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INTERPRETING BRIAN HARRIS

RECENT DEVELOPMENTS IN TRANSLATOLOGY

PETER LANG
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How Two English/Spanish Bilingual Children Translate: in Search for Bilingual Competence Through Natural Interpretation[1]

Introduction

Ever since Harris (1973; 1977) put forward the term *natural translation/interpretation* (Harris, 1997), research has also been conducted on the relationship between the capacity bilinguals have to translate (Harris & Sherwood, 1978; Harris, 1980; 1997) and the bilingual competence required for it (Malakoff & Hakuta, 1991; Lorscher, 1992; Álvarez de la Fuente, 2006; 2007). The present study aims at contributing to this debate by providing an analysis of the natural translations that appear in the data from two English/Spanish balanced bilingual children from the Ferfulice corpus (Fernández Fuertes & Liceras, 2009) in CHILDES (MacWhinney, 2000).

We address the issue of bilingual competence and, in particular, of how the analysis of oral translation cases can provide information regarding the patterns that govern this kind of translation; the constraints that govern the interpretative and contextual mapping between the two languages; and the relationship that exits between bilingual competence and performance in the translation activity. In order to do so we have analysed the spontaneous and experimental production of these two bilingual children (age range: 1;11-6;3 years old) and we have also proposed a series of variables that render the linguistic and contextual patterns that the children follow when they interpret naturally.

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Our results show that these children separate both languages from very early stages and also combine both languages naturally in different translation activities; they use linguistic and communicative strategies in order to perform translation when the situation demands it; and they keep a contextually-based relationship between the source and the target texts regarding interpretative mapping. All this amounts to saying that the translations produced by bilingual children in general and by these bilingual children in particular should be considered a phenomenon whose analysis can contribute to the description of how both bilingual and translating competences work and interact.

> "the data from translatology (the scientific study of translation) should be drawn primarily from NT instead of from literary, technical and other professional or semi-professional genres of translation" (Harris, 1980b: 611).

1. The Study of Natural Translation (NT)

Most of the work that has been conducted within the field of translation studies (TS) has been ultimately concerned with the search for tools and techniques that can help translators to deliver better translations (Nida, 1964; Newmark, 1988; see also Álvarez de la Fuente & Fernández Fuertes in this volume and references therein). This is what we may term an "external" approach to the study of translation that considers the output as the centre of attention (Rabadán, 1991; Toury, 1995; among others). However, there is also a trend within TS that has shifted towards a more "internally-oriented" approach whereby the speaker and, in particular, the speaker's bilingual competence is moved at the forefront of the debate. Within this last approach, studies have focused on the models of translation competence development and on how these models can account for the way second language learners, and non-professional translators in general, translate (Harris, 1980b; Toury, 1984; 1986; Malakoff & Hakuta, 1991; Lörscher, 1992).

Of particular interest to us here is the "internally-oriented" trend whose main exponent is Brian Harris and which goes a step

forward in the consideration of the bilingual speaker, and especially bilingual children, as translators. Furthermore, bilingual children are seen as the "first", the "initial" translators, that is, as the seeds, as it were, of professional translators; not because they would eventually turn into professional translators but because they, children, make use of certain mechanisms (innate or not) that in a way lie behind any translation activity (including the professional one). In a way what Harris proposed for TS is what language acquisition means for theoretical linguistics: not all speakers become professional in the study of language (i.e. philologists) and yet the study of how speakers acquire language has been revealed as a powerful tool to explain language from a "professional" point of view.

Within this context and as the initial quotation from Harris (1980b) suggests, the study of natural translation (NT) emerges as a crucial and necessary tool for TS because it is rooted in the process of bilingual language acquisition which is in itself the initial and necessary condition for translation, that is, the knowledge of two languages.

The term NT was coined by Harris and defined as the translation *"done by bilinguals in everyday circumstances without special training for it"* (Harris, 1977: 6). A particular case of NT is seen in the case of simultaneous bilinguals, that is, children who have acquired the two languages from birth and in a natural context (Butler & Hakuta, 2004). This is illustrated in the example in (1):

(1) *MEL: you wanna make something with the blocks?
*SIM: *sí*@sp .
*MEL: what would you like to make ?
*SIM: douse [: house] .
*MEL: two ?
*SIM: *casa*@sp !
[2;01][2]

In this case, the child (Simon) translates the term "house" into Spanish so that his mother understands what he is saying. As this example shows, NT in the case of simultaneous bilingual children is an oral phenomenon (as opposed to a written one) and, in this respect,

2 Unless indicated otherwise, all the examples are taken from the Ferfulice corpus (Fernández Fuertes & Liceras, 2009) in CHILDES which is transcribed in CHAT.

