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CROSS-LINGUISTIC INFLUENCE IN BILINGUAL CHILDREN: THE CASE OF DISLOCATION

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Serratrice et al. (2004) propose to extend Hulk & Müller's (2000, 2001) hypothesis on cross-linguistic influence in early child bilingualism to include cases of influence after instantiation of the C-system (i.e. at a later stage of development). In the present article, we explore whether such an extension can successfully account for the use of dislocation, a topic-marking device, in French-English and French-Dutch bilingual children. On the one hand, our results support the extended formulation of the model: we find cross-linguistic influence in the bilingual data as predicted. On the other hand, certain aspects of our results cannot be sufficiently accounted for under the extended formulation. We discuss several other factors which may interact with those cited in Hulk & Müller's model, such as input frequency, transparency of syntactic-pragmatic mapping, complexity of syntactic structures, and Chomskyan economy, which may need to be considered in future research on cross-linguistic influence.

1. Introduction

Currently, most researchers agree that bilingual children are able to differentiate their two language systems from a very early age (see for example: Paradis & Genesee 1996; Müller 1998; Deuchar & Quay 2000; Döpke 2000). This view of language development has become known as the separate language hypothesis. Nonetheless, the separate language hypothesis does not exclude the possibility of systematic cross-linguistic influence. Much recent study in the area of bilingual language acquisition has concentrated on defining the factors (and in particular, the language-internal factors) involved in such cross-linguistic influence.

Hulk and Müller (2000:228) were among the first to propose an explicit hypothesis predicting when to expect cross-linguistic influence. They suggest that:

“...cross-linguistic influence...is possible only if the *two* following conditions are both met:

- (i) Cross-linguistic influence occurs at the *interface* between two modules of grammar, and more particularly at the interface between pragmatics and syntax in the so-called C-domain, since this is an area which has been claimed to create problems in L1 acquisition also.
- (ii) Syntactic cross-linguistic influence occurs only if language A has a syntactic construction which may seem to allow more than one syntactic analysis and, at the same time, language B contains evidence for just one of these possible analyses. In other words, there has to be a certain *overlap* of the two systems at the surface level.”

If these two conditions are met, it is further assumed that the *direction of influence* will be from the language containing strong evidence for a construction compatible with default discourse licensing strategies, into the language with limited evidence for such a strategy.

In 2001, Müller and Hulk expand on their idea of default discourse licensing strategies. They introduce the notion of ‘mapping induced influence’ (2001:2) to their theory, and refer explicitly to *universal pragmatic licensing strategies* which have to be translated onto language specific syntactic rules. They hold that the child begins with a minimal default grammar in which universal pragmatic strategies (such as discourse licensing) must be mapped onto language specific syntactic rules. A bilingual child presented with input which reinforces his/her default grammar may persist longer at a universal stage. Moreover, they suggest that this universal stage corresponds to a stage when the C-domain is radically underspecified.

Hulk and Müller (2000; 2001) support their hypothesis with evidence on object drop and root infinitive use in Dutch-French, German-French and German-Italian bilingual children. Germanic and Romance languages differ in their use of object drop (Germanic languages allow discourse licensing of clause-initial empty object topics, while Romance languages generally license topical objects through use of a preverbal clitic), but not in their use of root infinitives. As predicted by their hypothesis, before the C-system is in place, Germanic-Romance bilingual children use object drop in their Romance language to a higher degree than monolingual children, while they show no significant difference to their monolingual peers in terms of root infinitive use.

However, in restricting the domain of application of their hypothesis to a stage when the C-domain is still radically underspecified, Hulk and Müller cannot explain cross-linguistic influence occurring after instantiation of the C-system. Yet such influence has been shown to occur. For example, bilingual children acquiring a pro-drop and a non-pro-drop language show deviant use of lexical subjects in their pro-drop language (Paradis & Navarro 2003; Serratrice & Sorace 2003; Serratrice, Sorace & Paoli 2004), and this has been found even

after the age of 3 in the Italian-English bilinguals studied by Serratrice, Sorace and Paoli (2004). To account for this within the framework of Hulk & Müller's hypothesis, Serratrice et al. (2004) propose to extend the theory to include cases of cross-linguistic influence after instantiation of the C-system.

In fact, this extension implies another modification of Hulk & Müller's hypothesis, one not explicitly outlined by Serratrice et al. (2004). That is, after instantiation of the C-system, it will probably no longer be possible to say that cross-linguistic influence only takes place when the (apparent) overlap crucially involves a universal/default strategy and that this influence manifests itself in the form of reinforcement of this strategy. In other words, under Serratrice et al.'s 'extension', the only elements that can be retained from Hulk & Müller's original hypothesis are the two conditions formulated in the 2000 paper, namely (i) the phenomenon must involve the interface between two modules of grammar, and (ii) overlap between the two grammars must exist. Without the notion of universal default strategies, no prediction about the direction of cross-linguistic influence can be made on the basis of this proposal.

In the present article, we will explore whether such an extension of Hulk & Müller's hypothesis can successfully account for the use of dislocation, a topic-marking device and thus an interface phenomenon, in French-English and French-Dutch bilingual children (the data for the French-English children come from Notley 2004, 2005). By looking at the development of dislocation use from an early age until after age 3, we aim to determine whether cross-linguistic influence occurs both in early and later stages, or not. Because the bilingual data we have used does not allow us to establish beyond doubt at which age the C-domain is fully instantiated in the children's grammars, we have chosen to distinguish between dislocations occurring in finite utterances, considering these as examples of a more advanced stage, and dislocations occurring in utterances containing either a non-verbal predicate or a infinitival verb, considering these as examples of an early stage of development. For the sake of presentation the latter are labeled non-finite dislocations in the rest of this article.

The paper is organised as follows. In the first half of the paper, the topic systems of French, English, and Dutch will be briefly presented, with particular reference to the use of dislocation in all three languages. The frequency of these dislocation constructions in adult input to children will also be considered, as well as the acquisition pattern of dislocation structures in monolingual French, English and Dutch children. Based on these three sources of information, and working with the new formulation of Müller & Hulk's 2001 model, we will propose some exploratory predictions for dislocation use in bilingual children. In the second half of the paper, we give the results for bilingual development of dislocations in each language. Finally, we assess our findings in terms of the predictions. We will then discuss how factors not dealt

with by the new formulation of Müller & Hulk's model may be contributing to the cross-linguistic influence observed.

2. *Marking Topic: the role of Dislocation*

To be able to successfully manipulate information in the discourse, speakers need to organise and classify propositions exchanged. One of the means available to them to do this is by using sentence topics. Sentence topics correspond to 'the expression [in a sentence] whose referent the sentence is about'. (Reinhart 1982:5). Typically, a topic communicates old or given information.

