

Differences and Similarities between Child L2 and (2)L1: *DO*-support in Child Dutch¹

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1. Introduction

Generally, in the (generative) literature on acquisition, a clear distinction is made between children acquiring two languages from birth (2L1) and children acquiring a second language starting between age 4 and 7 (child L2), although both are sometimes called *bilingual* children. The most obvious difference between those two groups of child acquirers is the initial state of their emerging grammars. Whereas in 2L1 acquisition the two grammars emerge simultaneously, in child L2 acquisition the emergence of the two grammars takes place successively, at least for a large part. There are, however, also important similarities between the two types of acquisition, which, strangely enough, are rarely mentioned in the literature. Most importantly, in both 2L1 and child L2 acquisition the child has not yet reached ‘the critical age’ and therefore is supposed to have full access to UG, as opposed to what is often assumed for adult L2 acquisition. In that sense, both 2L1 and child L2 acquisition are more similar to (monolingual) L1 acquisition than to adult L2 acquisition. There can however be more similarities, such as the sociolinguistic embedding of the second language (and its speakers), which has an effect on the learning situation and on the quality and the quantity of the linguistic input. The second language of a 2L1 acquiring child can be the language of the family or the surrounding minority community the child belongs to. Hence, dominance of one of the languages may exist in the input, just as language mixing. In fact, many children acquiring two languages are in a learning situation which has characteristics of both ‘pure’ 2L1 and of child L2 acquisition.

In the present paper, we will discuss production data of precisely such children. Our bilingual subjects are born and live in the Netherlands in families which have a home language other than Dutch. Moreover these families are part of (ethnic) minority communities which at least for its older generations do not speak Dutch very well. Although these children attend Dutch (pre)schools, there too they meet lots of other children from their ethnic community with which they (can) communicate in a language other than Dutch. Therefore, although strictly speaking they acquire two languages from birth, in the sense that they got input from both languages from birth onwards, it is not entirely clear what have been the quality and the quantity of this input, specifically in Dutch, the non-family language.

In the literature on 2L1 acquisition the leading idea is that children who acquire two languages from birth separate their two languages/grammars from very early on (cf. Meisel 1989, Genesee and Paradis 1995, De Houwer 1994 among many others). It is argued that the two grammars develop autonomously in a way similar to the development of the corresponding monolingual L1 grammars. From this perspective, it is expected that no real transfer phenomena will take place between the two developing grammars. However, Hulk and Müller (2000) and Müller and Hulk (2001), among many others, claim that although bilingual first language acquirers separate their two grammars, (syntactic) cross-linguistic influence is possible: the input from one language may temporarily feed the emerging grammar of the other language, iff certain conditions are met. There must be structural correspondence

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between the bilingual child's two languages with respect to the phenomenon concerned; and the grammatical area must involve the interface between syntax and pragmatics in order for cross-linguistic influence to be possible. In that case, bilingual children, in contrast with monolingual children, may more often or for a longer period prefer or produce certain structures that are possible in both languages (cf. Gawlitzek-Maiwald & Tracy 1996, Hulk et al 2003, Muysken 2000). This type of cross-linguistic influence has been qualified as "quantitative", in the sense that it will not lead to qualitative differences between the two grammars.

In child L2 acquisition, the L2 grammar starts to develop at a moment when at least a very large part of the L1 grammar is already in place. Therefore, although direct access to UG is possible, influence of the L1 grammar on the L2 grammar is to be expected. Here, it will be the case that the grammar of one language (L1) somehow feeds the emerging grammar of the other language (L2). This influence is generally called 'transfer' as in adult L2 acquisition, although interesting claims are made as for the differences between child and adult L2 acquisition in types of transfer. In this respect, Schwartz (2003) proposes the Domain by Age Model which states that child L2 acquisition will be like child L1 acquisition in the domain of inflectional morphology, and like adult L2 acquisition in the domain of syntax. Consequently, it is only in the latter domain that transfer from the L1 is expected. This type of transfer will lead to a qualitative difference between the L2 grammar and the corresponding L1 grammar.

Summarizing, in the acquisition literature the cross-linguistic influence found in 2L1 acquisition is generally qualified as 'quantitative', whereas the cross-linguistic influence in child L2 acquisition can be qualified as 'qualitative', at least in certain domains, such as syntax. Above, however, we already saw that the distinction between a child L2 and 2L1 learning situation is not always as clear cut as suggested in the literature. One of the questions that arise in that respect is whether in situations where in 2L1 acquisition one of the two languages is dominant, during some period or in some situation, we would expect 'qualitative' cross-linguistic influence between the two emerging grammars to occur.

In the present paper, we will compare monolingual and bilingual children in their acquisition of two phenomena in Dutch that in the literature are claimed to be related: DO-support and asymmetrical word order in root and non-root clauses to get more insight in the phenomenon of cross-linguistic influence and its occurrences.