Harris (2003) adopts the specific term Natural Interpretation to refer to this kind of translation activity. However, the term NT is mainly used as an umbrella term for any kind of translation activity.

Since Harris put forward this capacity that bilinguals have to translate between their two languages (Harris & Sherwood, 1978; Harris, 1980a/b; 1992), different studies have devoted themselves to the analysis of the NT phenomenon (Srivastava & Gupta, 1989; Shannon, 1996; Sherwood, 2000; Rothe-Neves, 2007). What these studies have in common is the consideration of NT as the starting point of translatology, as well as the necessary bilingual competence required for NT (Lörscher, 1992; Malakoff & Hakuta, 1991; Álvarez de la Fuente, 2006). However, they have focused on different issues such as the various translation procedures used by bilingual children (the so-called early translation competence) (Álvarez de la Fuente, 2007; Cossato, 2008), how the NT competence develops towards professional translation competence (Toury, 1984; 1986; Hurtado Albir, 2001), as well as the consideration of NT as the sum of an innate ability parallel to bilingualism and a communicative function in a familiar context (Orellana et al., 2003; Valdés, 2003; Hall, 2005).

The pioneer study conducted by Harris (1980a) sets the bases for the analysis of NT based on the study of linguistic data. We would like to briefly outline the main ideas behind this study since it is the point of departure of the study we present in this article. Taking French/English longitudinal data from a bilingual child named Michael (Swain, 1972), Harris proposes three main stages in the development of the translation competence: pretranslation (i.e. of single words), autotranslation (i.e. of the child's own words or utterances) and transduction (i.e. the child acts as intermediary between two people). Some of the examples analyzed by Harris appear in (2):

(2a) I_E: Ask her if she has any eggs.
Michael [to I_F]: *T'as-tu des oeufs?*
[3;02]
(Swain, 1972; from Harris, 1980a)

(2b) Michael: ... *au magasin* ... in the grocery store.
[3;07]
(Swain, 1972; from Harris, 1980a)

Harris based his proposal not only on cases like (2a), where the child acts as a communicative link between the English-speaking investigator (I_E) and the French-speaking one (I_F), but also on NTs like the one in (2b), where Michael selftranslates spontaneously maybe to re-establish communication.

The contribution of Harris is crucial at least from two main perspectives: (1) it offers a different view of translation occurrences by using linguistic data from a bilingual child to offer an account of the translation phenomenon; and (2) it establishes a direct relationship between translation activity and the process of acquisition of bilingual competence. These two perspectives contribute to bring together two research fields, that of translation and that of bilingual acquisition.

Studies of NT based on linguistic data are up to date scarce with a few exceptions (Harris, 1980a/b; Harris & Sherwood, 1978; Beckmannova, 2004; Lising, 2006; Cossato, 2008). There is also some reference to the translation done by children in studies that deal with bilingual acquisition and that also use naturalistic data (Döpke, 2000; Lanza, 2001; Comeau & Genesee, 2001) but in these cases NT is not the central phenomenon under discussion. In any case, the study of NT based on linguistic data should be conducted, as Harris (1980b) himself points out, by using appropriately contextualized data, since the lack of a situational context or of non-verbal information amounts to a restricted analysis of NT occurrences.

2. Our Empirical Approach to Nt Research: Competence Through Performance

Taking Harris' studies as a point of departure, the present work seeks to contribute to both the translation and bilingual acquisition fields in the particular case of NT from English/Spanish simultaneous bilingual children.

Our study stems from three main premises regarding NT: (1) NT is a specific linguistic strategy in bilingual acquisition where a message expressed in one language (source language = SL) is reproduced in another (target language = TL); (2) translation competence development involves different types of translations which go from

lexical pairings to more complex translation strategies; and (3) the linguistic context has an impact on the development of translation competence.