Means of overtly signaling topic include the use of prosody contours, constituent order, and special markers or constructions. Dislocation falls into this last category, being a construction in which the topic is placed at the left or right periphery of the clause and is accompanied by a resumptive element within the clause. Not all languages use the same means to mark topic, but French, English, and Dutch all do employ some form of dislocation.¹ The expression of topic using dislocation is a clear interface phenomenon, because it involves the use of syntactic means to indicate a pragmatic function. As such, it fulfills the first condition of Hulk & Müller's hypothesis.

3. *Dislocations in the Adult Systems*

For this study, we restrict ourselves to the dislocation of subjects and objects only. Examples of left and right dislocation in the three languages being examined are given below:

Subject, left dislocation

Context: Is Peter coming tonight?

ENG: No. Peter, he won't come.

DUT: *Nee. Peter, die komt niet.*

FRA: *Non. Pierre, il ne viendra pas.*

Subject, right dislocation

?He won't come, Peter.

?*Hij/die komt niet, Peter.*

Il ne viendra pas, Pierre.

Object, left dislocation

Context: Have you read War and Peace?

ENG: That book, I didn't like it.

DUT: *Dat boek, dat vind ik niet goed.*

FRA: *Ce livre, je ne l'aime pas.*

Object, right dislocation

I didn't like it, that book.

Ik vind het niet goed, dat boek.

Je ne l'aime pas, ce livre.

¹ All three languages can also express topic using a construction typically called 'topicalisation', in which the topic is placed to the left side of the clause but not repeated in the form of a resumptive element within the clause. Additionally, and in contrast to French, Dutch and English can use prosody as a means of expressing topic. In Dutch this can also often be combined with topic-drop, especially when the topic is an object. We will not be concerned with any of these topic-marking means here.

As these examples show, superficially, dislocations in the three languages look similar. Syntactically, the dislocated element is normally a definite form and is accompanied by a resumptive pronoun within the clause. Pragmatically, the dislocated constituent is always a topic. In general, speakers mark topics to fulfill one or more of four major topic functions: *establishing referents* in the discourse, *maintaining referents* in the discourse, *switching or re-establishing referents* in the discourse, and *creating topical contrast*. In all three of the languages under discussion, *left* dislocation can be used to fulfill any one of these functions (to maintain, to switch, to emphasize or to contrast topics), while *right* dislocation is used primarily to maintain a topic.

There are, however, also a series of important differences between the three languages. As far as syntax is concerned, Dutch left dislocation differs from French and English in several respects. The resumptive element in Dutch is not a personal pronoun but a demonstrative pronoun that has moved from its base position to the left periphery. The finite verb has also moved to the left periphery (V2 movement). This means that when the left dislocated element is the direct object, the subject is found in post-verbal position, as shown in (1):

- (1) *Aardbeien, die lust ik niet.*
Strawberries, those like I not

Left dislocations in Dutch are thus more complex syntactic structures than in French and English².

As far as pragmatic properties are concerned, there are differences in the use of dislocation between the three languages. Although *left* dislocation may be

² In recent years, several analyses of (Romance) Clitic Left Dislocation (CLLD) and Clitic Right Dislocation (CLRD) have been defended. According to the adjunction hypothesis, CLLD involves adjunction of the dislocated constituent to the left of XP, whereas CLRD involves adjunction to the right of the same or another XP (De Cat 2003). Since, in Kayne's Antisymmetry theory, adjunction is not allowed, Kayne (1994) proposes that dislocated constituents are merged in complement position. Whereas a left-dislocated constituent moves overtly to the left, this happens covertly, i.e. at LF, in the case of CLRD. According to a third analysis (i.e. Cecchetto 1999; Villalba 1998), a clitic right-dislocated constituent moves to a TopicP in the left periphery of the VP, while a left-dislocated constituent moves to a higher TopicP, in the CP area (Rizzi 1997). In CLRD sentences, the VP-peripheral TopicP is immediately dominated by a FocusP that hosts the remainder of the sentence. A fourth analysis maintains that both left- and right-dislocated items first move leftward to or are merged in the specifier of a TopicP in the left periphery of the clause and that right dislocation results from further raising of the remnant IP to the specifier of a phrase dominating the TopicP (Cardinaletti 2002; Frascarelli 2004; Samek-Lodovici 2006). For the sake of simplicity, we adopt de Cat's adjunction analysis here, a serious discussion about the syntactic structures being beyond the scope of this article (see however Sleeman & van der Linden (2006) for arguments in favour of the third analysis on the basis of the same acquisition data as discussed here).

used in all three languages to introduce a new topic, or to indicate topic maintenance, reintroduction or contrast, only French uses all of these possibilities regularly. French also uses *right* dislocation to fulfill all topic functions except the contrastive one. Dutch and English, on the other hand, use dislocation in a more restrained way. *Left* dislocation is used mainly to indicate a contrastive topic, while *right* dislocation is mostly used to express an 'afterthought' function (clarifying a topic that is perhaps not sufficiently identified). It can also have a 'pointer' role, referring to some object that is present in the extra-linguistic context, like in (2):

(2) It's not bad, that cake

As a matter of fact, the difference in frequency of use of dislocation between the three languages is large: in English and Dutch, dislocations are rare (see Keenen, Ochs & Schieffelin 1976 for English³; Jansen 1981 for Dutch⁴), while in French they are frequent: we find dislocations in 50-70% of utterances containing a topic, most of them being left dislocations (Lambrecht 1987; Blasco-Dulbecco 1999; Notley 2004).

The differences and similarities between the adult topic-marking systems will be considered when making our predictions for bilingual development in this area. However, now, let us review the use of dislocations in the adult input the child is exposed to (§ 5) and the development of these constructions in monolingual children (§ 6). To do this we first present our general method of analysis, used for both adult and child speech.

4. *Method of Data Analysis*

Transcripts of spontaneous adult and child speech were analysed for:

- (a) the number of utterances containing a left or right dislocation
- (b) the number of utterances providing a 'possible dislocation context'

To operationalise the notion of 'possible dislocation context', the syntactic property of definiteness of a referent was used (as an indicator of givenness), where this was possible. Although the relationship between givenness (a property of the referent) and topic (a relationship between the referent and the

³ Additionally, in our own analyses of the spontaneous speech of two adult English speakers, based on a 15-minute conversation between two female friends recorded by Christine Kitamura in the early 1990s, counting both subject and object NP topics, we found that in contexts where marking topic was pragmatically possible, the speakers used non-topicalised NPs about 95% of the time, and only used overt topic constructions about 5% of the time. Of these constructions, 2.5% were left dislocations, and 2.5% were topicalisation structures.

⁴ Jansen (1981) looks only at left dislocations.

proposition) is not absolute (not all given referents make good topics, not all topics are given), this property was seen as the best way to provide an objective and reliable means of coding the data. However, an effort was also made to take into account the relationship between the referents in question and the overall discourse context. This was especially important in early child utterances, when determiners were still frequently dropped. Only core argument referents (agents, goals, and recipients) were considered for this study. In French, mass noun objects, taking the resumptive clitic element *en* (roughly equivalent to 'of it') were also included.

