

Accelerated Acquisition in Spanish-English Bilinguals: The Structural Transfer Hypothesis

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1. Introduction

The bilingual child does not fuse the two languages to which she is exposed; rather, in each language, most of the milestones she reaches, and even most of the errors she makes, align neatly with those of a monolingual acquiring that language. Hence it is generally agreed that the bilingual child acquires two separate grammars (e.g., Meisel, 1989, Genesee et al., 1995). Yet this separation does not preclude some influence between the two grammars as they develop, such that bilinguals sometimes acquire certain constructions earlier or later than monolinguals do (e.g., Hulk & Müller, 2000), and on rarer occasions bilinguals produce types of utterances not ever attested in monolinguals' speech (e.g., Döpke, 1998; Yip & Mathews, 2000).

Understanding cross-linguistic influence in the domain of syntax requires the identification of the conditions under which one developing grammar influences the development of the other grammar. One prominent proposal, that of Hulk and Müller (2000), stakes out two conditions required for negative cross-linguistic influence, which consists of a slower or different pattern of acquisition in comparison with monolingual norms. That proposal states that (i) cross-linguistic interference occurs at the syntax/pragmatics interface because of the challenge this presents even in monolingual acquisition, and that (ii) for interference to occur, surface structures must be sufficiently similar that they allow for an initial confusion of underlying forms. Other approaches have stressed that Hulk and Müller's two-constraint formulation on interference is deficient when additional language pairs or later stages of syntactic development are examined (e.g., Serratrice et al., 2004; Notley et al., 2007); in such instances, researchers suggest that other factors such as input frequency, transparency of syntax-pragmatics mapping, complexity of target structures, and Chomskyan economy principles might be usefully considered. Less commonly attested but theoretically consequential is cross-linguistic influence that accelerates bilinguals' acquisition of certain structures when compared with monolingual norms (e.g., Kupisch, 2005). Given the diversity of opinions on this subject, it is difficult to make predictions about whether, when, and what kind of influence will occur for any language pair.

Against Hulk and Müller's *Interference Hypothesis* predicting only negative cross-linguistic influence I present the *Structural Transfer Hypothesis* (STH), which supplies conditions for three types of cross-linguistic influence in bilingual first-language acquisition (BFLA): 'acceleration', in which bilinguals acquire a given construction earlier in development than monolinguals; 'delay', in which bilinguals acquire a given construction later in development than monolinguals; and 'interference', in which bilinguals pass through stages of linguistic development that monolinguals do not. The object of empirical investigation is the acquisition of wh-questions in Spanish-English (S-E) bilinguals, selected because these questions are known to pose difficulties in the monolingual acquisition of English (§2.1) and also engage the notoriously challenging C-domain, suggesting the possibility of interference (§2.2). Corpus analyses reveal that the acquisition of wh-questions in S-E bilinguals is in fact accelerated (§3), a phenomenon explained by the STH (§4) when taken in light of a particular interpretation of Spanish syntactic development (§4.1). Finally, the STH is shown to capture a variety of instances of cross-linguistic influence found in the BFLA literature (§4.2).

* I would like to thank Géraldine Legendre, Paul Smolensky, members of the JHU Language Acquisition Lab, students in the Theory in Cognitive Science seminar, and audience members at WCCFL 29 for helpful comments on this work, which was supported by an IGERT grant awarded to the Cognitive Science Department at JHU.

2. Divergence at the C-domain

2.1. Errors and lack of errors in monolinguals' wh-questions

The wh-questions produced by monolingual Spanish-speaking children mirror adult ones from the earliest two-word MLU stages, containing all required functional and inflectional elements (see Serrat & Capdevila, 2001; Pérez-Leroux & Dalouis, 1998):

- (1) a. dónde está el nene? (MLU 2.26)
 where is the boy?
 b. qué está haciendo Mamá? (MLU 2.33)
 what is doing Mama?
 'What is Mama doing?' (Ornat corpus, CHILDES)
 c. qué va a hacer el papá? (MLU 2.77)
 what going to do the dad?
 'What is Dad going to do?' (Montes corpus, CHILDES)

On the other hand, monolingual English-speaking children's wh-questions are often far from perfect (see Klima & Bellugi, 1966; Smallwood, 1998):

- (2) a. what doing? (MLU 1.96)
 b. where other one gone? (MLU 2.50)
 c. what I got in? (MLU 2.91) (Manchester corpus, CHILDES)

Most visibly, non-target questions in English systematically display an absence or an incorrect usage of the auxiliary element, required in all English questions. But these auxiliary-omission errors accompany other divergences from the adult grammar, such as accusative subject pronouns (e.g., 'where me sleep?') or uninverted S-V orderings (e.g., 'where small trailer he should pull?').