Taking into account these premises, we aim at providing an account of the patterns that govern NT as well as of the constraints that govern the interpretative/contextual mapping between the two languages and of the relationship between bilingual competence and performance in the translation activity. In order to do so, we have analyzed spontaneous data from a set of English/Spanish bilingual identical twins, Simon and Leo, from the Ferfulice corpus that we have contributed to the CHILDES database (MacWhinney, 2000). Besides, we have also analyzed NT experimental data that we have elicited from these two children. The twins were born in Salamanca (Spain) where they presently live. The father is a native speaker of Peninsular Spanish and the mother is a native speaker of American English. The father always speaks to the children in Spanish and the mother always addresses them in English (the so-called rule of Grammont, *the one parent-one language* strategy). According to an extensive and a comprehensive parental questionnaire, this practice was followed from the moment the twins were born. The parents generally speak Spanish with each other, except during the summer when they travel to the United States for approximately two months or when a monolingual English speaker is present. Therefore, we are dealing with bilingual English/Spanish first language acquisition in a monolingual-Spanish social context, a type of bilingualism which is referred to in the literature as individual bilingualism (Bhatia & Ritchie, 2004).

The data we have collected cover the age range of 1;01 to 6;11 (the corresponding MLUw values ranging from 1,000 to 7,474[3]). A total of 178 sessions were recorded on videotape and DVD, of which 117 are in an English context (i.e. with an English interlocutor such as the interviewer or their mother) and 61 in a Spanish context (i.e. with a Spanish interlocutor such as the interviewer or their father). The Spanish recordings were made at intervals of 2-3 weeks until age 3;00, with some interruptions during the summer holidays, and then once a month. The English recordings were sometimes made more

3 The Mean Length of Utterance in words (MLUw) (Brown, 1973) is the average number of words that the speaker uses in each sentence and it has been proven to be an effective measure of linguistic development.

frequently, but the sessions are usually much shorter and recorded on consecutive days. The children were recorded in naturalistic settings, usually at home, and appear together in the majority of the sessions. They were mostly engaged in normal play activities with the interlocutor.

From the overall Ferfulice corpus that we have described, the data selection that we have analyzed for this study corresponds to the period between the ages of 2;00 and 6;03. This implies that we have considered 60 spontaneous sessions (31 hours of recordings) [22 in Spanish and 38 in English] and 3 NT experimental ones (2 hours).

The elicitation of NT experimental data consists on making the children act as interpreters in a playful context where an English-speaking researcher and a Spanish-speaking researcher are present. Both "monolingual" researchers pretend they need the children in order to communicate with each other so that the game can continue.

2.1 *A proposal for the analysis of NT cases: a selection*

In order to account for both the spontaneous and the experimental NT production of our two participants, we propose in Álvarez de la Fuente (2007) a series of variables (Table 1) to help control for the linguistic and contextual factors that are related to the oral NT activity developed by bilingual children.

ACTIVITY	DIRECTIONALITY	GRAMMAR-INTERPRETATION MAPPING
◆ complete ◆ incomplete ◆ null: • ST length • ST complexity	◆ SP into EN ◆ EN into SP	◆ equivalent LF: • with communicative need • without communicative need ◆ non-equivalent LF: • expansive • economic
STIMULUS	**ST ORIGIN**	**TYPE OF DATA**
◆ requested: • researchers • parents ◆ own initiative	◆ autotranslation ◆ others: • adults • brother ◆ situational	◆ spontaneous ◆ experimental

Table 1. Linguistic and contextual variables (Álvarez de la Fuente, 2007).

The description of the different components of the translation activity is built around these variables which we have defined and examined to explain the main characteristics of the NTs produced by both bilingual children over a period of more than four years. Although a description of the variables that are relevant for the present study is offered below, we would like to briefly outline the complete proposal in table 1 that includes both linguistic and extra-linguistic variables. On the one hand, the first three variables refer to linguistic and inherent aspects of NT such as the type of translation activity (complete, incomplete or null), the directionality of the translation activity (from English into Spanish or vice versa) and the type of grammar-interpretation mapping rendered in each translation (equivalent or non-equivalent). The other three variables, on the other hand, refer to the contextual and external factors that surround the NT activity: the stimulus that the children receive when they translate (external or not), the interlocutor who originally produces the ST (the target child or other people) and the type of data where each NT case is found (spontaneous or experimental).

The analysis we have conducted for the present study is based on a selection of three of these variables, the first two related to the linguistic characteristics of NT (the type of activity and the grammar-interpretation mapping) and the latter connected to the situation in which it takes place (the stimulus that the speakers respond to).

