

## EARLY LANGUAGE MIXING IN BILINGUAL CHILDREN: THE ROLE OF FUNCTION WORDS

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### 1. Introduction

Acquiring a first language is a laborious process. It comes down to constructing a language system on the basis of the input children are confronted with. According to Thomas Roeper (2002), L1 input is always ambiguous in one way or another. Therefore, he states, children build up multiple grammars when learning their first language. Acquiring a language could thus be considered as a case of language contact within one and the same language. If this is true for monolingual children, then the tendency to build up multiple grammars should logically be even stronger in bilingual children, because they are confronted not only with ambiguous phenomena in one mother tongue, but they have to cope with the ambiguities of two different mother tongues. These two L1's can have rules in common and at the same time differ from each other in various linguistic domains.

It is therefore not surprising that young bilingual children are generally found to produce a certain amount of mixed utterances, like in (1), taken from the corpus of a French-Dutch bilingual child:

- (1) Ik *deux jambes* (Anouk, 2;7.5)  
me (D) *two legs* (Fr)  
"I have two legs"

Several publications in the eighties of the twentieth century (Redlinger & Park, 1980; Taeschner, 1983; Vihman, 1985; amongst others), suggested that this type of utterances shows that little children mix up their two languages in the first stages of language development. Most of the linguists working on early bilingualism in the nineties (Meisel, 1990; De Houwer, 1995; and many others) agreed however that this

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kind of utterance does not necessarily show that small bilingual children mix up their two languages. According to them, bilingual children are able to differentiate their two languages from very early on. Mixing is to be explained in another way. It can be the consequence of a performance problem, or a manifestation of a lexical gap. It cannot be the consequence of a mixed language system in the child.

Recently, some authors (Deuchar, 1999; Deuchar & Quay, 2000; and papers in Döpke, 2000) challenged this conclusion and showed that cross-linguistic influence does exist in the early language development of small bilingual children. These authors find a considerable amount of language mixing in the one word as well as the two-word stage, which is difficult to explain in terms of performance problems or lexical gaps. Meisel (1994), Deuchar (1999) and Deuchar & Quay (2000) suggest that cross-linguistically there is a group of words that play a special role in these mixed utterances. They are often designated by the term of “function words” although this term is used in rather different ways in different publications. Meisel (1994) suggests that these special words would be more loosely related to the language context than other words, because they:

Express pragmatic functions, such as deictic reference, assertion and negation, completion of action and contradiction, which, for the child, are apparently not tied to the domain of one of the two languages [...]. These mixes are reminiscent of the type of switching known as tag switching (Poplack, 1980) in adult bilingual communities, that is, code switching of elements with loose or no grammatical links to the rest of the sentence.  
(Meisel, 1994: 427-28)

The data of the Spanish-English bilingual child studied by Deuchar & Quay indeed seems to confirm this pattern: Spanish “más” and “si” are often used in English, English “more”, “gone” and “off” are used in Spanish. The fact that most of the mixes in this child concern a function word, led Deuchar & Quay to postulate that content words match the context, while function words do not. They state that this holds especially for the very early stages of language acquisition, where the child uses her first two-word utterances. Deuchar (1999) claims that in the combination function word–content word, that content word is an argument, while the function word is a predicate. This means that the early utterances would not be a-categorical, as claimed by Powers & Lebeaux and van Kampen (see the paragraph on monolingual children. Deuchar & Quay relate this analysis to the claim, that children’s (monolingual) language acquisition in the one-word stage is guided in the first place by pragmatic principles. These pragmatic principles would equally play an important role in the first

two-word utterances. As pragmatic principles might be more language independent than the syntactic principles that are primordial in the later stages of acquisition, this would make it easier for bilingual children to use function words from both languages within one sentence.

Lanza (1997) has suggested that functional elements are indeed used more easily in mixed utterances, but that these mixes are mostly unidirectional, from the dominant language to the weaker one. Siri, the Norwegian-English bilingual child studied by her will uses functional elements from Norwegian in her English, but will not use functional elements from her English in her Norwegian. The same tendency is found in other studies, like Meisel (1994, 2002), who found German “da”, “bei”, “noch” in a French context (Meisel, 1994), but not the other way round, or Hulk & van der Linden (unpublished data), who found Dutch “ook”, “ja” “zo” in a French context but very rarely the other way round.