How can the different patterns of use found in monolingual Spanish-speaking and English-speaking children be accounted for? Arguing for a gradual structure-building hypothesis, Pérez-Leroux and Dalouis (1998) claim that the disparity results from limited availability of syntactic structure, arguing that young children only have access to fully specified projections through the IP level of representation. In the absence of a CP, there is no way to derive both the inflection and the word order required for the production of a target wh-question in English (3a), while in Spanish this is perfectly possible (3b).

- (3) a. [_{IP} what [_{VP} the tiger say]]
 b. [_{IP} qué [_{VP} dice el tigre]]

Although this analysis of the difference between English and Spanish monolinguals' wh-questions is not universally accepted, other proposals explain English monolinguals' wh- errors along similar lines, attributing these to a sometimes inactive C-projection (Rizzi, 1994) or to a child-specific constraint preferring non-finite root forms in morphologically poor languages (Poeppel & Wexler, 1993). In any case, generative linguists agree that it is a defect related to the C-domain that causes English monolinguals' errors. With these different productive abilities in mind, several discrete predictions of cross-linguistic influence in the wh-questions of S-E bilinguals can be made.

2.2. Predictions of negative cross-linguistic influence in bilinguals' wh-questions

Two directions of cross-linguistic influence are possible in the S-E bilingual child (in addition to the possibility of there being no influence whatever): English might exert an influence on Spanish, or otherwise Spanish might exert an influence on English. Taking as a point of departure the widely recognized Interference Hypothesis, we can articulate a variety of predictions of negative influence stemming from mistakenly generalized structural constraints (i.e. head-movement). The possible influence falls into two distinct categories, *delay* and *interference*, where delay is understood as a

quantitative divergence from monolingual norms of development—bilinguals make a larger number of a certain type of errors than monolinguals do—while interference is a qualitative divergence from monolingual norms—bilinguals produce utterances that monolinguals do not.¹

First, one might find that the finite verb precedes negation, in an analogy with English:

- (4) *qué quieres no comer?
 what you-want not to-eat
 ‘What do you not want to eat?’ (cf. qué no quieres comer?)

It could also be the case that the child raises the subject above the lexical verb in Spanish, identifying that the class of verb (lexical as opposed to auxiliary) conditions the relative position of the subject, rather than the verb’s finiteness being the conditioning feature:

- (5) *a quién Elena ama?
 to whom Elena loves
 ‘Whom does Elena love?’ (cf. a quién ama E.? & E. a quién ama?)

The child could also interpret the abundance of auxiliaries in English wh-questions as a requirement that wh-questions in Spanish need an auxiliary as well, inventing a dummy verb similar to ‘do’:

- (6) *cuándo has ver la peli?
 when you-have to-see the film
 ‘When do you watch the film?’ (cf. cuándo ves la peli?)

Interference could consist in the somewhat dramatic deviations from monolinguals’ productions as shown above. Likelier, though, is that S-E bilinguals will develop a certain aspect of their syntax more slowly than monolinguals, particularly where evidence from English could make it seem like an optional, pragmatically-conditioned construction in Spanish were in fact the predominant pattern. For example, we can predict that S-E bilinguals will use overt subjects in Spanish wh-questions more often than monolingual Spanish-speakers, since an overt subject is obligatory in English, in turn providing evidence that an overt subject in Spanish—grammatical in some but not all contexts—is needed. As we will see, negative influence of either sort, delaying or interfering, is conspicuously absent from the Spanish wh-questions of the bilingual children studied here.