The translation activity variable refers to the final product of the translation that the children perform (or do not perform) and to the translation process involved in the traditional sense of translation performance, that is, the process by means of which a SL message is transferred in the TL. According to this first variable we have classified the NT cases into the following three categories: firstly, a complete translation when all the original language items included in the source utterance(s) are expressed in the target language and, therefore, the translation process has been fulfilled, as shown in (1) or (3), where Simon fully translates his original utterance into English so that his mother can help him.

(3) %com: Simon tries to make his toy make noise
*SIM: *está*@sp *loto*@sp [: *roto*] .(...)
*MEL: how about [% not paying attention to Simon] +/.
*SIM: b(r)eak mommy b(r)eak .

[2;05]

In contrast to this type of NT, in incomplete translations only part of the translation process is fulfilled because one or more items from the target utterance(s) belong to the SL and, therefore, these items remain untranslated, resulting in a target utterance that includes a code-switching at a certain lexical level. An instance of this type of NT can be found in (4), where Simon does not translate into Spanish all the words Susana said so the language change that is required in a translation process has not been achieved completely (´*<tienes que marcar el>*$_{Spanish}$.*<month>*$_{English}$).

(4) *SUS: tell her to [/] to write the month xxx
[% whispering to Simon] here.
*SIM: *tienes que marcar el* month@en.

[4;10]

The third type of translation activity is null translation, which involves an absence of a target language utterance even though the situation requires a translation product, as it happens in (5), where Leo refuses to translate a Spanish word into English even though his mother explicitly requests him to do so.

(5) *MEL: [% pointing to the elephant] look look
show me that animal.
*MEL: what's it called?
*LEO: *elefante*@sp.
*MEL: can you say that in English?
*LEO: [% with a trace of tears in his voice]
no, elefante@sp.

[2;07]

If the translation activity has been achieved (either as complete or incomplete NT), the next step is to specify which linguistic characteristics these translations have from the point of view of the grammar-interpretation mapping, that is, our second variable of analysis.

According to our proposal, we argue that the conceptual-interpretative level (Logical Form, LF) takes the two spell-outs, one in the SL and the other in the TL, and establishes a certain semantic-conceptual relationship between them rendering an equivalent or a non-equivalent mapping. On the one hand, if the LF is equivalent, the grammar-interpretation mapping consists of either (i) lexical pairings that may be due to a communicative need, as in (6a), where Esther, the Spanish-speaking researcher, requests a translation from Simon so that she can understand what he said; or (ii) lexical pair-

ings that do not involve a communicative need, as in (6b), where Simon translates what his brother has just said although Melanie understood him anyway.

(6a) *SIM: and I'm gonna eat when I'm a +/.
*SUS: are you gonna eat them all ?
*SIM: when I'm a grown up .
*SUS: okey okey when he's a grown up .
*EST: *qué has dicho S que no lo sé # no lo entiendo.*
*LEO: *que va a comer cuando es* [= *sea*] *eh*@fp *mayor*.

[4;10]

(6b) *MEL: [% picking up the cow] and what is this one ?
*LEO: *vaca*@sp .
%com: Melanie laughs
*SIM: cow .

[2;02]

On the other hand, if the relationship between the source and the target utterance is non-equivalent at the LF level, then two different types of NTs can be produced: expansive translations and economic ones. In expansive NTs, the target utterance involves a more complex grammar-interpretation mapping than the source utterance. This is the case of (6c), where the lexico-syntactic properties of the utterance expressed in the SL (*'no puedo'*) are incorporated in a more detailed target utterance (*'help'*), rendering in this way more information than in the original utterance;

(6c) *SIM: *no*@sp *puedo*@sp *no*@sp *puedo*@sp .
*MEL: how do you say *no*@sp *puedo*@sp in English ?
*SIM: (h)elp.

[2;05]

In economic translations the target utterance involves a simplified mapping in comparison with that of the source utterance. This type is exemplified in (6d), where the lexico-syntactic properties of the source utterance are incorporated in a less detailed target language structure which implies the loss of some information present in the original message such as *'( ) here cause I can't'*.