2. Dutch syntax and acquisition

2.1. DO-support and root/non-root asymmetry

The traditional analysis classifies Dutch as a SOV-language with V2: In Dutch root clauses, exemplified in (1), the non finite verb *gegeten* 'eaten' occurs in its VP-final base position whereas the finite verb *heb* 'have' has undergone movement to the second position in the left periphery of the sentence (the so-called V2 movement).³ In that position, it immediately follows the subject *ik* 'I' or the adverb *toen* 'then' in (1a) and (1b), respectively:

- (1) a. Ik *heb* een appel *gegeten*
 I have an apple eaten
 b. Toen *heb* ik een appel *gegeten*
 then have I an apple eaten

In contrast, non-root clauses do not trigger (V2) movement of the lexical finite verb to the second position. Here the finite verb occurs in clause final position, as illustrated in (2):

- (2) Zij zegt dat ik een appel *gegeten heb*
 she says that I an apple eaten have

³ We do not elaborate about the exact landing position of the finite verb but we assume that it moves to the C-position. See Müller (2003) for other possibilities.

Traditionally, it is assumed that in non-roots the complementizer occupies the position to which the finite verb moves in roots. Therefore this position is not available as landing site for verb movement in non-roots. In more recent theoretical accounts of V2 it is assumed that movement is triggered to check a finiteness feature in the left periphery of the root clause. We will not go into the details of these analyses. What is important here is that in contrast to other languages such as French and English, Dutch has an asymmetrical word order in roots and non-roots, which constitutes a difficulty for acquisition. Let us briefly consider the (monolingual) L1 acquisition of verb movement in Dutch.

It is generally assumed (see Van Kampen (1997: 50 and references cited) that V2 - the movement of the finite lexical verb to the left periphery of the root clause, as in (1) - is acquired fairly early. However, spontaneous production data have shown that Dutch monolingual children aged two to four go through a well-attested stage where they simultaneously use the finite form of the lexical verb in 2nd position of the root clause and a so-called DO-support construction. The latter type of construction involves the finite auxiliary *gaan* 'go' or *doen* 'do' in 2nd position and an infinitival lexical verb in clause final position, as illustrated in (3a) and (3b), respectively:

- (3) a. We *gaan* allemaal *ete* (3;1) (Jordens 1990: 1433-34)
 we go all eat_{inf}
 "We are all eating"
- b. Ik *doe* ook *praten* (S. 3;5.2) (Van Kampen 1997: 46)
 I do also talk_{inf}
 "I am talking too"

In spontaneous child production data, DO-support only appears in roots and never in non-roots and it disappears once the V2 rule is clearly established (cf. Van Kampen 1997). These findings are confirmed in experimental work by Zuckerman (2001). Although there is no agreement on the theoretical analysis of DO-support in child Dutch, most authors assume that DO-support and V2-movement are related hence predicting an asymmetry in roots and non-roots for both phenomena.

2.2. Bilingual acquisition

It has not yet been studied systematically whether children acquiring Dutch as their second language also go through a DO-support stage in root clauses. Lalleman (1986: 75) states that young Dutch/Turkish bilingual kids use *gaan*+infinitive instead of the simple present in their Dutch, but unfortunately, she doesn't give any structural or quantitative details.

In the 2L1 acquisition literature on verb movement and word order in root and non-root clauses in German (which just as Dutch is a SOV language with V2 in roots but not in non-roots), no mention is made of DO-support constructions, but these are not attested either in monolingual L1 acquisition of German. However, problems with word order in the non-root clauses are attested (Leopold 1949, Taeschner 1983, Müller 1998, Döpke 1998)⁴. The sentences (4) through (6) reveal that these bilingual children have problems with word order in German embedded clauses. These examples are found relatively late, around age 3 until 4;6. In all these sentences the finite verb is in the second position instead of in the final position:

- (4) Ich habe ein Buch wo die Name *ist* Struwpeter Hildegard 4;6
 I have a book where the name is Struwpeter
- (5) Das *ist* eine Puppe die *ist* wie Nonna Tina Giulia 2;8
 That is a doll who is like Nonna Tina
- (6) sagen wir mal dass das *ist* ein Baum Ivar 3;10,25
 say we PART that this is a tree

⁴ Also, Meisel (p.c.), like Müller (2003), suggests that monolingual German children have problems with word order in embedded clauses.

According to Gavarro (2003), these deviant word order patterns stem from the setting of IP as head initial by these children under the influence of their other language which is head initial.

Whether this missetting is the correct analysis or not, what is important here is that apparently in the domain of finite verb movement in German non-root clauses cross-linguistic influence is found in 2L1 acquiring children. Therefore, we might expect to find a similar influence in the Dutch of our bilingual children.

If we adopt Schwartz's (2003) hypothesis that in child L2 transfer is only to be expected in the domain of syntax and not in the domain of morphology, what would we predict with respect to the acquisition of V2, DO-support and the root/non-root asymmetry in child L2 Dutch? The answer depends on the exact theoretical analysis of these phenomena, which we have no space to discuss here. Nevertheless, one can safely state that finite verb movement and word order belong to the domain of syntax and as such may be subject to cross-linguistic influence. As for DO-support, if this phenomenon is a morphological reflex of spelling out a (functional) position, we could consider it to belong to the domain of morphology. In that case Schwartz would presumably predict no cross-linguistic influence with respect to this phenomenon and we would expect both 2L1 and child L2 children to produce it in a way similar to monolingual L1 children. However, the position of DO will ultimately be the landing site for movement, and in that perspective DO-support is a pre-cursor for and related to finite verb movement in roots and probably belongs as much, if not more, to the domain of syntax as to the domain of morphology. In that case, cross-linguistic influence would be predicted.