The question of language dominance has attracted some attention in recent research, as appears from the fact that the 2002 AISCL-conference devoted a colloquium to the question of language dominance in early bilingualism. Amongst others, Bernardini & Schlyter (2002) presented the “Ivy Hypothesis”, based of the idea that in bilingual development one of the two languages is constructed by using the other one as a support. There is as it were a “parasitic” relation between the two languages. Words and constructions from the stronger language may be used in the weaker one, but the reverse is rare. We will touch upon this issue later on in our paper.

In this paper, we discuss the role of function words in early bilingual utterances (MLU<2). This is the stage where children have to choose between the different possibilities that are seemingly offered to them by the input. Special kinds of function words could play a role in these first utterances. This holds of course for the language development of monolingual as well as bilingual children. We will therefore equally discuss the role of certain words in the first more-word utterances of monolingual children.

## **2. Function words**

Function words have been discussed from different perspectives. In traditional grammars, they are generally identified as closed class items, and they are included in

lists like the following: determiners, pronouns, prepositions, conjunctions, interjections, numerals, and auxiliaries. Although the term “closed class” suggests that these words do belong to one and the same group, it is clear that their role in utterances is very diverse. The different categories of words have equally a different status in modern linguistic approaches: determiners are heads of functional projections; interjections are more or less outside of clauses, etc. Muysken (2000) proposed a distinction in three groups for functional elements in language, based on differences in behaviour in different linguistic setting:

- a) linkers or relational elements, including prepositions, exclamations, conjunctions;
- b) shifters or indexical elements: including pronouns, quantifiers, Q-words, demonstratives;
- c) functional elements proper, like articles, tense-/agreement markers, auxiliaries, modals.

Muysken stated that there is a hierarchy between these three groups: elements of the first group are easiest, those from the last are hardest to be borrowed from one language to another or to be used in code mixing by bilingual subjects. According to Muysken, this is so because of the degree to which these elements are central to the language system. Interjections are very loosely related to grammatical structures, while bound morphemes like tense markers cannot be detached from it. For our purpose, the last group (functional elements proper) is perhaps the less interesting one: in early child language, functional elements proper like articles and tense/agreement markers are often absent, because they are acquired relatively late.

To our knowledge, Redlinger & Park (1980) were the first to consider the role of function words in mixed utterances of little children. In their data, they claim to find a majority of mixed utterances involving function words, including adverbs. Adverbs make up between 15 and 35% of utterances of the three children in their research. Would the authors have counted adverbs not as function words but as “content words”, as most authors do, their conclusion would have been on the contrary that function words are less frequent than content words in mixed utterances.

Vihman (1985) took up the same kind of work in studying the mixed utterances of her son. She concluded that, in Raivo’s mixed utterances in an Estonian context, English function words account for 62% (of types, 42% of tokens) of the mixing, English nouns for 30% (16% of tokens), English verbs for 28% (22% of tokens). In other words, in absolute figures, function words are more frequent in mixed utterances,

although as types they are a minority. Vihman, like Redlinger and Park, included adverbs in her function words, but she did not include the categories of articles, interjections and auxiliaries.

Meisel (1994: 426), without using the term of function words, equally suggests that function-word-like elements occur especially often in mixed utterances. Examples are words like “da”, “das”, “ja/nein”, “auch”, “noch”. He gives a table of all the occurrences of these words in one word as well as multiword mixed utterances of two German-French bilingual children. However, because of the inclusion of one-word utterances, his numbers cannot very well be compared to those of Redlinger & Park (1980) and Vihman (1985), the more because Meisel equally included the “yes” and “no” in his counts, unlike the other authors. In the French-Dutch bilingual child studied by them, Hulk & van der Linden (1996) equally found a large amount of mixes of Dutch “ja” instead of French “oui”. The status of words like “yes” or “no” certainly merits more investigation.

