4]	98.92%	[365]	70.96%	[259]	29.04% [106]

Table 7.1: English null subject production: Naomi (Sachs)

NULL			
		Naomi	**Adults**
REFERENT	1	280	3
	2	3	7
	3	36	9
	4	1	1
	5	0	0
	6	4	0
UNKNOWN REFERENT		118	0
UNINFLECTED	BARE	71	1
	GERUND	68	2
	PARTICIPLE	4	0
TENSE	PRESENT	397	16
	PAST	23	3
	MODAL	24	1

Table 7.2: English overt subject production: Naomi (Sachs)

OVERT			
		Naomi	**Adults**
PERSONAL PRONOUNS	1	350	183
	2	86	284
	3	66	193
	4	1	41
	5	0	1
	6	28	27
NON-NOMINATIVE		23	0
PROPER NOUN		32	43
DP	SINGULAR	104	172
	PLURAL	4	16
CP		0	1
INDEFINITE	SINGULAR	19	11
	PLURAL	0	1
DEMONSTRATIVE	SINGULAR	120	197
	PLURAL	5	11
COORDINATED		0	1
UNINFLECTED	BARE	44	1
	GERUND	58	6
	PARTICIPLE	5	0

TENSE	PRESENT	692	902
	PAST	106	110
	MODAL	25	167
VERB+SUBJECT		10	1
NULL COPULA		20	0

Table 7.3: English subject production: Naomi (Sachs)

	NULL	OVERT			
		TOTAL	PRONOMINAL	LEXICAL	
Naomi	28.45% [324]	71.55% [815]	65.15% [531]	34.85%	[284]
Adults	1.66% [20]	98.34% [1182]	61.68% [729]	38.32%	[453]

Even though the total number of utterances analyzed is rather small, it shows that, in the case of Simon and Leo, there is no overproduction of null subjects in English, which evidences that transfer from Spanish does not have this effect. Rather, Spanish saliency represented by the two types of subjects seems to facilitate the projection of the adult-like English grammar by making the bilingual children meet the requirements of the adult grammar sooner than the monolingual child. In fact, the null-subject stage and the RI stage are overcome sooner than in the case of the monolingual, as evidenced by the lower rate of omissions and RIs in the data from these bilinguals.[9]

6. Conclusions

The Spanish data presented in section 4 and the English data presented in section 5 show that no overproduction of subject pronouns occurs in child bilingual Spanish and that Spanish bilingual children behave like Spanish monolingual children. This evidences that, as we have hypothesized, the fact that there is no interface involved in the influenc*ing* language (English) results in no interlinguistic influence. These data also show that the English of bilingual children contains less null subjects and also less RIs than the English of monolingual children. We argue that this is due to interlinguistic influence from Spanish which, in this case, has a facilitating effect since Spanish is the language that is lexically specialized. The fact that Spanish has two different sets of subjects, strong pronouns (as in 6) which have pragmatic value and pronominal agreement markers (as in 4) which only have syntactic value, could be interpreted as an instance of lexical specialization, as in the case of copula *be* realized as *ser* and *estar* (as in 8 and 9). In other words, Spanish would also facilitate the

implementation of subject obligatoriness in English (lexical transparency linked to a semantic dimension), since only in English both pronominal functions are realized by the same set of lexical items (overt subject pronouns).

The twins' data we have analyzed also seem to shed light on Paradis & Navarro's (2003) inconclusive results regarding interlinguistic influence: from the two options put forward by these authors (interference from English or the type of input) the type of input, as already hinted by Paradis (2011), seems to be a better candidate for explaining the overproduction of overt subjects by Manuela.

Going back to our working hypotheses, then, directionality of interlinguistic influence goes from the language where the operation in question is interface-bound. This entails that there would be no influence from English into Spanish in the case of Spanish pronominal subjects. In turn, lexical specialization (saliency) relates to the language where the structure in question is more lexically specialized. This entails that there would be influence from Spanish into English in the case of English null subjects.

What this proposal implies is that in a bilingual situation, as compared to a monolingual one, lexical specialization (saliency) in one of the languages of the bilinguals would facilitate the acquisition of the other language. In this specific case one of the L1s (Spanish) facilitates the projection of the Spec IP/TP (the type of merge in 5 above) and, as a result, the RI stage is shortened. This implies that lexical specialization may trigger a syntactic facilitating effect in specific areas of the grammar.

Notes

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[1] See Sorace (2011) and commentaries for an overview of the concept of interface in bilingualism.