In this article, we will present the results of a pilot experimental study examining the phenomenon of DO-support and root/non-root asymmetry in a sentence completion test which is the exact reduplication of Zuckerman's (2001) test. As mentioned above, our subjects are bilingual children who are born and live in the Netherlands but belong to ethnic minority families and communities who predominantly use languages other than Dutch. The questions we will address are the following:

- (i) Do these children go through the same DO-support stage as their monolingual peers?
- (ii) Do they show the same root/non-root asymmetry as their monolingual peers?

The answers to these questions will allow us to consider the more general point of the presence or absence of cross-linguistic influence and its characterization in the acquisition of children who sociolinguistically show characteristics of both 2L1 and child L2 acquirers.

The article is organized as follows. In section three we present Zuckerman's (2001) experiment showing that Dutch monolingual children go through a stage where they use both the correct finite form of the lexical verb and DO-support. In the following parts, we will report the results of our own reduplication of Zuckerman's test with 5 monolingual and 9 bilingual children. Moreover, we will discuss the results of both experiments with respect to the variation in terms of individual performance. Section six contains some concluding remarks and relates the results of our pilot to the central questions raised here and in the introduction.

3. The monolingual experiment by Zuckerman's (2001)

3.1 The completion test

Zuckerman tested 10 monolingual Dutch children aged from 3;0 to 3;11, i.e. 5 children from the province of Limburg in the southeast of the Netherlands, and 5 from the province of Groningen in the northeast of the Netherlands. Moreover, a second group of 14 Dutch children (all from Limburg), aged from 4;8 to 5;0 were involved in the experiment.

Zuckerman's experiment is a sentence completion test involving 34 picture pairs. Two pictures were presented to the children. The experimenter first presented the pictures while producing a full co-ordinating structure. Then, the experimenter presented the pictures again through a co-ordination structure in which the first conjunct was fully produced by the experimenter and the second conjunct was truncated. The children were asked to complete the sentence and to produce a finite verb and an object. The sentences were divided to two conditions. First, root sentences (VfO condition) were administered, where the correct answer involves movement of the finite verb to the second position resulting in a Vf-O word order, as illustrated in (7):

(7)

Experimenter:*full coordinating structure (OVf)*

Dit is de man die het brood snijdt en dit is de man die de tomaat snijdt.
 this is the man who the bread cuts and this is the man who the tomato cuts

truncated coordinating structure (VfO)

Dus deze man snijdt het brood en deze man ...
 so this man cuts the bread and this man.....

Child:

..... snijdt de tomaat (VfO)

.....cuts the tomato

Second, non-root sentences (OVf condition) were administered, where the correct answer does not involve V2 and the resulting word order is O-Vf, as illustrated in (8):

(8)

Experimenter:*full coordinating structure (VfO)*

Deze man snijdt het brood en deze man snijdt de tomaat.
 this man cuts the bread and this man cuts the tomato

truncated coordinating structure (OVf)

Dus dit is de man die het brood snijdt en dit is de man die
 so this is the man who the bread cuts and this is the man who ...

Child:

.....de tomaat snijdt (OVf]

.....the tomato cuts

3.2 Results: DO-support

Zuckerman found what he was expecting: the monolingual children in the younger age range use DO-support although the experimenter does not present it. The results of the sentence completion test are presented in table 1:

Table 1: *The distribution of the tokens of DO-support (numerator) and all utterances (denominator) (taken from Zuckerman 2001: 127)*

	Dutch L1 children n = 10	Dutch L1 children n = 14
Age	3;0 – 3;11	4;8 - 5;0
Language	Dutch (from Limburg and Groningen)	
Non-root	4/141 3%	0/210 0%
Root	33/145 23%	6/210 3%
Sign.	$t = 2.583$ $df = 18$, $p < 0.05$	

The results show that the younger children, aged from 3;0 to 3;11, significantly produce more DO-support in root than in non-root clauses, namely 3 and 23 percent, respectively. In contrast to the younger children, the older ones, aged 4;8 to 5;0, hardly use DO-support (highest percentage is 23 in

column 2 and 3 in column 3, respectively). As predicted by Zuckerman's analysis, the results show that (i) DO-support is preferred in root but not in non-roots and (ii) the children go through a DO-support stage.