The other prospect of negative influence is from Spanish to English, but because of the diversity of errors that monolingual English-speaking children make in wh-question productions, uncovering instances of pure interference is effectively impossible.² Therefore, we only articulate predictions of delay: monolingual English-speaking children in effect produce errors that make English look more like Spanish (no auxiliary ‘where Daddy going?’, subject unraised ‘when run doggy?’, double inflectional markings ‘where’s the bed goes?’), and S-E bilingual children should make significantly more of these types of errors in English if it is the case that Spanish exerts an influence.

3. Wh- productions in Spanish-English bilinguals

Two CHILDES corpora containing the spontaneous productions of three S-E bilingual children and their parents (Deuchar & Quay, 2001; Licerias et al., 2008), along with one monolingual English corpus (Theakston et al., 2001) and one monolingual Spanish corpus (Montes, 1987), were analyzed using CLAN (MacWhinney, 2000). The children were matched for age and MLU; their ages at the

¹ Since the independent variable separating bilinguals from monolinguals is the fact that they are exposed to two languages throughout development, we attribute findings of delay and of interference to that fact. Individual variation could also be the cause of any such findings, however, so caution must be taken in drawing conclusions.

² If English were paired with another language, it would be possible to articulate predictions about word-order in English wh-questions that could be construed as interference rather than delay (i.e. with Cantonese, which lacks wh-movement; see Yip & Matthews, 2007); Spanish simply does not provide evidence for such orders.

time of recording span the period from 1;3 to 3;3, and initial MLUs are below 2. All *wh*-questions in both English and Spanish were extracted from the children's speech and from child-directed speech, and these were inspected for word order, verbal inflection, case, and auxiliary use where appropriate.

3.1. Overt subject use in Spanish

The Müller and Hulk (2001) proposal suggests that because *wh*-questions are dependent upon the syntax-pragmatics interface and are similar in surface form (beginning *wh*-phrase + *finite verb* + *subject DP* + (*non-finite verb*)), the necessary conditions are present for negative influence to arise. In §2.2 it was shown that both delay and interference in *wh*-question acquisition for the S-E language pair are expected. The relevant features of subjects in *wh*-questions in both languages are shown in Table 1.

Language	Speaker (# of ?s)	Null	Subj. Q.	Preposed	Postverbal	Total overt
Monolingual						
English	Becky (363)	3.3 (12)	2.9 (11)	N/A	N/A	96.7
Spanish	Koki (297)	60.3 (191)	6.3 (20)	6.3 (20)	27.1 (86)	33.4
Bilingual						
English	María (48)	0	0	N/A	N/A	100
	Leo (39)	0	0	N/A	N/A	100
	Simón (40)	0	0	N/A	N/A	100
Spanish	María (47)	37.2 (16)	0	4.7 (2)	58.1 (25)	62.8
	Leo (44)	43.2 (19)	13.6 (6)	9.1 (4)	34.1 (15)	43.2
	Simón (38)	65.8 (25)	5.3 (2)	0	28.9 (11)	28.9

Table 1: % subject placement in child productions (raw # in parentheses)

The finding that the bilingual children omit no subjects in their English *wh*-questions rules out a negative influence of Spanish, which admits null subjects, into English, which does not. Whatever pressure Spanish could have exerted on the null subject parameter setting for English appears to be too weak to overcome the strength of the ECP (Rizzi, 1994).^{3,4}

But the ECP and its modern successors do not preclude the insertion of excessive overt subjects in bilinguals' Spanish *wh*-questions, and in fact one of the bilinguals, María, uses significantly more overt subjects in her Spanish *wh*-questions than the monolingual control. However, the variety of Spanish in María's linguistic environment is Dominican, a Caribbean dialect that tends to contain a higher proportion of overt subjects than Peninsular or South American Spanishes. An analysis of Spanish child-directed speech in the Deuchar corpus yields an even greater percentage of *wh*-questions containing an overt subject (361/524: 68.9%); this may be due in part to contact with English but is more generally a defining trait of Caribbean Spanish (Goodall, 2007). Therefore, we can rule out an observable influence of English on María's Spanish, just as we can for the other two children who reflect monolingual norms (as well as their parents' overt subject distribution in Spanish).