[2] An anonymous reviewer asks what the feminine adjective is agreeing with in a sentence such as *'María no vino porque está cansada'* (Mary didn't come because she is tired) or *'Me siento cansada'* (I feel tired), if, according to Alexiadou and Anagnostopoulou's analysis, verb inflection satisfies the EPP and there are no little

pros. This reviewer states that the adjective cannot agree with the inflection because inflection might include Number but not Gender. We would like to suggest that there are two possible ways of dealing with the Gender formal feature. One is to assume that the bound pronominal *–mos* (*AGR*) carries the feature exactly the same as a realized personal pronoun (*ella*-she) or *pro*, given that it is a pronominal. This would ensure that checking takes place along the same lines. Alternatively, as we suggest in Martínez-Sanz & Liceras (2006), following Holmberg (2005), we could argue that there is a *pro* which is either deleted at PF, after Spell-Out, or which is derived as any other pronoun but is not assigned phonological features at the point of the derivation where syntactic categories receive phonological features. This would also take care of feature checking with the adjective.

[3] The twins, whom we have called Simon and Leo, live with their parents in Spain. The mother is a native speaker of American English and the father is a native speaker of Peninsular Spanish. The parents practice a strict 'one person one language' strategy of communication with the twins; the father always speaks to the children in Spanish and the mother always addresses them in English, except on those occasions where a monolingual Spanish speaker is present. For more information on the twin's background see CHILDES (<http://childes.psy.cmu.edu/manuals/>, bilingual acquisition) and Fernández Fuertes & Liceras (2010).

[4] Adapted from Paradis & Navarro's (2003: 378) table 1.

[5] We would like to thank an anonymous reviewer for pointing this to us.

[6] In the case of null subjects only agreement markers have been considered; in the case of overt subjects, personal pronouns, on the one hand; and PNs, DPs, CPs, INDs, DEMs, COORDs, on the other, have been included in this table.

[7] Adapted from Paradis & Navarro's (2003: 380 & 382) tables 2-3 & 4.

[8] As already stated in Table 3.3, in the case of null subjects only agreement markers have been considered; in the case of overt subjects, personal pronouns, on the one hand; and PNs, DPs, CPs, INDs, DEMs, COORDs, on the other, have been included in this table.

[9] It would be interesting to analyze Manuela's English data because we would expect similar results to the ones obtained by the twins, since non-native input from one of the parents would not be expected to lack a substantial native-like occurrence of the two types of Spanish subject pronouns.

References

Alexiadou, A. & Anagnostopoulou, E. (1998). Parametrizing AGR: word order, V-movement and EPP-checking. *Natural Language and Linguistic Theory* 16: 491-539.

Bel, A. (2001). *Teoria lingüística i adquisició del llenguatge. Anàlisi comparada dels trets morfològics emcatalà i en castellà*. Barcelona: Institut d'Estudis Catalans.

Bel, A., Liceras, J.M. & Perales, S. (2007). Modalidad e infinitivos independientes en la adquisición de lenguas. In R. Mairal et al. (Eds.), *Actas del XXIV Congreso Internacional de AESLA. Aprendizaje de lenguas, uso del lenguaje y modelación cognitiva: perspectivas aplicadas entre disciplinas*. Madrid: UNED.

Deuchar, M. & Quay, S. (2000). *Bilingual acquisition: theoretical implications of a case study*. Oxford: Oxford University Press.

Döpke, S. (2000). Generation of and retraction from crosslinguistically motivated structures in bilingual first language acquisition. *Bilingualism: Language and Cognition* 3: 209-226.

Fernández Fuertes, R. & Liceras, J.M. (2010). Copula omission in the English developing grammar of English-Spanish bilingual children. *International Journal of Bilingual Education and Bilingualism* 13: 525-551.

Fernández Soriano, O. (1989). Strong pronouns in null-subject languages and the avoid pronoun principle. In P. Branigan, J. Gaulding, M. Kubo & K. Murasugi (Eds.), *MIT Working Papers in Linguistics* 11: 228-239.

Genesee, F., Nicoladis, E. & Paradis, J. (1995). Language differentiation in early bilingual development. *Journal of Child Language* 22: 611-631.

Holmberg, A. (2005): Is there a little pro? Evidence from Finnish. *Linguistic Inquiry* 36: 533-564.

Hulk, A. & Müller, N. (2000). Bilingual first language acquisition at the interface between syntax and pragmatics. *Bilingualism: Language and Cognition* 3(3): 227-244.

Kato, M.A. (1999). Strong and weak pronominals and the null subject parameter. *Probus* 11: 1-38.

Liceras, J. M. (2011). Beyond (or besides) interfaces? On narrow syntax, directionality and input. *Linguistic Approaches to Bilingualism* 1: 54-57.

Liceras, J.M., Bel, A. & Perales, S. (2006). 'Living with optionality': Root Infinitives, bare forms and inflected forms in child null subject languages. In N. Sagarra & J.A. Toribio (Eds.), *Selected proceedings of the 9th Hispanic Linguistic Symposium*, pp. 203-216. Somerville, MA: Cascadilla Press.