Furthermore, the lexical choice between the dummy verbs *gaan* 'go' or *doen* 'do' is very likely induced by the input (Zuckerman 2001). The children from the province of Limburg used *doen* in all cases of DO-support. This is due to the fact that they are exposed to the Limburg dialect and regional standard Dutch revealing *doen*+infinitive in adult grammar whereas this is not allowed in standard Dutch. In adult grammar, this type of construction expresses habitual aspect, as illustrated by the spontaneous speech data examples in (9) (cf. Cornips 1998):

- (9) a. ik *doe* *timmeren* en *opbouwen*
 I do hammer_{inf} and build-up_{inf}
 "I'm a carpenter"
 b. als je *voetballen* *doet*
 if you play_{inf} soccer do
 "when you play soccer"

On the contrary, the children from the province of Groningen, who are not being exposed to a dialect exhibiting *doen* 'do' but *gaan* 'go' in adult speech, exclusively use *gaan* in DO-support. In adult standard Dutch the auxiliary *gaan* expresses inchoative aspect 'is about to' and/or it has a future modal reading 'is going to', as shown in (10a) and (10b), respectively:

- (10) a. dat hij *gaat* zwemmen.
 that he goes swim_{inf}
 "that he is going to/is about to swim"
 b. dat ik het boek *ga* lezen.
 that I the book go read_{inf}
 "that I will read the book"

However, monolingual children differ from adults in that (i) they use DO-support only in root but not in non-root clauses and (ii) they use DO-support to describe an ongoing event (cf. Van Kampen 1997, Jordens 1990, Zuckerman 2001).

Zuckerman (2001: 126) mentions three tokens of V2 in non-root clauses by monolingual children similar to the deviant word order patterns in the speech of German bilingual children in (4) through (6) above. Such examples are not mentioned in the literature on spontaneous production data.

3.3 Individual versus group performance

It is interesting that a group result may obscure patterns of divergence in individual subjects. The high t-value⁵ in table 1 indicates that the youngest children reveal great variation in terms of individual performance. A closer look at Zuckerman's results shows that in root clauses 4 out of 10 children ages 3;0 – 3;11 do not use DO-support at all, whereas the other 6 children range in use from 1 to 10 tokens of DO-support (the children per province also show considerable variation in root clauses ranging from 28% in Groningen to 16% in Limburg).

⁵ Roeland van Hout (p.c) pointed out to us the relation between a high t-score and individual variation.

Table 2: *The distribution of the tokens of DO-support in root clauses by monolingual children, age 3;0 - 3;11 (taken from Zuckerman (2001: 126), compare with Table 1)*

	Child	age	DO-support	province	
root clauses	Lena	3;0	0	Groningen	
	Tessa	3;0	7		
	Justin	3;2	10		
	Jelle	3;7	0		
	Dagmar	3;9	6		
				23/81 = 28%	
		Thom	3;2	1	Limburg
		Bo	3;6	0	
		Rowin	3;10	6	
		Nils	3;10	3	
	Teun	3;11	0		
				10/64 = 16%	
total root			33/145 = 23%		

Thus, although the youngest children as a group significantly differ from the older children in DO-support, the former considerably differs in individual performances.

The interesting questions that now arise, are (i) do children acquiring Dutch as 2L1/L2 go through the same DO-support stage as their monolingual peers? and (ii) do they show the same root/non-root asymmetry as their monolingual peers? In order to address these question, we have repeated Zuckerman's experiment with both L1 and 2L1/L2 children.

4. The 2L1/L2 experiment

4.1 Subjects and methodology

Our experimental test was an exact duplication of Zuckerman's experiment. The same picture pairs and the same coordinated root and non-root sentences were used as in Zuckerman' experiment in order to achieve a maximal basis for comparison. The experimenter presented the sentence completion test to two groups of children, namely one group of 9 2L1/L2 children, ages between 3;0 and 5;2, and one group of 5 Dutch monolingual children, ages between 3;5 and 5;2. Both groups were divided in the same age groups as in Zuckerman' experiment. The smaller numbers of the L1 (n=2 and 3) and the oldest 2L1/L2 children (n=3) indicate that this experiment has more the character of a pilot study with interesting implications for future research, as we will discuss later. The younger bilingual children are descendants from French, Ghanaian and Moroccan families and the older ones from Ghanaian and Surinamese-Russian families. All bilingual children attend three different (pre)schools in Amsterdam. More information about the children is presented in figure 1:

Figure 1: *The subjects' age and language background*

2L1/(L2), age 3;0 - 3;10

n = 6 age L2/2L1
 Youssra 3;0 Moroccan Arabic/Berber
 Joseph 3;2 Moroccan Arabic/Berber
 Romy 3;2 Sranan
 Anthony 3;5 Sranan
 Nicole 3;6 French
 Stefano 3;10 Sranan

L1 Dutch, age 3;5 - 3;9

n = 2 age monolingual
 Patrick 3;5 Dutch
 Joyce 3;9 Dutch

2L1/L2, age 4;11 - 5;2

n = 3 age L2/2L1
 Daphne 4;11 Akan/Ewe
 Serwa 5;0 Akan/Ewe
 Damien 5;2 Russian-Sranan

L1 Dutch, age 5;2

n = 3 age monolingual
 Ravian 5;2 Dutch
 Thom 5;2 Dutch
 Jesse 5;2 Dutch

Apart from Dutch, all other languages of the children i.e. Moroccan Arabic, Berber, Sranan, French, Akan, Ewe and Russian have a SVO word order, in which the object follows the lexical finite verb in both root and non-root clauses. All bilingual children were born in the Netherlands although we don't know exactly whether they are raised bilingually from birth and, hence, are completely balanced 2L1 acquirers or whether they acquired Dutch at a somewhat later age and should be considered as very early child L2 acquirers. However, the teachers /caretakers (at pre-school) selected these children to participate in the experiment on the basis of their proficiency in Dutch. Moreover, the 6 youngest bilingual children are under age 4, which is generally considered to be the lower age boundary of child L2 acquisition (the upper one being around age 8) in the literature.