A look at the distribution of overt and null subjects in S-E bilinguals' *wh*-questions yields no sign of cross-linguistic influence of any sort, either positive or negative. Importantly, the bilingual children do not surpass their parents with regard to the use of overt subject DPs in Spanish *wh*-questions, signaling that the English target requirement that every *wh*-question contain an overt subject has not influenced the children's Spanish even minimally. Another aspect remains to be investigated, however, and this will supply an instance of accelerating transfer.

³ The ECP requires that an empty category be chain-connected to an antecedent, so when a child projects the full CP and accompanying *wh*-phrase, she cannot license a null subject below CP, making subject omissions unlikely.

⁴ It should be noted that studies of overt and null subject use in S-E bilinguals across all utterance types (i.e., including declaratives and yes/no questions) exhibit a less straightforward pattern: Paradis and Navarro (2003) find that the proportion of null subjects that an S-E bilingual child uses is on par with that of monolinguals but that she sometimes ignores discourse-pragmatic constraints on overt-subject use; Liceras et al. (2010) do not address discourse-pragmatics but determine that there is no influence from English in their subjects' Spanish grammars. The studies are hard to reconcile because of the limited data presented in the latter, but the former emphasizes the importance of discourse-pragmatic constraints when formulating predictions of delayed acquisition, like the STH.

3.2. Auxiliary insertion and raising in English

The inclusion of the auxiliary is notoriously variable in monolingual English-speaking children's speech, so there is an a priori expectation that S-E bilinguals, who receive abundant overt evidence of auxiliary-free utterances via Spanish, may omit even more auxiliaries than their monolingual peers. There are two matters of interest with regard to the auxiliary in wh-questions in English: whether it is included at all and whether it is raised to C⁰ to check the [+Q] feature associated with the wh-phrase. We include in counting missing auxiliary elements any omitted copular main verbs as well ('where Mommy?' instead of 'where is Mommy?') since it can be assumed that copulas are also supposed to be inserted above the VP, carrying no semantic value. Even in declarative sentences with compound verb forms, monolingual English-speaking children tend to omit the auxiliary element at the same stage as that in which they tend to omit the copula; copular 'be' forms emerge before auxiliary 'be' forms (cf. Wilson, 2003). Since the copula is supposed to be acquired first and we are looking for evidence of (at least) an IP just as Pérez-Leroux and Dalouis (1998) propose, any omissions of either are relevant to this study. Table 2 shows the frequency with which the children, both monolingual and bilingual, use auxiliaries correctly and incorrectly in English wh-questions.

Corpus	Speaker (# of ?s)	Auxiliary element ⁵			
		Omitted	*Infl.	Subj.-Q w/ aux	2× infl.
Manchester	Becky (363)	29.5 (107)	3.9 (14)	3.6 (13)	1.7 (6)
Deuchar	María (42)	0	0	0	0
Ferfulice	Leo (39)	10.3 (4)	0	0	0
Ferfulice	Simón (40)	10.0 (4)	0	0	0

Table 2: % auxiliary errors in child productions of English wh-questions (raw # in parentheses)

Note first the difference in performance between the first two children in the table: Becky, the monolingual English speaker, and María, the balanced English-Spanish bilingual. In the monolingual Manchester corpus, 29.5% of auxiliary elements are omitted in contexts where the auxiliary is required, similarly to what Stromswold (1995) documented in monolingual English-speaking children using a much larger subject pool (14 children, age 1;2 to 7;10). She found that auxiliary omissions in wh-questions were significantly more frequent than omissions of subject-DPs or of lexical verbs. But in contrast, in the bilingual Deuchar corpus, the child never fails to include the auxiliary element where it is required in English wh-questions, nor does she fail to invert the auxiliary and the subject or to inflect the auxiliary appropriately. The bilingual girl's English wh-questions in this corpus are therefore error-free, in spite of monolinguals' tendency to err in producing the same type of utterance. What we observe in the Deuchar corpus, then, is a not a delaying but a facilitating effect of the child's bilingualism, which we discuss further below.