The following criteria were defined and then applied in our analysis of utterances. Definite given referents in the third person were considered as possible topics. This included both lexical NPs and third person pronominal forms. First and second person referents were considered as possible topics in topic shifting or topic contrast contexts. The demonstrative *that* (in French *ça* and in Dutch *dat/die*) was counted as a possible topic only when referring to an NP and not a full predication. Overall, any argument appearing in a chain of reference was only counted as a possible topic once (unless topic re-establishment was contextually appropriate). Cleft constructions (a type of focus construction), repetitions and fragments (utterances without a clear subject and/or object) were discarded. On the basis of this classification, the percentage of left and right dislocation use for each speaker was calculated for each transcript as a function of the total number of contexts in which dislocation was pragmatically acceptable.

5. *Dislocations in the Adult Input*

We analysed the adult input to the three monolingual subjects used in this study (Philippe for French, Trevor for English, Laura for Dutch) in order to establish average rates of use of left and right dislocation in the input for French, English, and Dutch.

In French, it was found that in contexts where dislocation was pragmatically possible, Philippe's parents used NPs that were not marked for topic about 56% of the time, and overt topic constructions the other 44% of the time. Of these constructions, 30% were right dislocations and 13.5% were left dislocations⁵. These results confirm other reports that French adults use more right dislocations than left when speaking to young children (de Cat 2003; Labelle & Valois 1996). In English, it was found that in contexts where dislocation was pragmatically possible, Trevor's father overwhelmingly continued to choose a basic word order strategy, with a small percentage of left dislocation use. In Dutch, it was found that in contexts permitting dislocation, Laura's mother also overwhelmingly used basic word order constructions

⁵ The remaining 0.5% were topicalisation constructions.

(90%)⁶, along with a small percentage of right dislocation constructions (7%) and left dislocation (2%). These results are summarized in Figure 1.

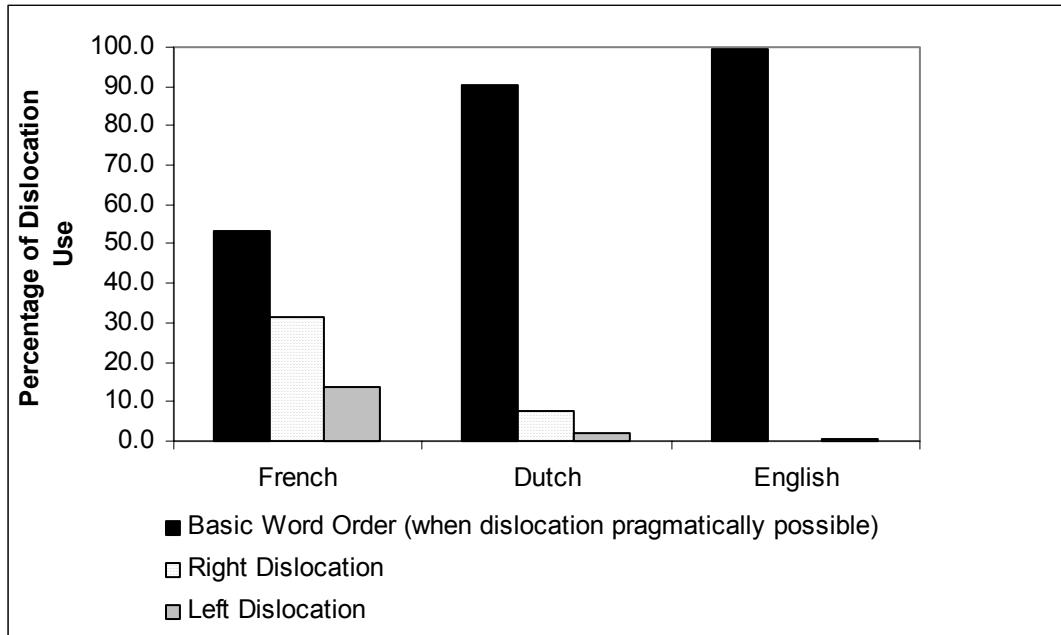


Figure 1: Use of Topic Constructions in Child Directed Speech

Overall, these results show clearly that French adults use the highest frequency of dislocation constructions when speaking to children, with a preference for right dislocations. Note that this is markedly different from their use of dislocations in adult-to-adult speech, in which left dislocations are most common. This might be due to the pragmatic role of such constructions. Right dislocations are topic maintenance devices and may be used to keep a child's attention on a subject. They are also often used as pointers to objects in the immediate non-linguistic context and conversations with children are often about this context.

In English and Dutch, children hear hardly any dislocations in the input. Those that they do hear are to the left in English and almost exclusively to the right in Dutch. In English, no right dislocations are found in the input.

⁶ Because Dutch is a V2 language, both SVO and XVS were considered basic word orders.

6. *Dislocations in Monolingual Child Utterances*

6.1 *Subjects*

The monolingual child speech used in this study comes from the CHILDES database. All the transcripts record approximately 20-30 minutes of a free play session and the children were tracked at roughly comparable 3- to 6-month intervals starting around age 2;0 (when enough structure was in place to allow for useful quantifiable analysis).

The spontaneous speech of two monolingual French children, Philippe and Anne, one monolingual English child, Trevor, and one monolingual Dutch child, Laura, was analysed. Philippe was recorded from age 2;1.19 to age 3;3.12 and originally used in a study by Suppes, Smith & Léveillé (1973; cited in Ferdinand, 1996). For this study, transcripts were used from ages 2;1.19, 2;6.20, 3;0.20, and 3;3.12. Anne was recorded from age 1;10.12 to age 3;5.4 and is one of three children in the York corpus (her data was collected under the supervision of Bernadette Plunkett and she was the subject of studies by Plunkett (2003) and de Cat (2003, 2004)). For this study, transcripts were used from ages 2;0.27, 2;3.15, 2;6.2, 3;0.10, and 3;5.4. Trevor was recorded from age 2;0.27 to 3;11.27 and is one of four children in the Demetras corpuses. For this study, transcripts were used from ages 2;0.27, 2;6.7, 3;0.8, 3;3.4, and 3;10.23. Laura was recorded from age 2;1.2 to age 3;4 by Jacqueline van Kampen and was the subject of several studies by this author (Van Kampen 2000, 2004). For this study transcripts were used from ages 2;1.2, 2;4, 2;6.24, 2;10.13, 3;2, 3;4.