4.2 Results: DO-support**4.2.1 The youngest monolingual children**

The results for the two youngest monolingual children, Patrick (3;5) and Joyce (3;9) concerning DO-support in our experiment, are presented in table 3. Similar to Zuckerman's children, these monolingual children show a significant root/non-root asymmetry, namely 16 percent and 1 percent in non-root and root clauses, respectively.

Table 3 : *The distribution of the tokens of DO-support (numerator) by two L1 children, age 3;5 - 3;9*

L1	Child	age	DO-support
root	Patrick	3;5	9
	Joyce	3;9	3
total root			12/73 16%
non-root	Patrick	3;5	1
	Joyce	3;9	0
total non-root			1/68 1%
significant	$\chi^2=9.39$, $df=1$, $p<.01$		

4.2.2 The youngest 2L1/L2 children and Nicole

The results of the youngest 2L1/L2 children are somewhat complicated to interpret since they display great variation in terms of individual performances, with one child, e.g. Nicole (age 3;6) performing in a divergent way compared to the other bilingual children. Therefore, we will not carry out a group analysis for the youngest bilingual children. Nicole's results are very different from the others in her group, as illustrated in table 4. Nicole is the only child with a French language background (see figure 1):

Table 4: *The distribution of the tokens of DO-support by the youngest bilingual children, ages 3;0 - 3;10*

	Child	age	DO-support
Non-root	Youssra	3;0	1
	Joseph	3;2	1
	Romy	3;2	0
	Anthony	3;5	0
	Stefano	3;10	1
	Nicole	3;6	15/31 48%
Total non-root			18/175 10%
Root	Youssra	3;0	1
	Joseph	3;2	2
	Romy	3;2	1
	Anthony	3;5	0
	Stefano	3;10	2
	Nicole	3;6	10/26 38%
Total root			16/194 8%

With the exception of Nicole, the 2L1/L2 children differ from the monolingual ones in that they hardly use DO-support in both root and non-root clauses and as a consequence don't show a root/non-root asymmetry concerning DO-support (only 9 tokens as a group in both kinds of sentences). The few tokens of the bilingual children with the exclusion of Nicole cannot be considered as conclusive in this respect but it is important to point out that these children have an equal chance and opportunity to produce DO-support as the monolingual children and Nicole⁶.

It is clear from table 4 that Nicole performs in a divergent way compared to the other bilingual children since she uses DO-support with a very high frequency (25 tokens compared to 9 of the other children). However, she fully converges with the other bilingual children in that she doesn't show a root/non-root asymmetry regarding DO-support.

Importantly, Nicole also differs from 'our' monolingual children in two ways. First, she uses DO-support much more frequently: compare Nicole's 38% DO-support in roots to 16% of 'our' monolinguals in table 2, and to 23% in roots of Zuckerman's children in table 1. Second, Nicole also frequently uses DO-support in non-root clauses, namely in 48% of the sentences, and, hence, doesn't show any root/non-root asymmetry with respect to DO-support.

The DO-support examples in (11) and (12) illustrate the lack of root/non-root asymmetry of the younger 2L1/L2 children Youssra and Nicole.

⁶ Interestingly, although these children do not use DO-support in the experiment, they produce it in spontaneous speech before, after and during the administration of the experiment, as illustrated in the spontaneous speech example in (i):

(i) *Experimenter:*

Dus deze jongen, dit is de jongen die de hond aait. En dit is de jongen +...

Thus this boy that is the boy who the dog strokes. And this is the boy ...

Stefano:

++ van de eh poes.
of the cat

Experimenter

Wat doet ie met de poes?

What does he with the cat

Stefano:

Die **gaat** aaien.
that one goes stroke_{inf}

(11) *Experimenter*: En deze vrouw +...
and this woman

Youssra (3;0)

++ *gaat* de sokken aantrekken.
goes the socks put_{inf} on

(12) *Experimenter*: Juist dus dit is de kat +...
right thus this is the cat

Nicole (3;6)

++ die *gaat* die mevrouw helpen
that goes that madam help_{inf}

In both (11) where a root clause is elicited and in (12) where a non-root clause is elicited a DO-support construction is produced. As for (11), this is what we expected, but for (12) this is unexpected, since the monolingual children never produce DO-support in non-roots. Moreover, (12) presents the wrong word order, with the finite verb *gaat* in 2nd instead of final position. Here we have to make a small methodological proviso: in the experiment, *die* ‘that’ (as in Nicole’s answer in (12)) is meant to be in C-position, introducing a (non-root) relative clause. However, the answer could also be analyzed as an independent root clause with *die*, as a resumptive pronoun, in subject position. In the latter case, the word order in (12) is fully acceptable in adult speech. Since we wanted to reduplicate Zuckerman’s experiment in order to compare maximally the results, we were not able to avoid the resumptive pronoun interpretation by the children. In any case, both the monolingual and bilingual children had an equal chance to interpret the element *die* ‘that’ as a resumptive pronoun and only the bilinguals did so.⁷