In the second bilingual corpus, the Ferfulice corpus, only a total of 8 of the wh-questions in the twins' English speech are missing an auxiliary. Although the results obtained for this corpus are not quite as clean as those in the Deuchar corpus, they do follow the same trend. And as the errors represent a percentage of total wh-questions of about 10, we construe them as noise and attribute them to a number of factors, including these children's more limited exposure to English, attested by the authors of the study. A chi-square test also confirms that both the patterns in the Ferfulice corpus are significantly different from what was observed in the sample of the Manchester corpus and so do not represent the null (no-transfer) hypothesis for acquisition of this structure: for Leo $\chi^2=5.583$ ($p<0.02$) and for Simón $\chi^2=5.907$ ($p<0.02$). Since the twins are reported to be Spanish-dominant, it is possible that they do not possess a sufficient awareness of English, perhaps even on a phonological level, to have mastered wh-questions as completely as the more balanced bilingual child, María; it has been proposed that the low phonological salience of the auxiliary element may make the auxiliary difficult to track for young children. Given that Leo and Simón use Castilian Spanish phonological traits in their English speech, a fact which might bespeak a weaker capacity for auditory processing of English as well, their ability to process auxiliaries in their caregivers' speech may be inferior to that of María.

⁵ Auxiliary element labels: 'Omitted' = an auxiliary omitted where required; '*Infl.' = incorrect inflection used, i.e. singular-plural disagreement; 'Subj.-Q w/ aux' = subject question where auxiliary is incorrectly included; '2× infl.' = finite inflection on auxiliary and lexical verb.

With respect to the cross-linguistic influence, then, both the Interference Hypothesis and the Structural Transfer Hypothesis claim that the language which receives the influence must be in some way vulnerable—the variation in auxiliary-inclusion in monolingual English-speaking children would attest to the vulnerability of this particular domain. As such, without sufficient exposure to what is needed for forming *wh*-questions in general, bilingual children, too, may fail to include auxiliary elements even if the underlying structure is available. The paucity of the twins' English-language input relative to that in the Deuchar corpus serves as an explanation for the few errors that Leo and Simón do produce, considering both the phonological challenge that auxiliary elements present and also the decreased evidence they have in their daily life to help them develop a rule for including an auxiliary.

Additionally, although the frequencies of other auxiliary errors are quite low in the monolingual English corpus, they are entirely absent in bilingual corpora. This fact is further attestation that the children have the structure and the appropriate features that allow them to form grammatical questions with statistical regularity rather than at chance, as the monolingual child does. Such an overall difference in performance between the monolingual children and the bilingual children is predicted by the Structural Transfer Hypothesis, the details of which are discussed in the next section, while it cannot be accommodated by the Interference Hypothesis.

4. The Structural Transfer Hypothesis

Given the data examined here, it appears that English-Spanish bilingual children do not have the same difficulty including the necessary auxiliary element in *wh*-questions as do monolingual children acquiring English; in fact, they have significantly less trouble. The observation that English-Spanish bilingual children appear to master the formation of *wh*-questions more completely and earlier than monolingual English-speaking children disconfirms the predictions made by the Interference Hypothesis and requires an explanation that will accommodate this new finding along with those already presented in the literature. The Structural Transfer Hypothesis recognizes the three types of cross-linguistic influence given in (7).

(7) The Structural Transfer Hypothesis

- a. Facilitation occurs when syntactic-structural conditions overlap: identical syntactic structure is used by both languages, causing bilingual children reliably to produce adult-like utterances earlier in development than monolinguals;
- b. Delay occurs when discourse-pragmatic constraints conflict: the rules for using grammar-external 'special' structures are confused, causing bilingual children reliably to produce adult-like utterances later in development than monolinguals;
- c. Interference occurs when parametric settings (broadly construed as grammar-internal regularities) conflict: grammar-specific generalizations such as head-parameter settings and *wh*-movement settings interfere with one another, causing bilingual children to produce utterances that neither monolinguals nor adults are found to produce.

We will return to (7b) and (7c) when reconsidering previous attestations of cross-linguistic influence, but the focus of this investigation is now to understand why S-E bilingual children have a superior ability to produce target-like *wh*-questions early in their linguistic development. (7a) suggests that there must be syntactic structure available that allows bilinguals to bootstrap one of their grammars onto the other, such that the development of the grammar of one language is in effect facilitated by the prior development of the other. Since the advantage in this language pair is seen flowing from Spanish into English, what remains to be seen is how Spanish can support the speedier acquisition of English.