6.2 *Modifications to Data Analysis for Child Data*

In the child data, identification of dislocations was complicated by the fact that children have grammars which initially license subject drop. This meant that in French and English (SVO languages), declarative utterances containing a post-verbal subject NP without a co-occurring subject pronoun, like in (3), were counted as right dislocations alongside utterances containing both a subject pronoun and post-verbal subject NP.⁷

- 3) *est pas belle, le bébé* ANNE 2;0.27
is not beautiful, the baby

In Dutch, the presence of a post-verbal subject was not sufficient to categorise an utterance as a right dislocation, because both SVO and XVS are possible

⁷ It has been argued convincingly elsewhere, using both syntactic and phonological data, that such utterances are indeed instantiations of right dislocations in child French (Ferdinand 1996; de Cat 2003; Labelle & Valois 1996). Interrogative utterances with post-verbal subjects (e.g. *où est maman?* “where is Mummy?”), however, were not classified as right dislocations in the absence of a subject clitic.

basic word orders (Dutch being a V2 language). In other words, utterances like (4) were not considered to be examples of right dislocation.

- (4) *daar loopt de poes*
there goes the cat

Instead, in finite child Dutch utterances, only constructions in which the subject occurred at the right edge of the clause with an intervening element between verb and subject, as in (5), were counted as right dislocations.

- (5) *loopt weg de poes*
goes away the cat

In counting left dislocations in the child data, utterances in French containing a pre-verbal tonic pronoun, but no subject clitic, were counted as left dislocations alongside utterances with both a pre-verbal NP subject and subject clitic, as in (6).

- (6) *moi a tout bu* PHI 2;1
me has drunk everything

On the other hand, because research shows that in child language objects are omitted much less frequently than subjects (Jakubowicz, Müller, Riemer & Rigaut 1997), object dislocations were only counted when a co-occurring object pronoun was also present. This meant that, in English and French, objects occurring post-verbally, in the absence of a co-occurring object pronoun, were considered to be in base position. Objects occurring pre-verbally, in the absence of a co-occurring object pronoun, were considered to be topicalisation constructions.

Additionally, in the analysis of the child data, we did not limit ourselves to finite utterances because the children already produce dislocation-like structures before finiteness is acquired. Utterances without a finite verb (labeled here as ‘non-finite’) were only considered if they contained at least a ‘predicate’ (verbal or non-verbal) and a ‘subject’ or an ‘object’. Deciding whether such utterances contained a dislocation was done by considering the position of the elements relative to basic word order. For example, utterances like:

- (7) *malade Anouk* ANO 2;4
(she) sick Anouk
(8) *in de bank Sophie de slak* ANN 2;7
(she) in the couch Sophie the snail

were taken to be dislocations because of the post-predicate position of the subject in French and Dutch, even if the subject pronoun and the verb were dropped.

6.3 *Monolingual Child Results*

For each child, the relative number of finite and non-finite left and right dislocations is compared to the number of utterances in which dislocation would have been pragmatically possible in each transcript.

6.3.1 *French Monolingual Data.* Results for the development of left and right dislocation in Philippe and Anne are given in Tables 1 and 2.

Philippe	2;1	2;6	3;0	3;3
LDFinite	2	0	7	25
RDFinite	31	36	23	33
LDNon-fin	1	0	0	0
RDNon-fin	14	5	0	0
Disl possible	28	41	58	40

Table 1: *Philippe: Dislocations in finite and non-finite utterances and the number of utterances where dislocation would have been pragmatically possible but was not produced*

Examples of Philippe's utterances:

- (9) *dans le pantaloon ton verre* PHI 2;1.19
in the pants, your glass
- (10) *ça marche pas le micro* PHI 2;1.19
it works not the microphone
- (11) *la tour Montparnasse elle est pas belle* PHI 3;0.20
the Montparnasse tower, it's not beautiful

Anne	2;0	2;3	2;6	3;0	3;5
Ldfin	3	3	36	16	43
Rdfin	9	6	24	8	15
LDnon-fin	0	1	6	0	3
RDnon-fin	1	2	7	0	1
Disl possible	17	9	16	18	27

Table 2: *Anne: Dislocations in finite and non-finite utterances and the number of utterances where dislocation would have been pragmatically possible but was not produced*

Examples of Anne's dislocations:

- (12) *le bébé, i(l) pleure.* ANNE 2;0.17
 the baby, he's crying
- (13) *tu peux le mettre, ça?* ANNE 3;5.4
 Can you put it on, that?

From these tables we see that left dislocations are rare at the younger ages and that they are practically always found in finite utterances. In contrast, right dislocations are more frequent in early stages and can appear in both finite and other ('non-finite') utterances. These then gradually drop off, while the rate of left dislocation increases. Eventually the children should reach a stage in which they are using more left dislocation than right, approximating the adult model (Anne has already reached this stage by age 2;6.2, whereas Philippe is moving towards it at age 3;3.12).

This picture of development is conform to the input received in French, and could also reflect the pragmatic complexity and transparency of right and left dislocation. Maintaining a topic introduced by an adult, or introducing a referent easily recoverable in the immediate non-linguistic environment (right dislocation), may be perceived of as simpler or more transparent than establishing or switching to a new topic (left dislocation). As the child develops, building structure and simultaneously acquiring a better understanding of the different roles topic may play in the discourse, we see a switch to using more left dislocations.

6.3.2 *English Monolingual Data.* Results for the development of dislocations in Trevor are given in Table 3.

Trevor	2;0	2;6	3;0	3;3	3;10
Ldfin	0	1	0	1	0
Rdfin	0	0	0	0	0
LDnon-fin	0	0	0	0	0
RDnon-fin	0	0	0	0	0
Disl possible	26	24	43	37	46

Table 3: *Trevor: Dislocations in finite and non-finite utterances and the number of utterances where dislocation would have been pragmatically possible but was not produced*

Example of Trevor's dislocations:

- (14) but the other guy who wears a black hat he's bad TRE 3;3.4

On the basis of the English adult system, we would expect dislocations to be rare, and we would expect them to be left dislocations. This is confirmed by the data: Trevor does not produce any right dislocations and only very few left dislocations.

6.3.3 *Dutch Monolingual Data.* Results for the development of dislocations in Laura are to be found in Table 4.

Laura	2;1	2;4	2;6	2;10	3;2	3;4
LDFin	0	0	0	0	1	0
RDFin	0	2	2	1	1	0
LDNon-fin	0	1	0	0	0	0
RDNNon-fin	4	7	0	1	0	0
Disl poss	15	42	9	16	9	17

Table 4: *Laura: Dislocations in finite and non-finite utterances and the number of utterances where dislocation would have been pragmatically possible but was not produced*

Examples of Laura's dislocations:

- (15) *nee, isse mij bouwwe* LAU 2;4
no, this is mine, the blue one
- (16) *die ga oor opeets, dese* LAU 3;2
that one goes ear eat, this one

We see that, in the first files studied, Laura does not produce any left dislocations, but quite a lot of right dislocations (although the absolute numbers are small, she uses right dislocations in up to 18% of possible contexts at ages 2;4 and 2;6). In addition, in early stages, non-finite dislocations outnumber finite dislocations. The use of dislocation then steadily decreases, until at age 3;4 she does not use any dislocation.