We have no straightforward answer why these youngest bilingual children hardly produce DO-support whereas Nicole uses it so frequently, but it could be the case that one of the factors is the influence of the other languages being responsible for this difference between Nicole and the others. In Arabic and Berber DO-support is very rare and infrequent whereas in Sranan it is not certain whether we are dealing with DO-support or a serial construction. Only in French an *aux*+infinitive structure is possible and productive as in *Je vais faire une peinture* ‘I go make a painting’. However, the use of this construction as DO-support mechanism is never mentioned in the literature. Moreover, it is certain that there is more at stake than cross-linguistic influence alone since also the monolingual children in Zuckerman’s experiment show individual variation to a high degree. Therefore, further research is necessary.

4.2.3 *The oldest monolingual and bilingual children*

Clearly, both the older Dutch monolingual and 2L1/L2 children hardly produce any DO-support, hence, the results of the older bilingual and monolingual children are convergent. Table 5 presents the results for the older children, aged from 4;8 to 5;2:

⁷ Anne Baker (p.c.) pointed out to us that it could be the case that for some as yet unknown reason the bilingual children, contrary to monolingual Dutch children, prefer to construe *die* ‘that’ as a resumptive pronoun. We leave this problem for further research.

Table 5: *The distribution of the tokens of DO-support (numerator) and all utterances (denominator), age 4;8 - 5;2*

	Dutch L1 n = 3		2L1/L2 n = 3	
Age	5;2		4;11 - 5;2	
Language background	Dutch		Akan, Ewe / Sranan -Russian	
Non-root	0/69	0%	1/75	1%
Root	0/74	0%	1/76	1%

Summarizing, the experimental task shows that both the monolingual children and one bilingual child e.g. Nicole go through a DO-support stage in addition of movement of the lexical finite verb to the position where it precedes its complement. Thus, in this respect, the results of Zuckerman's experiment do not differ from ours. This confirms Schwartz's claim that bilingual children such as Nicole behave like L1 acquiring children in the passing through of a DO-support stage. If we follow Zuckerman's analysis and assume that 'economy' of derivation explains the root/non-root asymmetry of DO-support in the production data of young Dutch monolingual children, then we might have to conclude that Nicole - and likely the other bilingual children using a low frequency of DO-support as well - violates the 'economy' principle. However, if Nicole and the others assume that the finite verb in Dutch non-root clauses has to be moved, just as in root-clauses, their use of DO-support no longer violates 'economy'.

Interestingly, our results show more differences between monolingual and bilingual acquisition with respect to verb placement and word order, as we will discuss in the next section.

5. Word order problems in non-roots

5.1 Nicole's data

According to the hypothesis of Schwartz, deviant word order is to be expected in child L2 that in this respect is similar to adult L2 acquisition (see above). Moreover, we already suggested that a deviant word order is marginally to be expected in 2L1 acquisition and is a domain in which cross-linguistic influence might occur and, hence, differences between the monolingual and bilingual children are expected. Let us first turn to the results of Nicole. In non-roots Nicole always uses DO-support with the wrong word order with respect to the position of the finite verb *gaan* which she puts in the left periphery of the sentence and not in predicate final position, as illustrated in (13). Thus, despite the modeling of a non-root clause in the test, the word order/verb placement of a root clause emerges:

(13) *Experimenter:*

Juist dus dit is de kat +...
right thus this is the cat

Nicole:

++ die *gaat* die mevrouw *helpen*
that goes that lady help

The non-Dutch word order in (13) with *gaan* 'go' shows a S-Vf-O-Vi word order. This could be the result of 'missetting' of the head parameter for IP as head initial (as in French) instead of head final (as in Dutch). Consequently, this word order suggests cross-linguistic influence and is comparable to what we would expect to find in (adult) L2 acquisition but also in 2L1 acquisition as the examples (4) through (6) presented above in §2 already demonstrated.

Moreover, Nicole also produces sentences with DO-support with another word order, S-Vf-Vi-O, as illustrated in (14):

(14) *Experimenter*

Juist en dit is het meisje +...
right and this is the girl

Nicole:

++ die **gaat** *teken* een bloem
that goes draw_{inf} a flower

Here one could argue that the head parameter has been misset both for VP and for IP, possibly under the influence of French.

In addition, in non-root clauses without *gaan*, and hence, with a lexical finite verb, Nicole also produces a non-Dutch word order, as illustrated in (15)⁸:

(15) *Experimenter:*

Dus dit is het meisje +...
thus this is the girl

Nicole:

++ die *teken* een huisje
that draws a house

The results of Nicole are presented in table 6:

Table 6: *Nicole's distribution of the tokens of SIVO and SIOV with DO-support [column 2 and 3], and without DO-support [column 4] in non-root clauses (numerator) and all possible occurrences (denominator), age 3;6*

2L1/L2 Nicole's word order			
Age 3;6			
Language background Dutch / French			
	<i>DO-support</i> <i>S-Vf-Vi-O</i>	<i>DO-support</i> <i>S-Vf-O-Vi</i>	<i>S-Vf-O</i>
Non-root	5/20 25%	7/20 35%	7/8 88%

Importantly, with the exception of three tokens in Zuckerman, such errors are not found in the production data of the monolingual children.⁹ They are however known from L2 acquirers and are found in some 2L1 children (see examples (4) through (6)).