Deuchar (1999) and Deuchar & Quay (2000) study in detail the two-word utterances in the two language contexts (Spanish-English) of a bilingual child and they find that in the mixed utterances which contained function words, 85% of the function words (tokens) did not match the language context (mostly English “more” in an otherwise Spanish context). In their definition, function words are similar to closed class words of the adult language, like *articles, pronouns, prepositions and conjunctions* but they also include “relational” words like *gone, more, oh-dear, más*. The data given show that these last words occur very often in the child’s utterances.

Although the way in which function words are defined differs from author to author, and the quantitative analyses are not always equally complete or convincing, there seems to be something special about a certain group of words, which for convenience we will continue to call here “function words”. In fact, they include words that are to be found frequently in early child utterances, monolingual as well as bilingual. The way they are used suggests that children might use function words as a kind of cue to crack the code of their mother tongue(s). The words are not the same for every language: “nog” / “noch” / “encore”, are frequent in Dutch, German and French, like “ook” / “auch” / “aussi”, while in English “still” and “too” are rare; instead, we find many occurrences of “more”. The words may differ not only from language to language, but equally from child to child. Moreover, they may not always look like a

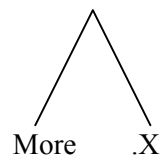
function word. The French-Dutch boy Thomas, for example, uses the word “kijk” (literally “look”) in all kinds of circumstances, seemingly in an effort to attract the adult’s attention to what he is saying, without the explicit meaning that this adult has to look at something; the girl Annick on the other hand shows a preference for the word “zo” (“this way”) in more or less the same intention.

Let us have a look at what research into L1-acquisition has to tell us about the role of function words.

### 3. Monolingual children

Several authors have stressed the role of some special words in the development of early grammar in monolingual children.

Powers & Lebeaux (2000) stated that children in the one word stage start off with lexical elements that do not yet have formal features. When they start constructing two word utterances, in many cases we see the combination of a word looking like a noun (“book”, “mama” “milk”) with a word that belongs to a group of certain small and frequent words like “more”, “no”. According to Powers & Lebeaux, these words continue to lack formal features. As a consequence, the first word combinations do not yet possess a hierarchical structure; the words are just adjoined to each other. Children would in this stage build structures like the following, which constitute a unique maximal projection (UMP):



Words like “more”, “no” can be combined with all kinds of words which in adult language have different categories that could not be combined with them. We find utterances like:

- (2) “more cookie”  
 “more high”  
 “more sing”  
 “no pocket”  
 “no sing”  
 “no dirty”

The frequency of words like “more” and “no” would facilitate the production of two-word combinations: they are small words which the children know well and which they equally used a lot in their one-word utterances.

Van Kampen (forthcoming) suggests something similar. She sketches a pragmatic scenario for syntactic development, and argues that data from early (Dutch) child language show that:

- content words start as category neutral signs X,
- functional words are ideal bootstraps for category assignment because of their high token frequency.

She argues that these functional words first appear as illocution operators added to a content sign. The word combinations are completely situation oriented. Only later they are interpreted in a syntactic way. Thus, children construct utterances like

- (3) “dat X” (“that X”)
   
“hier X” (“here X”)
   
“kan X” (“can X”)
   
“ook X” (“also X”)

where X is a content word. The function words can have different illocutionary roles, like deictic (“dat X”), modal (“kan X”), or turn taking (“ook X”). As van Kampen shows, these illocution operators have each a much higher frequency than any of the content labels found in the child’s utterances. Remember that this same frequency phenomenon was found for bilingual children by Vihman (1985) and Deuchar & Quay (2000).

Van Kampen claims that categorization is delayed: in this first stage, the child does not yet need labels for categories like N or V, even less for categories like D (from “dat”) or I (from “kan”). Moreover, van Kampen seems to suggest that part of the acquisition pattern is item-based: she argues that the acquisition of the category V follows from some fairly frequent I-types accompanied by fixed inflectional elements. There is also a variety of discourse relevant devices that develop (as connectives) as soon as the I marking is acquired. One can think of the use of adverbials as discourse relevant tense indicators etc. Time adverbials like “nu/nou” and “dan” appear at first as markers of turn taking in the conversation and only later they are used for deictic/discourse marking.