Laura's pattern of development is not entirely expected: she uses more right dislocation than she hears in the input. One might speculate that, because this construction maps to a clear pragmatic function, one of maintaining a topic, the child opts to exploit it regardless of input frequency information.⁸ On the other hand, the fact that left dislocations are almost absent from the input is probably the principal explanation for the fact that we do not find them in the child's utterances either. One might speculate moreover that the diversity of possible constructions in Dutch makes the left periphery more complex to

⁸ Interestingly, most right dislocated elements are demonstrative pronouns in Laura's data, stressing their 'pointer' function.

acquire than it is in French and English (see however note 2). While French and English both have a stable basic SV(X) word order which allows left dislocation as a simple adjunction to the left side of the sentence, in Dutch left dislocation occurs in combination with fronting constructions (where topic as well as focus may be fronted) and with a tendency to drop object topics when they are not contrastive. This could be another reason why we do not find left dislocation in child Dutch, neither in early nor in later stages.

7. *Predictions for Bilingual Development*

Returning now to Hulk & Müller's hypothesis for cross-linguistic influence, let us consider what predictions the extended formulation makes for the development of dislocations in French-English and French-Dutch bilingual children. We have already pointed out that dislocation is clearly an interface phenomenon, satisfying the first condition of the hypothesis. In order to satisfy the second condition, we must determine whether syntactic overlap of left and right dislocation use exists between the language pairs.

7.1 *Left Dislocation*

All three languages have some form of Left Dislocation (LD). However, different syntactic constraints and frequency of use of these constructions creates a situation of overlap for the language pair French-English. While in French LD of both subjects and objects of all three persons is equally likely, in English only 3rd person referents are likely to be left dislocated. In addition, LD is relatively frequent in French input to children and in monolingual child speech, but only occurs infrequently in English input and in monolingual child speech. Thus the bilingual child is presented with, on the one hand, lots of positive evidence for left dislocation of referents of all three persons in French, and on the other hand, positive evidence for only dislocating referents in the third person (along with lots of positive evidence for not dislocating at all) in English. This situation of overlap leads us to predict that cross-linguistic influence will occur. Whether this influence will result in a smaller amount of left dislocations in the bilingual children's French or a greater amount of left dislocations in the bilingual children's English cannot be predicted by the new formulation of Hulk & Müller's hypothesis, as we argued in the introduction.

In Dutch, similarly to English, LD is very infrequent in the input and in monolingual child utterances. However, in addition, Dutch LD has a different and more elaborated syntax in adult speech than in French. We have briefly shown that the syntax of Dutch, which at the surface level looks somewhat similar to French, is really rather different: the resumptive pronoun is a fronted demonstrative pronoun and when this is an object, subject-verb inversion takes place. Moreover, the landing site for the resumptive element and the V2 element is different from that of French. Therefore, it is difficult to assert that any

overlap exists between the two systems, particularly in the ears of children. As such, we do not predict any cross-linguistic influence to occur for French-Dutch bilingual children with regards to left dislocation use.

7.2 *Right Dislocation*

All three languages have some form of Right Dislocation (RD). It is not clear, however, whether any overlap exists between the language systems. At first glance the use of RD in the three languages does indeed seem to satisfy the condition of overlap. In French, RD of both subjects and objects of all three persons is equally likely, while in Dutch and English only 3rd person referents are likely to be right dislocated. However, input frequency and monolingual child data complicate this picture.

In Dutch RD is relatively infrequent in the input compared to French. However, RD seems to be common in French and Dutch child speech, meaning there is probably no situation of conflict for the French-Dutch bilingual child in learning to use this type of construction. We might expect the two languages to reinforce each other, but whether this results in any quantitative difference in use of RD by a bilingual child is questionable. In English, RD is absent from the input and from monolingual child speech. It is therefore unlikely that a French-English bilingual child will perceive a situation of overlap at all. Thus, we do not predict any cross-linguistic influence to occur for these children with regards to right dislocation use.

8. *Results: Dislocations in Bilingual Child Utterances*

The spontaneous speech of three French-English bilingual children, Olivier, Gene, and Jeremy (all three available on CHILDES), and three French-Dutch bilingual children, Anouk, Annick, and Thomas (from the UvA corpus) was analysed. Both Olivier and Gene were recorded by Paradis, Nicoladis, and Genesee and subsequently used in several studies by these authors (e.g. Paradis & Genesee 1996; Paradis et al. 2000). Both boys are first-born with no siblings at the outset of data collection. Each has an English-speaking mother and Quebec French speaking father who claim to be using the ‘one parent, one language’ strategy. Language samples in an English context were collected for Gene at ages 2;7.5, 3;0.20, and 3;7.9, and in a French context at ages 1;10.28, 2.6.29, 3.0.14 and 3.7.17. Language samples in an English context were collected for Olivier at ages 2;6.3, 2;9.7, 2;10.29, 3;6.9. and in a French context at 2;3.13, 2;9.(2+10), 2;10.29 and 3;6.14. According to MLU measures in the boys’ two languages, comparative vocabulary size, and parental reports on language exposure, Gene was classified as a balanced bilingual from the age of 2;0, while Olivier was classified as dominant in French (Paradis et al. 2000).

Jeremy was recorded by Watkins between the ages of 2;5 and 2;9.⁹ There are only English data available for this child. He has an English-speaking father and French speaking mother, and does not appear to have any siblings. Recordings are primarily with the father in English. When the mother is present during recording, she also addresses Jeremy in English, but occasionally code-switches. Transcripts are generally shorter than for Olivier and Gene, corresponding to 2-8 minutes of speech.

Anouk, Annick, and Thomas were recorded by Hulk & van der Linden and used in several studies by these authors (e.g. Hulk & van der Linden 1996; van der Linden 2000; Hulk & Müller 2000; van der Linden & Blok-Boas 2005). Anouk is the only child of a French mother and a Dutch father. Annick is the first-born child of a French father and a Dutch mother. She has a younger sister, born when Annick was 2;6. Thomas is the first-born child of a French mother and a Dutch father. He has a younger brother, born when Thomas was almost 3 years old. All parents claim to be using the ‘one parent, one language’ strategy. All the children go to a Dutch language nursery for three or four days a week. Analyses of the data of the three children, measuring MLU, MMU, Upper Bound, and vocabulary richness show that Annick and Anouk are balanced bilinguals (in the first files Anouk is slightly dominant in French), while Thomas is dominant in Dutch (Berkhout-Gerrits 2006). For this study, we analysed the following files: Annick 2;7, 2;9, 3;2, 3;4 (in Dutch and French); Anouk 2;5, 2;9, 2;10, 2;11 (in Dutch) and 2;4, 2;5, 2;7+8; 2;9, 2;11, and 3;4 (in French); Thomas 1;10, 2;1, 2;3, 2;7, 3;3 (in Dutch) and 1;10, 2;1, 2;3, 2;7, 3;0 (in French).