5.2 *The other bilingual children' data*

The other children do not differ from Nicole concerning the production of a non-Dutch word order in non-root clauses. Despite the modeling of a non-root clause in the test, both the younger *and the older ones* use a S-Vf-O word order in a (large) number of non-root clauses, as illustrated in (16). In (16) the lexical finite verb is again not in predicate final but in the left periphery of the clause:

⁸ The sentence in (15) without DO-support but with a lexical finite verb is ambiguous between a SIVO and SIOV structure

⁹ The monolingual children in our experiment utter one token of Aux+O+V_{inf} order and one token of Vf+O in a non-root clause (Joyce (3;9) and Damien (5;2), see figure 1). The data of Zuckerman also reveal three tokens of the latter (labelled V2 (VO) 2001: 126) produced by monolingual children.

(16)a. *Experimenter:* Juist dit is het meisje +...
 right this is the girl

 Stefano: ++ *gooit* de stok
 throws the stick

b. *Experimenter:* Dus dit is de man +...
 so this is the man

 Stefano:++ die *strijk* de broek
 who irons the trousers

The results of the bilingual children are presented in table 7. This table reveals that both the younger and older children use a non-Dutch word order to the same extent (2nd and 3rd column).

Table 7: *The distribution of the tokens of S-Vf-O order (without DO-support) in non-root clauses (numerator) and all possible occurrences (O-Vf/Vf-O) (denominator), two age groups*

	2L1/L2 n = 5	2L1/L2 n = 3
Age	3:0 – 3;10	4;11 - 5;2
Language	Moroccan Arabic/Berber Sranan	Akan, Ewe / Sranan -Russian
Non-root	11/54 20%	7/34 21%

Here too, one could argue that the younger children, just as Nicole, have misset the head parameter for IP in Dutch to head initial, possibly under the influence of their other languages which are all SIVO. As mentioned above, such errors are not found in the production data of the monolingual children¹⁰, but are known from L2 acquirers and are found in some 2L1 children (see examples (4) through (6)).

Strikingly, there appears to be no development in the acquisition of the right word order in non-roots: both age groups produce a wrong word order in 20% of the cases. The question arises whether this has to be interpreted as a (permanent?) qualitative difference with respect to monolingual language development, or whether this is an example of a severe delay with respect to monolingual children. In the latter case, we would expect older children to no longer show this percentage of wrong word orders in non-roots. Interestingly, we also tested considerably older 2L1/L2 children in this experiment, namely one Turkish and two Moroccan children aged between 9;3 and 10;5. We did not discuss them here before, because their age range is different from the children tested by Zuckerman and therefore a comparison with monolingual children is not possible. Nevertheless, their results show that by this age, the bilingual children use the correct word order in non-roots, as illustrated in the following table:

Table 8: *The distribution of the tokens of S-Vf-O order (without DO-support) in non-root clauses (numerator) and all possible occurrences (O-Vf/Vf-O) (denominator), one age groups: 9;3-10;5*

	2L1/L2 n=3
Age	9;3-10;5
Language	2 Moroccan Arabic/Berber, 1 Turkish
Non-root	0/56 0%

These results support the hypothesis that these 2L1/child L2 acquirers are showing a considerable delay in acquisition of word order in non-roots, compared to their monolingual peers.

¹⁰ Only Joyce (3:9, monolingual, see figure 1) utters one token of Aux+O+Vinf order in a non-root clause.

6. Concluding remarks

The answer to the question raised at the beginning of this article whether children acquiring Dutch as 2L1/L2 go through the same DO-support stage as their monolingual peers is affirmative when we consider the results of one young bilingual child, Nicole, who very frequently uses DO-support. The answer is far less clear, maybe we could even say negative, for the other children.

The answer to the subsequent question whether bilingual children show the same root/non-root asymmetry as their monolingual peers, is negative for all children, also for those who only use DO-support very infrequently.

Moreover, all bilingual children use a non-Dutch word order in non-root clauses without DO-support. We have suggested that this could be the result of the parameter missetting of IP as left headed by these children, possibly, under the influence of the other languages of the children. On the one hand, that hypothesis could also account for the presence of DO-support in non-roots in Nicole's Dutch, since root and non-root would then no longer differ in terms of 'economy'. On the other hand, no DO-support is found in monolingual child French. Hence its appearance in Nicole's Dutch cannot be a clear case of 'transfer' from French.

More generally, if we assume that DO-support is a 'device' for Dutch monolingual children to acquire V2, i.e. finite verb movement from the clause final base position to a position in the left periphery of the clause, we get a slightly different perspective. 'Our' bilingual children, except Nicole, appear to not need such a device to acquire Vfinite movement/positioning of the finite verb in the left periphery of the clause, since they do not produce DO-support. The reason may indeed be their other language which has either Vf movement or V in a mid-clausal base position. We would then consider Nicole as an example of individual variation with respect to the use of DO-support, similar to the cases of individual variation found in monolingual children's use of DO-support.