Apart from these frequent combinations of an illocutionary operator with an element X, early utterances may take the form of a combination of a content word X with a characterising word Y. Generally, X will be a noun like word, while Y can correspond to different adult categories like another noun, an adjective, more rarely a verb like element, as in:

- (4) “daddy bed”  
       “milk hot”  
       “baby sleep”

Here again, there is no hierarchical structure, the elements are a-categorial.

So the general picture that emerges from L1-acquisition is that children start out with pragmatic intentions, which they somehow translate into lexical elements. These first elements are category neutral. When children produce their first two-word utterances, they create them by simply adjoining two lexical elements without assigning them category labels. These early word utterances are mainly of two types: there are combinations of a noun-like element with another element that is used for characterization; on the other hand, there are combinations of a frequent, closed class, functional item in the role of an illocutionary operator with some content element. These operators play a crucial role in the acquisition of the functional categories D and I and in the development of the internal structure of the XP.

Confirming evidence comes from Parisse & Lenormand (2000), who studied utterances of two-year-old French children in a distributionalist frame work. They show that adult utterances contain more verb forms than early child utterances and that on the other hand, in the children’s data, there is an over-representation of place adverbials, nouns, the presentative “voilà”, and interjections in comparison with adult utterances. They give examples like:

- (5) oh caché  
       (oh hidden)  
       joujou hein  
       (toy, isn’t it)  
       poussette boum  
       là bobo  
       (there hurt)



These are exactly the kinds of words we would expect to find in the utterances described by Powers & Lebeau and Van Kampen. Let us now turn to bilingual acquisition in order to see whether it confirms these findings.

#### **4. Bilingual children**

We just showed that monolingual children in the early two word stage produce on the one hand noun + characteriser combinations, on the other they produce utterances consisting of a (frequent, closed-class/functional) element with a strong illocutionary force combined with another element to express a wish/command, assertion, negation, modal operation, turn taking, deictic operation or place pointer. These functional elements, which may be different from language to language and from child to child, express the pragmatic intentions of the child. They look very similar to the function words that are claimed by Deuchar & Quay (2000) to be mixed frequently in the early utterances of bilingual children. According to Deuchar & Quay, in the combinations of function words with content words, the function word has the status of a predicate while the content word has the status of an argument. This is illustrated by examples like:

- (6) “oh dear cookie” (meaning: the cookie fell down)
- “more juice” (meaning: I want more juice)
- “no spoon” (meaning I don’t want a spoon in my egg)

Deuchar and Quay claim that the functional elements in these utterances are less tightly tied to the specific language context and are therefore more easily mixed. It is not very clear really why predicate-like elements would be less tightly tied to their language than arguments, however.

Hulk & Mueller (2000) discuss syntactic influence in small bilingual children and they claim that children use elements and constructions from the other languages only in cases where the syntactic structure of the utterances is not yet established. As long as these functional categories have not been established, children are free to use lexical elements from one language into the other because the constraints on these words are not yet acquired. Gradually, however, positive evidence in the input brings them to acknowledge that pragmatic principles do not suffice for constructing language.

This corresponds with the analysis of Powers and Lebeaux and van Kampen, who defended the idea that in this stage there is still no categorisation of the lexical

element used by the child. That could perhaps explain that words in this stage are more easily used cross-linguistically. However, if indeed, as claimed by Powers & Lebeaux, elements in the first two-word utterances do not yet have syntactic characteristics, then this should hold not only for functional words but also for content words. In the following discussion we will for convenience use the term of “function word” to indicate the elements called “functional words” or “illocution operators” by van Kampen.

We seem to have now two questions to answer. In the first place, we have to find out what is the role of function words in early bilingual utterances; are they indeed easy-to-use a-categorial elements which help the child to construct the first two-word utterances, as claimed by Powers and Lebeaux, van Kampen, and to a certain amount Meisel?