4.1. Structure-building in Spanish

In §2.1 we reviewed Pérez-Leroux and Dalouis's (1998) account of the disparity between English and Spanish monolinguals' *wh*-questions in early production. That account proposed that with only a limited amount of structure, Spanish-speakers could produce adult-like *wh*-questions while English-speakers could not; the analysis the authors adopt is that of gradual structure-building, in which the

principles of economy of projection and economy of movement are dominant in early grammars and are only overcome later in the acquisition process. But this conclusion is clearly at odds with the results presented in this paper: if these are the strongest principles active in young children's grammars, how can bilinguals surpass monolinguals precisely on structural terms, and with even less input in each of their respective languages in comparison with monolinguals?

I argue that the best way to explain the disparity between monolinguals' and bilinguals' performance is by showing that a facet of a Spanish grammar could plausibly be at a more advanced stage of development than an English grammar possessed by a child of the same chronological age. In this case, just as delay and interference are caused by interactions between the child's two sets of linguistic knowledge, so is facilitation; but rather than getting in the way of grammatical development, facilitation consists of a syntactic structural bootstrapping effect from one grammar to the other.

As for how facilitation could arise in S-E bilinguals, I claim that the use that Spanish makes of the C-domain causes acquirers of Spanish—both monolingual and bilingual—to develop a reliably accessible CP earlier in their linguistic development than acquirers of English can do, based on what is contained in the input. Crucially, evidence for the C-domain is abundant in child-directed speech: topicalized and focused objects, often involving clitic left-dislocations; topicalized and focused subjects; and objects and subjects that precede *wh*-phrases point toward a need for positions higher than IP in order to get Spanish off the ground. What is more, children acquiring Spanish make use of these types of constructions even before age 3, as in (8), indicating that they have available positions that children acquiring English show no sign of possessing.

- (8) a. los míos no los voy a poner [Koki, 2;11]
 det mine not det going.1sg to put.inf
 'Mine I'm not going to put there'
 b. esto que estaba pegado ahí dónde está ? [Koki, 2;7]
 this that was stuck there where is
 'Where's this thing that was stuck up there?'

Although there is some disagreement about where overt preverbal subjects are located in Spanish when the primary data considered come from the adult grammar, the acquisition data in monolinguals have converged on the conclusion that overt preverbal subjects reside in the C-domain (e.g., Grinstead, 2004; Villa-García & Snyder, 2010). Yet another source of evidence that the C-domain is active early in Spanish-acquiring children's grammar is their tendency to respect target information structural constraints, in particular the use of *pro* for at-issue subjects and full DPs for new ones (Paradis & Navarro, 2003). We thus have a pair of strong reasons to believe that children acquiring Spanish have a CP early, which on our hypothesis can be utilized in the English grammar: (i) evidence for the need for a CP abounds in Spanish child-directed speech, and (ii) children use CP-dependent constructions productively from early in their linguistic development.

4.2. Documented cross-linguistic influence and the STH

While we have explained in detail how it is possible that Spanish should facilitate the acquisition of English when the two languages are acquired together, the STH has little theoretical value if it cannot also unite our understanding of other instances of cross-linguistic influence. Three separate observations from previous studies documenting cross-linguistic influence, representing each of the three conditions set out by the STH, are shown to follow as predictions from the STH: copula use in S-E bilinguals (as presented by Fernández Fuertes and Licerias, 2008), object-drop in Romance-Germanic bilinguals (as seen in Hulk and Müller, 2000), and word-order confluations in German-English bilinguals (as documented in Döpke, 1998).

Fernández Fuertes and Licerias (2008) show that the bilingual twins in the Ferfulice corpus display a very different pattern of copula use in English from what is seen in English monolinguals: the bilinguals omit far fewer copulas than an age- and MLU-matched monolingual, in an apparent case of positive cross-linguistic influence, or facilitation. The authors hypothesize that this is an effect of the lexical separation between the copula of stage-level predicates (*estar*) and the copula of individual-

level predicates (*ser*), whose differentiation facilitates the early implementation of the Temporal Anchoring Constraint requiring an operator in T. Referring back to (7a), we can recall that, on the STH, facilitation occurs when syntactic-structural conditions overlap: so long as a constraint would be independently contained in the two grammars and nothing prohibits sharing (like a pair of stronger yet conflicting constraints), that constraint can be shared to an accelerating effect among the grammars. Much like the focal case of this paper—bootstrapping onto early-established Spanish structure—the English grammar in the Fernández Fuertes and Liceras study also benefits from the indications that Spanish provides for the need to include a particular element in a given utterance type.