At the same time, their other language may make these bilingual children produce Vf movement in both roots and non-roots in their Dutch. This is what they have to 'unlearn' so to say. They have to become aware of the distinction between roots and non-roots for the position of the finite verb. Apparently, this takes quite a long time. Above we called this a delay, but it is not entirely sure that this is the right term.

Indeed, in order to acquire the right word order in roots and non-roots in Dutch, monolingual and bilingual children appear to take different routes: the monolinguals struggle with the word order in roots, going through a (short) DO-support stage, whereas the bilinguals struggle with the word order in non-roots, going through an extended stage in which they produce a word order which we could qualify as qualitatively different from the one found in monolingual children. Whether this is characteristic of bilingual children who are, such as our subjects, somehow in between 2L1 and child L2 acquirers, is yet difficult to say. Clearly more research is necessary, not only in the domain of language acquisition based on production data with children from other language backgrounds, but also in the domain of language development, comparing other 2L1 acquirers and child L2 learners with respect to cross-linguistic influence in other domains of grammar.

References

- Cornips, L. 1998. "Habitual *doen* in Heerlen Dutch". In *DO in English, Dutch and German. History and present-day variation*, I. Tiekens-Boon van Ostade, M. van der Wal and A. van Leuvensteijn (eds.), 83-101. Amsterdam/ Münster: Stichting Neerlandistiek/ Nodus Publikationen.
- Cornips, L. 2000. "The use of *gaan*+infinitive in narratives of older bilingual children of Moroccan and Turkish descent". In *Linguistics in The Netherlands 2000*, H. de Hoop and T. van der Wouden (eds.), 57-67. John Benjamins: Amsterdam/Philadelphia.
- De Houwer, A. 1994. *The acquisition of two languages from birth: a case study*. Cambridge : Cambridge University Press.
- Döpke, S. 1998. "Competing language structures: the acquisition of verb placement by bilingual German-English children". *Journal of child language* 25: 555-584.
- Gavarro, A. 2003. "Economy and word order patterns in bilingual English-Dutch acquisition". *Bilingualism: Language and Cognition* 6 (1): 69-79.
- Gawlitzeck-Maiwald, Ira & Rosemary Tracy 1996. "Bilingual bootstrapping". *Linguistics* 3 901-926.

- Hollebrandse, B. and T. Roeper 1996. "The concept of DO-support and the theory of INFL in acquisition", In *Proceedings of the Groningen assembly on language acquisition*, : Ch. Koster and F. Wijnen (eds.), 261-272. September 7-9 1995.
- Hulk, A.C. J. and N. Müller 2000. "Bilingual first language acquisition at the interface between syntax and pragmatics". *Bilingualism: Language and Cognition* 3 (3): 227- 244.
- Jordens, P. 1990. "The acquisition of verb placement in Dutch and English". *Linguistics* 28: 1407-1448. Kampen, van J. 1997. *First steps in WH-movement*. PhD Utrecht University.
- Lalleman, J. 1986. *Dutch language proficiency of Turkish children born in the Netherlands*. Foris Publications: Dordrecht.
- Meisel, J. 1989. "Early differentiation of language in bilingual children". In *Bilingualism across a lifespan: Aspects of acquisition, maturity and loss*, K. Hyltenstam and L. Obler (eds.): 13-40, Cambridge: Cambridge University Press.
- Müller, N. 1998. "Transfer in bilingual first language acquisition". *Bilingualism: language and cognition*, 1 (3): 151-171.
- Müller, N. and A. Hulk 2001. "Cross-linguistic influence in bilingual first language acquisition: Italian and French as recipient languages". *Bilingualism: Language and Cognition* 4.1: 1-21.
- Müller, N . 2003. 'That-t phenomena and verb movement to the left periphery: Evidence for cross-linguistic influence in bilingual (Gr-Fr / Gr-It) children'. Talk presented at *Interface issues in L1 and L2 acquisition. Modular Interaction in Acquisition*. Amsterdam: Free University.
- Muysken, P. 2000. *Bilingual Speech. A typology of Code-Mixing*. Cambridge: Cambridge University Press.
- Paradis, J. and F. Genesee 1995. "Language differentiation in early bilingual development". *Journal of Child Language* 22: 611-631.
- Schwartz, B. D. 2003. "Child L2 acquisition: paving the way" In *Proceedings of the 27th Annual Boston University Conference on Language Development*, B. Beachley, A. Brown and F. Colin (eds.), 26-50. Cascadilla Press: Somerville, MA.
- Taeschner, T. 1983. *The sun is feminine: a study of language acquisition in bilingual children*. Berlin: Springer.
- Unsworth, S. 2002. "Differences and similarities in developmental patterns in child L1, child L2 and adult L2 acquisition". Paper Utrecht: Utrecht University.
- Zuckerman, S. 2001. *The acquisition of "optional" movement*. PhD Groningen University.

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