(6d) *SUS: you can ask Esther to write it in Spanish here 'cause I can't right ?
*LEO: [% *dándole el rotulador a Esther*] *lo haces en español?*

[4;10]

As can be seen so far, the selection of our classification proposal has taken into account those characteristics associated to both the translation process itself and the semantic-conceptual features of the NTs the bilingual children produce. Besides, we have also taken into consideration their reaction to a certain linguistic context in a third variable, which deals with the type of stimulus the children receive when they translate. In that respect, these children can perform translations that are requested either by their parents (6c and 7) or by the English or Spanish-speaking researchers who ask them expressly to translate (*'how do you say in English?'*; *'tell her to in Spanish'*; etc.), like in (4), (6a) and (6d). But it could also be the case that they translate on their own initiative, without having received any verbal stimulus that prompts them to do so, like those in (3) or (6b).

(7) *MEL: look, what's that ?
*LEO: *(ov)eja*@sp .
*MEL: uhhuh@i how do you say that in English do you know?
*LEO: s(h)eep.

[2;02]

2.2 *The analysis and results of NT cases in the longitudinal data*

Making use of the proposed analysis in section 2.1., we have conducted an analysis of the NT cases produced by the two English/Spanish bilingual children from the Ferfulice corpus. Since this is a longitudinal corpus we have also divided the data sample into three different developmental stages. This could provide information relative to the way translation competence develops through time as well as the bilingual competence does.

Therefore, we have outlined the three stages of our developmental analysis according to the MLU_w values of these participants, which are summarized in Table 2.

	STAGE 1	STAGE 2	STAGE 3
AGE RANGE	2;00-3;00	3;05-4;05	4;09-6;03
(AVERAGE) MLU_w	1,850	3,856	3,938

Table 2. Developmental data: mlu_w.

These three stages also allow us to distinguish between the two elicitation techniques we have used: our spontaneous data belong to the first two stages while the experimental production constitutes the most part of the data from the third stage.

In order to analyze the NT occurrences along the three stages and to examine whether the NT production of the participants reaches statistical significance, we have used a method based on the contrast of proportions (p-value)[4]. The results we have obtained from this method are discussed in the next section where we have presented the linguistic analysis of the three variables described in section 2.1. (the type of translation activity, the grammar-interpretation mapping and the type of stimulus received).

2.2.1 *Variable #1: Translation activity*

The total number of NT occurrences produced by Simon and Leo is 227. The distribution of these NTs in terms of the translation activity variable is captured in figures 1 and 2 for Simon and Leo respectively.

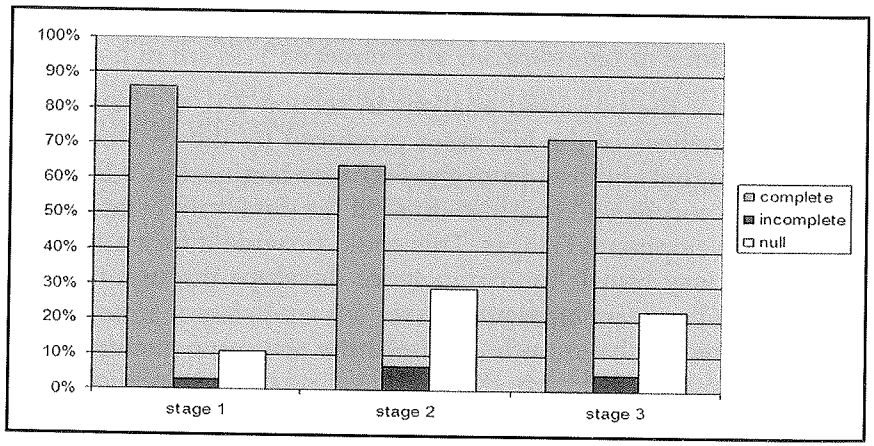

Figure 1. Simon's NT production: translation activity.

4 When contrasting two values in order to determine whether the difference between them is significant or not, a p-value equal to or less than 0.05 is considered statistically significant while a p-value higher than 0.05 indicates that the difference between the two values is not significant. Due to space limitations we will only report the contrasts that are statistically significant.