Liceras, J.M., Alba de la Fuente, A. & Martínez Sanz, C. (2010). The distribution of null subjects in non-native grammars: Syntactic markedness and interface vulnerability. In M. Iverson *et al.* (Eds.), *Proceedings of the Mind/Context Divide Workshop*, pp. 84-95. Somerville, MA: Cascadilla Press.

Liceras, J.M., Perales, S. & Bel, A. (2007). Modality, non-finite forms, and the manifestation of the RI stage in null and non-null subject languages. In S. Baauw, J. van Kampen & M. Pinto (Eds.), *The Acquisition of Romance Languages. Selected Papers from the Romance Turn II*, pp. 97-111. Utrecht: LOT.

Liceras, J.M., Fernández Fuertes, R., Alba de la Fuente, A. & Tercedor, M.I. (2010). Lexically-based interlinguistic influence at the syntax-semantic interface: Copula omission in the English grammar of English-Spanish bilinguals. In C. Borgonovo, M. Español-Echevarría & P. Prevost (Eds.), *Selected Proceedings of the 12th Hispanic Linguistics Symposium*, pp. 183-193. Somerville, MA: Cascadilla Press.

Liceras, J.M., Fernández Fuertes, R. & A. Alba de la Fuente, A. (2012). Overt subjects and copula omission in the Spanish and the English grammar of English-Spanish bilinguals: on the locus and directionality of interlinguistic influence. *First Language* 31.

Liceras, J.M., Fernández Fuertes, R. & R. Pérez-Tattam, R. (2008). Null and overt subjects in the developing grammars (L1 English/L1 Spanish) of two bilingual twins. In C. Pérez-Vidal, M. Juan Garau & A. Bel (Eds), *A portrait of the young in the new multilingual Spain*, pp. 111-124. Clevendon: Multilingual Matters.

MacWhinney, B. (2000). *The Childes Project. Tools for analyzing talk. The Database*. Volume II. Mahwah, NJ: Lawrence Erlbaum.

Martínez-Sanz, C. & Liceras, J. M. (2006). A Minimalist account of variation in 'Contact Spanish': A new look at the distribution of null and overt subjects. Paper presented at the 10th Hispanic Linguistics Symposium, University of Western Ontario, Canada. October 19-20.

Müller, N. (1998). Transfer in bilingual first language acquisition. *Bilingualism: Language and Cognition* 1 (3): 151-172.

Nicoladis, E. (2002). What's the difference between 'toilet paper' and 'paper toilet'? French-English bilingual children's crosslinguistic transfer in compound nouns. *Journal of Child Language* 29: 1-20.

Ordóñez, F. (1997). *Word order and clause structure in Spanish and other Romance languages*. Doctoral dissertation, City University of New York.

Paradis, J. (2001). Do bilingual two year olds have separate phonological systems? *International Journal of Bilingualism* 5: 19-38.

—. (2011). The impact of Input factors on bilingual development: Quantity versus quality. *Linguistic Approaches to Bilingualism* 1: 67-70.

Paradis, J. & Navarro, S. (2003). Subject realization and interlinguistic interference in the bilingual acquisition of Spanish and English. *Journal of Child Language* 30: 1-23.

Rizzi, L. (1993/1994). Some notes on linguistic theory and language development: The case of root infinitives. *Language Acquisition* 3: 371-393.

—. (1994). Early null subjects and root null subjects. In T. Hoekstra & B.D. Schwartz (Eds.), *Language Acquisition Studies in Generative Grammar*, pp. 151-176. Amsterdam: John Benjamins.

Serratrice, L. (2002). Overt subjects in English: evidence from the marking of person in an English-Italian bilingual child. *Journal of Child Language* 29: 327-356.

Serratrice, L., Sorace, A., Filiaci, F. & Baldo, M. (2009). Bilingual children's sensitivity to specificity and genericity: evidence from metalinguistic awareness. *Bilingualism: Language and Cognition* 12: 239-257.

Serratrice, L., Sorace, A. & Paoli, S. (2004). Subjects and objects in Italian-English bilingual and monolingual acquisition. *Bilingualism: Language and Cognition* 7: 183-206.

Sorace, A. (2011). Pinning down the concept of "interface" in bilingualism. *Linguistic Approaches to Bilingualism* 1: 1-33.

Sorace, A., Serratrice, L. Filiaci, F. & Baldo, M. (2009). Discourse conditions on subject pronoun realization: testing the linguistic intuitions of older bilingual children. *Lingua* 119: 460-477.

Speas, M. (1994). Null arguments in a theory of economy of projection. *University of Massachusetts Occasional Papers in Linguistics* 17: 179-208.

Wexler, K. (1994). Optional infinitives, head movement and the economy of derivations. In D. Lightfoot & N. Hornstein (Eds.), *Verb movement*, pp. 305-382. Cambridge: Cambridge University Press.

Yip, V. & Matthews, S. (2000). Syntactic transfer in a Cantonese-English bilingual child. *Bilingualism: Language and Cognition* 3: 193-208.