For each child, the relative number of finite and other (‘non-finite’) left and right dislocations is compared to the number of utterances in which dislocation would have been pragmatically possible in each transcript. Mixed language utterances were not included.

8.1 *Results for the French-English Bilinguals*

8.1.1 *English.* The results for the English files of Gene, Olivier, and Jeremy are given in Tables 5, 6 and 7, each followed by some examples of the children’s utterances.

⁹ No study using this data has been published.

Gene (Eng)	2;7.5	3;0.20	3;7.9
Ldfin	0	2	4
Rdfin	1	3	2
LDnon-fin	0	1	0
RDnon-fin	0	0	0
Disl possible	18	25	31

Table 5: *Gene: Dislocations in finite and non-finite utterances and the number of utterances where dislocation would have been pragmatically possible but was not produced*

Examples of Gene's English dislocations:

- (17) and this <#> [>] this a yy ? GEN 3;0.14¹⁰
 (18) Batman he's dead there GEN 3;0.20
 (19) it's stuck your car GEN 3;7.9
 (20) me I want a Christmas candy GEN 3;7.9

Olivier (Eng)	2;6	2;9	2;10	3;6
Ldfin	2	0	2	2
Rdfin	0	0	0	1
LDnon-fin	0	0	0	0
RDnon-fin	0	0	0	0
Disl possible	10	32	21	18

Table 6: *Olivier: Dislocations in finite and non-finite utterances and the number of utterances where dislocation would have been pragmatically possible but was not produced*

Examples of Olivier's English dislocations:

- (21) the big woman, she's down [/] down step OLI 2;6.3
 (22) <the ball (&dIs)> [//] give [/] give [//] put it
 down and I # hit it OLI 2;10.29
 (23) Mommy what she doing Johanne? OLI 3;6.9

¹⁰ This utterance is not a very sure example of a left dislocation; it could also be an instance of hesitation rather than a true LD.

Jeremy (Eng)	2;5	2;6	2;9
Ldfin	0	0	0
Rdfin	3	0	0
LDnon-fin	0	0	0
RDnon-fin	0	0	0
Disl possible	19	7	2

Table 7: *Jeremy: Dislocations in finite and non-finite utterances and the number of utterances where dislocation would have been pragmatically possible but was not produced*

Examples of Jeremy's English dislocations:

- (24) it's # small one this # Daddy JER 2;5.11
 (25) is a big one this? (Ø Subj: it) JER 2;5.11

Overall, the results for French-English bilingual children show that although these children are developing more or less in line with an English topic marking model, they are nonetheless producing more dislocation constructions, both to the left and right, than a monolingual English child. While Trevor's rate of use of left dislocation hovers between 2-4% and he uses no right dislocation, the bilingual children reach rates of use of up to 16% for left dislocation, and 13% for right dislocation, in contexts in which dislocation would have been possible (including both finite and non-finite utterances).

8.1.2 *French*. The data for French for Gene and Olivier are given in the Tables 8 and 9. There are no data for Jeremy's French.

Gene (Fr)	1;10	2;6.29	3;0.14	3;7.17
LDFin	0	1	5	24
RDFin	0	1	11	3
LDNon-fin	0	0	1	1
RDNon-fin	0	3	2	11
Disl. Poss	5	12	9	16

Table 8: *Gene: Dislocations in finite and non-finite utterances and the number of utterances where dislocation would have been pragmatically possible but was not produced*

Examples of Gene's French dislocations:

- (26) où les mets les cartes? GEN 2;6.29
 where put them the cards?

- (27) *oui # le garçon y [il] va là* GEN 3;0.14
yes, the boy he goes there
- (28) *<à moi> [/] à moi soulier* GEN 3;0.14
mine shoe

Olivier (Fr)	2;3	2;9	2;10	3;6
LDFin	0	2	3	5
RDFin	16	0	8	5
LDNon-fin	0	0	1	2
RDNon-fin	11	1	2	2
Disl poss	30	5	10	24

Table 9: *Olivier: Dislocations in finite and non-finite utterances and the number of utterances where dislocation would have been pragmatically possible but was not produced*

Examples of Olivier's French dislocations:

- (29) *Qu'est-ce qu'il fait le serpent?* OLI 2;3
what's it doing the snake?
- (30) *Moi n'a pas des autres autos* OLI 2;9-2;10
me don't have the other cars

The results show that the children's development in French is parallel to that of monolingual French children. They start with more right dislocations and gradually left dislocations take over. There is however a difference in the relative numbers of finite and non-finite utterances. The non-finite utterances seem to persist longer in the bilingual children's French than in the monolinguals.

8.2 Results for the French-Dutch Bilinguals

8.2.1 *Dutch.* Our results for the Dutch files of Anouk, Annick, and Thomas are given in Tables 10, 11, and 12.

Anouk (Du)	2;5	2;9	2;10	2;11
LDFin	0	0	1	0
RDFin	0	0	1	2
LDNon-fin	0	0	0	0
RDNon-fin	1	0	1	0
Disl.poss	4	2	11	6

Table 10: *Anouk: Dislocations in finite and non-finite utterances and the number of utterances where dislocation would have been pragmatically possible but was not produced*

Examples of Anouk's Dutch dislocations:

- (31) *was ook buiten de olifant* ANO 2;11
 was also outside the elephant
- (32) *(Ø Subj: dit) groen dit* ANO 2;10
 this is green this

Annick (Du)	2;7	2;9	3;2	3;4
LDFin	0	0	0	0
RDFin	1	1	2	0
LDNon-fin	0	0	0	0
RDNon-fin	4	1	0	0
Disl.poss.	5	13	12	10

Table 11: *Annick: Dislocations in finite and non-finite utterances and the number of utterances where dislocation would have been pragmatically possible but was not produced*

Examples of Annick's Dutch dislocations:

- (33) *viele op bille soldaatjes (Ø Subj: ze)* ANN 2;7
 (they) fell on their buttocks, the soldiers
- (34) *in de bank Sophie de slak (Ø Subj: ze)* ANN 2;7
 (she) in the couch Sophie the snail

Thomas (Du)	1;10	2;1.	2;3	2;7	3;3
LDFin	0	0	0	0	0
RDFin	0	1	1	1	1
LDNon-fin	0	0	0	0	0
RDNon-fin	1	5	0	0	0
Disl poss	0	22	14	8	22

Table 12: *Thomas: Dislocations in finite and non-finite utterances and the number of utterances where dislocation would have been pragmatically possible but was not produced*

Examples of Thomas' Dutch dislocations:

- (35) *uit dit* THO 1;10
 out this
 "This has to go out."
- (36) *nee, dat kan niet naar binne, motor* THO 2;3
 no, that cannot enter, (the) motor
- (37) *is Winnie the Pooh dat (Ø Subj: het)* THO 2;8
 (it) is Winnie the Poo, that

These results show that the numbers of dislocations used in Dutch by the bilingual children is small, perhaps even somewhat smaller than for the Dutch monolingual girl Laura in absolute figures. However, when we look at the percentages of use of right dislocations in relation to the sentences where dislocation would have been pragmatically possible, these percentages are similar to those for monolingual Laura. All in all, then, the children seem to be developing more or less in line with the Dutch monolingual model. Like Laura, they start off using a certain number of right dislocations, but no left dislocations. Then again, like in Laura's data, right dislocations disappear somewhere around age 3;5.