Returning to one of the first attested cases of cross-linguistic influence, Hulk and Müller (2000) identify the overuse of object drop by Germanic-Romance bilinguals: it is a question of pragmatics as to how often speakers of each language employ object drop, but there are a greater number of discourse-pragmatic licensing conditions for this phenomenon in Germanic languages than in Romance languages, so it is more frequently used in Germanic. In Romance, on the other hand, object drop without a clitic is most frequently prohibited outside of a few grammaticalized idioms. As such, the overall distribution of object drop is more constrained in Romance than it is in Germanic, but the low phonological salience of object clitics coupled with the handful of null-object idioms appears to provide enough evidence for the bilingual child to misanalyze the Romance pattern. These children drop objects more often than monolingual controls until the stage at which the CP is firmly established, hence Hulk and Müller's commitment to seeing interference at the syntax-pragmatics interface. This case of delay is predicted by (7b): conflicting discourse-pragmatic constraints on object-drop, technically external to the grammar itself, lead the bilingual child to overextend an option which is available both to her and the monolingual acquirer of Romance.

Finally, the competing cues that Döpke (1998) argues are to blame for German-English bilinguals' anomalous utterances can also be exchanged for (7c), which states that conflicting grammar-internal regularities give rise to interference. German-English bilinguals (inappropriately) use V2 ordering in English declaratives and other times (inappropriately) raise the lexical verb out of its base-generated position in German matrix clauses containing an auxiliary. Rather than this being a confounding of surface orders, the STH explains that bilingual children's causal grammatical system cannot easily sort out the constraints that condition movement of verbal elements and their arguments in each language.

5. Conclusion

The analysis of spontaneous productions of S-E bilingual children has yielded an important case of facilitating cross-linguistic influence, the first that does not just suggest structural sharing but requires it. We have seen that monolingual English-speaking children do not possess representations rich enough to house all of the morphemes that are present in the *wh*-questions that they receive as input, hence the disparity between their performance and bilinguals'; in fact, no productive construction in English would suggest that English-speaking monolinguals have a full CP at this age. In contrast, on the basis of certain characteristics of child-directed speech, monolingual and bilingual acquirers of Spanish develop a reliable CP earlier than monolingual English-speakers do—an account that entails embracing those theories of syntactic development which permit certain characteristics of the input to condition, in previously unexpected ways, the unfolding of grammatical structure. And finally, the structure available in the Spanish grammar, being fully specified, is shared by the English grammar and used in the formation of English *wh*-questions. The STH places importance on grammatical structure and as well as the contents of child-directed speech, and holding these both as fundamental, it predicts the S-E result as well as several others found in the literature. In the future, the predictions of the STH will be made more precise—what, for instance, are the exact constraints whose conflation can give rise to interference?—and will be subjected to experimental scrutiny. For example, it is in principle possible that structural priming will elicit interference-type errors in bilinguals who evince such behaviors only infrequently, akin to the elicitation of 'overt *wh*-traces' in monolingual English-speakers (e.g., Oiry and Roeper, 2008). More spontaneous production data should be collected as well, both of Spanish-English bilingual children and of children acquiring other language pairs, particularly those for which structural ambiguity and surface order complications would deliver different linguistic behaviors: if the STH is correct, then the chief predictor is likely to be structure.

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Proceedings of the 29th West Coast Conference on Formal Linguistics

edited by Jaehoon Choi, E. Alan Hogue,
Jeffrey Punske, Deniz Tat,
Jessamyn Schertz, and Alex Trueman

Cascadilla Proceedings Project Somerville, MA 2012

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This paper can be cited as:

Hsin, Lisa. 2012. Accelerated Acquisition in Spanish-English Bilinguals: The Structural Transfer Hypothesis. In *Proceedings of the 29th West Coast Conference on Formal Linguistics*, ed. Jaehoon Choi et al., 108-116. Somerville, MA: Cascadilla Proceedings Project. www.lingref.com, document #2693.