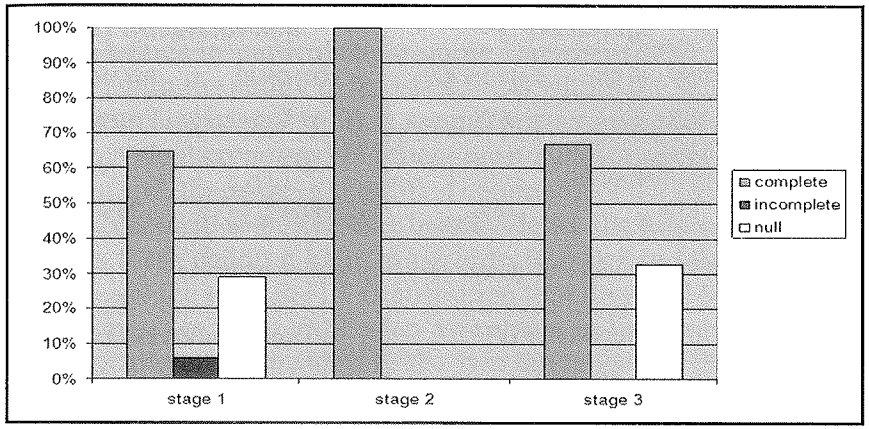

Figure 2. Leo's NT production: translation activity,

According to the data presented in figures 1 and 2, the results of the translation activity analysis show that both Simon and Leo produce significantly more complete NTs than of any other type in all the three stages (all p-values<0.05): 86% and 65% in the first stage, 64% and 100% in the second, and 72% and 67% in the third one. In this respect, we can confirm that these bilingual children use translation as an efficient communicative strategy.

Focusing on those occurrences of our data selection where the children produced either complete or incomplete NTs, the analysis of our second variable will show which translation strategies the bilingual children use throughout their bilingual development from the point of view of the interpretative-mapping component of their final products.

2.2.2 *Variable #2: Grammar-interpretation mapping*

The results from the analysis of our second variable presented in Tables (3a) and (3b) reflect that in stages 1 and 2 (those in which only spontaneous data are included), both children produce significantly more equivalent-LF NTs not due to a communicative need than other types of NT (all p-values<0.05). However, in the last stage (where most of the data belong to experimental production), there is a significant preference for the production of non-equivalent economic LF NTs in both children (all p-values<0.05).

	EQUIVALENT LF		NON-EQUIVALENT LF	
	PAIRING (NO CN)	PAIRING (CN)	ECONOMIC	EXPANSIVE
STAGE 1	64% (20)	13% (4)	13% (4)	10% (3)
STAGE 2	90% (9)	0	10% (1)	0
STAGE 3	13% (8)	16% (10)	45% (28)	26% (16)

Table 3a. Simon's NT production: grammar-interpretation mapping.

	EQUIVALENT LF		NON-EQUIVALENT LF	
	PAIRING (NO CN)	PAIRING (CN)	ECONOMIC	EXPANSIVE
STAGE 1	85% (30)	3% (1)	6% (2)	6% (2)
STAGE 2	66% (2)	0	0	34% (1)
STAGE 3	7% (2)	35% (11)	42% (13)	16% (5)

Table 3b. Leo's NT production: grammar-interpretation mapping.

In the light of these results, we can observe that in the first two stages Simon and Leo produce above all equivalent lexical pairings as a first step in their translation competence development, a translation strategy that will evolve later, in the third stage, into more complex translation mechanisms such as economic NTs, especially in the case of Simon (all p-values<0.05). This provides us with two important pieces of information. First and regarding equivalent NTs with no communicative need, these children use translation as part of their abilities as bilinguals and not necessarily linked to specific contextual demands. This may point to the innateness of translation in the case of simultaneous bilingual children. It also provides evidence for the existence of a translation competence that, as the bilingual competence, is, at least to a certain extent, part of our human genetic endowment, that is, of Universal Grammar, or in Wilss' (1982: 39) words "part and parcel of mankind's basic linguistic equipment". Besides, authors like Darwish (2000) also point in this direction. In fact, Darwish (2000) argues that the possibility of rephrasing a message, either in the same language (as both monolinguals and bilinguals could do) or in two different languages (as bilinguals do) is, in fact, part of UG. The essential point in this argument lies in the consideration of translation

as an innate capacity of human beings in general and of bilingual human beings in particular. To quote Darwish (2000) himself "we are born with the ability to translate ideas within the same language or between languages" (p. 3). A second important fact and regarding non-equivalent economic NTs, these are not indicators of a simplified message and, therefore, a simplified command of the two languages. On the contrary, we argue that they evidence the internal linguistic analysis these children have to perform in order to select from the SL message the essential LF contribution that they will translate into the TL message. This implies an awareness of language properties and how these are encoded in the two languages so that from the several different routes only one, an appropriate one, is selected as an LF-convergent spell-out. As such, this type of economic NT provides some interesting insight into how a child is understanding, analyzing and processing linguistic properties.