8.2.2 *French*. Our results for the French files of Anouk, Annick and Thomas are given in Tables 13, 14, and 15.

Anouk (Fr)	2;4	2;5	2;7+8	2;9	2;11	3;4
LDFin	0	0	2	0	36	41
RDFin	0	1	2	2	17	10
LDNon-fin	0	0	0	0	3	0
RDNNon-fin	4	0	4	0	3	0
Disl poss	7	4	4	0	9	14

Table 13: *Anouk: Dislocations in finite and non-finite utterances and the number of utterances where dislocation would have been pragmatically possible but was not produced*

Examples of Anouk's French dislocations:

- (38) *Amasse caillou Anouk* ANO 2;5
 gets pepple Anouk
- (39) *Ça c'est pour Sophie* ANO 2;8
 that it is for Sophie

Annick (Fr)	2;7	2;9	3;2	3;4	3;5
LDFin	8	1	3	3	10
RDFin	3	0	2	0	3
LDNon-fin	4	0	0	0	2
RDNNon-fin	5	4	2	0	3
Disl poss	8	13	13	15	4

Table 14: *Annick: Dislocations in finite and non-finite utterances and the number of utterances where dislocation would have been pragmatically possible but was not produced*

Examples of Annick's French dislocations:

- (40) *Petit bois on le met là* ANN 2;7
 Little wood we put it there
- (41) *C'est sale çui-là* ANN 2;7
 It is dirty, that one

Thomas (Fr)	1;10	2;1	2;3	2;7	3;0
LDFin	2	1	3	7	0
RDFin	1	0	0	0	0
LDNon-fin	2	2	3	11	0
RDNNon-fin	8	1	0	0	0
Disl poss	11	22	4	15	4

Table 15: *Thomas: Dislocations in finite and non-finite utterances and the number of utterances where dislocation would have been pragmatically possible but was not produced*

Examples of Thomas' French dislocations:

- (42) *Woef il dodo* THO 1;10
 doggie he sleeping
- (43) *Balle elle est où balle?* THO 1;10
 ball it is where ball
- (44) *Maman elle a fait le rouge* THO 2;7.10
 Mummy she made the red one

We see that for these children development in French is not as straightforward as in the French monolinguals and the French/English bilingual children. In the first place, we see that for Annick and Thomas the number of left dislocations is surprisingly high from the beginning. We also see that, like for the French-English children, the presence of non-finite dislocations persists for longer than in the monolingual French data. We will come back to these findings in the discussion. In the final stages of development, the pattern of dislocation use conforms to monolingual French: right dislocations become less frequent, left dislocations become more frequent.

Overall, the results show that both French-English and French-Dutch bilingual children are developing slightly differently from their monolingual peers in the domain of topic marking. There does indeed seem to be cross-linguistic influence in their development of dislocation structures. In the next section we will discuss these data in the light of the predictions we made.

9. *Discussion*

On the basis of the adult systems, the child directed speech, and the development of monolingual children in the three languages under study, we argued that the extended formulation of Hulk & Müller's hypothesis predicted that:

- there could be cross-linguistic influence for left dislocation in the French-English language pair but not in the French-Dutch one.
- there should not be cross-linguistic influence for right dislocation in either language pair (although there could be some reinforcement between French and Dutch)

As far as left dislocations are concerned, the predictions seem to be largely borne out in the data of the bilingual children. French-English bilingual children produce more left dislocations in their English than monolingual English children, while French-Dutch bilingual children do not use any left dislocations in their Dutch. Interestingly, there is only one instance of non-finite left dislocation in the children's English and Dutch data (for Gene at age 3;0), and this utterance could also be considered to be an instance of hesitation (see footnote 10). In their French however, as for French monolinguals, 'non-finite' left dislocations appear throughout the data set. In fact, the bilingual children appear to produce more 'non-finite' left dislocations in their French than monolingual children over a longer period of time. However, this quantitative developmental difference probably has little to do with the specific area of dislocation. Rather, it could reflect a (slight) delay and slower development of finite utterances in general in the French of these bilingual children (see also Hulk (2001) who shows such a delay for Anouk).

Note that while bilingual development of left dislocation is largely in line with the predictions, two aspects of the results do require further explanation. Firstly, the direction of cross-linguistic influence in the French-English children needs to be accounted for. Secondly, the fact that this influence seems to take place primarily in finite utterances also needs to be accounted for.

As far as right dislocations are concerned, the predictions are only partially borne out in the data. On the one hand, French-Dutch bilingual children do produce right dislocations in their Dutch and, calculated in percentages of possible occurrences, their use of this construction is slightly higher than for the monolingual Dutch child. However, as these percentages are high in the monolingual Dutch children as well, and at the same time the absolute numbers are small, it is difficult to say whether there is an influence of French. On the other hand, French-English children also produce right dislocations in their English and this result was not expected since we did not

find any overlap in the input between French and English and monolingual English children did not produce any right dislocations. Again, interestingly, these right dislocations only occur in finite utterances: there are no instances of non-finite right dislocations in the French-English children's English. However, these do appear fairly frequently in the French-Dutch children's Dutch and in all the children's French, as for Dutch and French monolinguals. Similarly to left dislocation use in French, bilingual children produce slightly more non-finite right dislocations in their French over a longer period of time than monolingual French children.

The comparisons of non-finite and finite dislocations has allowed us to see that although dislocations occur in non-finite utterances, *cross-linguistic influence seems to be manifested primarily in the form of finite dislocations*. Recall that we considered finite utterances to represent a more advanced stage of development in which, according to the original formulation of Hulk & Müller's hypothesis, no cross-linguistic influence was expected to occur. Under the new, extended version, however, influence *is* predicted to occur in a later developmental stage. From this perspective, our results support the extension of Hulk & Müller's hypothesis. The new formulation cannot explain, however, why cross-linguistic influence should only occur in this more advanced stage and not earlier.

Moreover, the (extended) hypothesis can no longer make any predictions about direction of influence. Nonetheless, we observe some clear directionality in our results. For the French-English pair, this influence goes *from French to English* in the form of the use of more left dislocations in English than in monolingual data and of the appearance of right dislocations in English while these are absent from the monolingual data. For the French-Dutch pair, the direction of influence, if there is any, is less clear. There may be some minimal influence from French to Dutch in the form of more right dislocations in the children's Dutch. However, this pattern of development can also be explained by monolingual Dutch development.¹¹

Overall, then, some of our results are not adequately explained by the predictions:

- (a) Why do we see right dislocations in French-English children's English?
- (b) Why does influence go from French to English for both left and right dislocations?