As a consequence, we can argue that these results reveal the development of NT strategies and, therefore, evidence the development of the translation competence in which the interpretative-mapping component plays an important role.

2.2.3 *Variable # 3: Stimulus*

Since NT is not only determined by intrinsic factors (such as the interpretative mapping) but also linked to the extralinguistic context, Table 4 shows how the NTs produced by these children relate to the type of stimulus that may (or may not) encourage them to translate.

	SIMON		LEO	
	ON THEIR OWN	REQUESTED	ON THEIR OWN	REQUESTED
STAGE 1	45% (14)	55% (17)	23% (8)	77% (27)
STAGE 2	60% (6)	40% (4)	100% (3)	0
STAGE 3	19% (12)	81% (50)	26% (8)	74% (23)

Table 4. NT production: the stimulus.

In the first stage of their bilingual development, there is a preference to translate when they are requested to do so, although this preference is significant only in the case of Leo (p-value<0.05). Since in this stage we are dealing with spontaneous data, we can infer that they are

verbally asked to translate by their parents who, especially in these first stages, try to follow the *one parent-on language rule* very strictly.

In the second stage there is an overall decline in the translation production of these children especially with regards to requested translations. In fact, in the case of Leo all NT cases correspond to those situations where the child translates on his own initiative. This pattern is not followed in the case of Simon who shows no preference for any specific stimulus (p=0.21).

Finally, in the third stage, both children show similar results since they produce significantly more requested NTs (all p-values<0.05). Unlike the previous stages, in this last one most of the data are taken from the NT production experimental tests and, so, we can confirm that certain research premises linked to those tests have a clear influence on the results of the translation production from this perspective.

Consequently, the analysis of this variable can account not only for the parallel development of both the bilingual and the NT competences, where parents' linguistic behaviour has an essential role, but also for how the bilingual children meet the experimental test requirements, showing again the importance of the context in the NT activity performed by bilingual children.

3. Conclusions and Further Research

This study has dealt with the analysis of NT occurrences found in the data from two English/Spanish simultaneous bilingual children from the Ferfulice corpus in CHILDES. Our study shows that simultaneous bilinguals distinguish between their two language systems from very early on thus providing further support for the language differentiation hypothesis (Genesee, 1989; De Houwer, 1990; Genesee, et al., 1995; Köppe & Meisel, 1995; Genesee, 2003; among others). In this sense, these children can use their two languages separately in the translation process rendering different NT outputs and showing a development in their translation competence hand in hand with that of their bilingual competence.

We propose that the interpretative mapping that characterizes NTs establishes a contextually-based relationship between the source utterance and the target utterance. The data from these two bilingual children show that they have to comply with the internal regulations of the interpretative mapping that takes place between English and Spanish and so produce NTs that evidence an internal analysis of both linguistic and contextual properties of languages.

The longitudinal analysis that we have performed also provides information regarding the development of both their bilingual competence and their translation competence. In this sense, the initial stage is characterized by the use of lexical pairings which evidence both a metalinguistic analysis between the two languages, as well as a certain adjustment to the requirements of the linguistic situation. While in more advanced stages NTs show a deeper understanding of the linguistic properties of both languages and the meeting of specific contextual needs.

There are other possible research venues that could be undertaken, along with the consideration of the complete Ferfulice corpus where NT cases are attested as early as 1;02, as in (8):

(8) *MEL: can you say water?
*MEL: [% holding up the cup of water] what is this?
*LEO: [% reaching for the cup] *ah@i*!
*MEL: water?
*LEO: *agua*@sp.

[1;02]

Our analysis could be completed with the incorporation of other simultaneous bilingual data available, either with the same language pairs (e.g. the Deuchar's corpus in CHILDES) or with different language pairs (e.g. English-French, Italian-German, English-Norwegian, etc. as in Swain (1972), Taeschner (1983), Lanza (1997), etc.) with a view to determining whether linguistic properties of languages play a role in NT. The consideration of data from singletons, as it is the case of the Deuchar's corpus, could also provide information as to whether there is a twin effect (Dale et al., 1998; among others). Finally, the comparison between simultaneous bilinguals' data and sequential bilinguals' data could also shed light as to whether translation strategies are governed by the L1/L2 dichotomy.

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