¹¹ That French-Dutch children also use slightly more left dislocations in their French at an early age is a puzzling result which cannot easily be explained by an influence of Dutch on French, as we have seen that the Dutch system of left dislocation is syntactically different from the French system. Moreover, left dislocation is virtually absent from the Dutch input. However, numbers are very low, and more research is necessary here.

- (c) Why do we mainly see this influence in a later stage, i.e. in finite utterances?

Factors other than syntactic overlap must be at work here. In what follows we would like to explore what some of these factors might be, looking both at *when* cross-linguistic influence may occur, and how we can predict the *direction* that influence will go in.

Our measures of input frequency have shown that right dislocation is very frequent in French input. Is it possible that the sheer frequency of this construction creates a situation in which cross-linguistic influence is likely to occur, even in the absence of syntactic overlap? Paradis & Navarro (2003) have also considered such a frequency effect in relation to bilingual acquisition, showing that their results for the use of pro-drop by a Spanish-English bilingual child could be equally well explained by the type of input their subject receives. While such an explanation appears promising, our data cannot be accounted for on an input frequency basis alone. Otherwise, we could just as well argue that the high frequency of non-dislocated utterances in the English input should push French-English bilingual children to dislocate less in their French. Moreover, we do not see a direct mirror of French monolingual child frequencies in the bilingual children. The French-English children produce more or less equal amounts of left and right dislocations in their English, even though French monolingual children produce many more right dislocations than left in early stages. Instead, input frequency must be interacting with other factors to determine direction and degree of influence.

We believe one of these factors may be the transparency of mapping of syntactic form to pragmatic function. Our description of the topic marking systems of the three languages under study showed that right dislocation maps overwhelmingly to a single topic marking function, that of maintaining a topic. Moreover, this function could be considered the simplest of topic functions in comparison with the other three functions; establishing, switching, and contrasting a topic all require greater control of the conversation dynamics than merely maintaining a topic already under discussion. Could it not be that the clear pragmatic function of right dislocation accounts for the direction of influence observed? Indeed, the idea that right dislocation might be an early pragmatically preferred topic-marking strategy finds some independent support in the Dutch monolingual data. Although adults only use this construction to a small degree, Dutch children use it in much higher frequencies. Moreover, in the monolingual and bilingual French data we see that initially right dislocations outnumber left dislocations. In future research, these findings could be considered in the light of observations made for other Romance child languages such as Spanish (cf. Grinstead 2004) where lexical subjects appear first (and

more frequently) in post-verbal position than in pre-verbal position (which has been generally analysed as a topic position).

Another factor possibly interacting with input frequency could be the original condition of syntactic overlap outlined in Hulk & Müller's hypothesis. This would explain why we do not see large numbers of right dislocation as compared to left dislocation in the French-English bilingual children's English. Since there is no structural overlap with English in the case of right dislocation, the rates of use of this structure are not as high as for left dislocation, for which structural overlap exists. It is also possible that other factors within the syntactic module are contributing to the developmental picture. Notably, the degree of syntactic complexity of the constructions under examination may come into play. We have seen that young French and Dutch monolingual children invariably use more right dislocation than left at early stages of development. Pragmatic factors could explain this (and in the case of French, input frequency factors also appear to play a role). However, it may *also* be that right dislocation is syntactically less complex than left dislocation, prompting children to use it earlier and more frequently. That is, the child may have to build up his/her left periphery before a slot becomes available for productive left dislocation use, while a slot may be more readily available for right dislocation use. During bilingual development, this difference in syntactic complexity may be contributing to the unexpected use of right dislocation in English.

As for the question of why the cross-linguistic influence from French to English mainly occurs in finite utterances, we do not yet have a satisfying answer. We think, however, that this question should be considered alongside the more general development of finite utterances in both monolingual and bilingual French-English children.

10. *Conclusion*

On the one hand, our results seem to support the extended formulation of Hulk & Müller's model, as sketched in the introduction: we did find cross-linguistic influence occurring in an area of the grammar representing an interface phenomenon (between the syntactic and the pragmatic modules), when the condition of syntactic overlap was met. Moreover, this influence was found mainly in finite utterances, i.e. in a later developmental stage. On the other hand, our results also show that the extended formulation of Hulk & Müller's model is *not sufficient* to account for the use of dislocation in French-English and French-Dutch bilingual children. We have considered several other factors to account for the cross-linguistic influence found in our data, such as input frequency, transparency of syntactic-pragmatic mapping, and complexity of syntactic structures. We may wonder now whether these factors also play a role

in early stages of development or whether there are different mechanisms at work at different stages.

Looking first at some early data, let us consider Hulk & Müller's original object drop data in Germanic-Romance bilinguals. We could certainly argue that the first factor suggested above (a high input frequency of a certain construction) is playing a role. German presents the bilingual child with lots of positive evidence for object drop. However, it is more difficult to argue that dropping the object provides the child with a more transparent mapping of syntax to pragmatics than cliticisation (the strategy used by the Romance languages to mark given object information). What object drop does provide the children with is a 'simpler' syntactical means of marking object topics and it is thus no surprise that this strategy also corresponds to a universal default strategy used by children across languages. Thus, an explanation for cross-linguistic influence based on reinforcement of default strategies makes good sense in this case, although this reinforcement may be working in combination with some of the other factors mentioned above.

Looking now at some later developmental data in the literature, let us consider Serratrice et al.'s (2004) data on pro-drop in Italian-English bilinguals, cited in the introduction. The fact that these children produce less pro-drop in their Italian than Italian monolinguals can also only be partially accounted for by the factors outlined above. The input frequency of non-pro-drop sentences in English is, of course, overwhelming. However, the input frequency of pro-drop sentences in Italian must also be fairly high. Why does influence go from English to Italian? If we invoke our explanation based on transparency of syntactic-pragmatic mapping, we might expect the pro-drop strategy to be adopted into English. Italian provides the child with two different syntactic forms, corresponding to two different pragmatic functions (given subject, new subject). The English option confuses these two: both given and new subjects appear in the subject slot, differentiated only by the use of a pronominal form. Nonetheless, we see the English non-pro-drop option adopted into Italian. In this case, there seems to be yet another factor at work, that of economy (in the Chomskyian sense). Producing lexical subjects in a pragmatically unconstrained way could be more economical for the child than having to constantly distinguish between given and new subjects.

It is thus difficult to explain the data on cross-linguistic influence in bilingual children with a single hypothesis. Such influence is probably due to a number of factors and their interaction. Moreover the particular factors involved may be language-pair-specific. The challenge for future research will be to define these factors and their interaction more clearly. In particular, the investigation of other language pairs demonstrating different areas of overlap may allow us to gradually identify how syntactic considerations, pragmatic

considerations, and input frequency work together to determine patterns of development.

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