In the second place, we want to find out whether function words are easier than content words to be used in mixed utterances by bilingual children, as claimed by Deuchar and Quay.

We will answer these questions by studying the data of three Dutch-French bilingual children in order to see whether these confirm one or the other of these claims about function words.

## **5. Bilingual data**

In the following paragraphs, we will first present information on the three bilingual children of our research and next we will analyse the data in the light of the discussion described before.

### **5.1. The subjects**

*Thomas* was born in Utrecht and still lives there. Thomas’ mother was French but she knew Dutch very well although she did not speak it much to the child, at least in the audio-recordings, which were made approximately once a month. Thomas’ father was Dutch but he knew French very well although he did not speak it much to the child. Both parents speak French to each other, which makes the home situation different from that of the other two children. When they were together all three, the mother would speak French to the child, the father Dutch. Although this situation could suggest that Thomas gets more input in French than the other two children, the data show that his

advances in Dutch are much faster than his advances in French. MLU values for the two languages (table 1b) as well as the large number of mixes of Dutch words in the French files suggest that Dutch is Thomas' dominant language.

*Anouk* was born in Amsterdam and is still living there. She has a Dutch father and a French mother. Anouk started talking rather late, as will become clear from her MLU data (table 1a). Audio-recordings were made in French approximately every three weeks and for Dutch a bit less often. Anouk's mother knew Dutch relatively well but did only rarely speak it to the child, her father knew very few French and did not speak it to the child. When they were together all three, the mother would speak French to the child, the father Dutch, while the parents spoke Dutch to each other.

*Annick* was born in Arnhem and has been living there ever since. Annick's mother is Dutch but she knows French very well, having a university degree in French. She did however never speak French to the child. Annick's father is French but did know Dutch rather well although he did not speak it to the child. When they were together all three, the mother would speak Dutch to the child, the father French, while the parents spoke mainly Dutch to each other. Audio-recordings were made approximately once a month between the ages of 2.5 and 3.4. Annick's language development was much faster than Anouk's, as is shown in her MLU-values in table 1b. The first French recording shows an extremely high MLU of 2.75, falling back to around 2.0 in the next recordings. The very high MLU is probably due to the father's efforts to stimulate his child to produce rather complicated language in this first recording.

All three children go to a Dutch kindergarten for 4 or 5 days a week, which could have as a consequence that the input they receive is not balanced: they hear more Dutch than French. This is not directly reflected by the MLU data however.

Age	French	Dutch
1.07.06	1.18	1.37
1.08.07	1.14	1.21
1.10.07	1.38	-
1.11.25	1.32	1.22
2.00.28	1.56	1.52

Table 1a. Age and MLU Thomas<sup>2</sup>.

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<sup>2</sup> The MLU is given in words, not in morphemes, as is usual in many studies on bilingualism.

Age	French	Dutch
2.3.13	1.38	-
2.4.17	1.69	1.03
2.5.20	2.2	1.66
2.6.11	2.27	2.5

Table 1b. Age and MLU Anouk.

Age	French	Dutch
2.5	2.75	-
2.7	2.06	2.08
2.9	2.01	2.10

Table 1c. Age and MLU Annick.

Tables 1a, 1b and 1c show that Thomas is in the very first stages of language acquisition, with an MLU just above 1; Anouk is a bit more advanced, while Annick is much more advanced at the moment of the first audio-recordings, almost too advanced for the objective of our study. However, we still find in her utterances traces of the first stages that we are interested in. That is why we still studied the first files of her data.

We equally see that the MLU suggests a different pattern of dominance in the three children. In Anouk, MLU for the early stages is higher in French than in Dutch, which would normally be interpreted as dominance of the French language. For Annick, we see that the two languages are balanced. For Thomas, we see that in the first files, MLU for Dutch is somewhat higher than for French, but that in the later files, the MLU is comparable.

We saw before that Lanza (1997) and Bernardini & Schlyter (2002) claim that language mixing goes from the stronger language to the weaker one. As for lexical mixes, this is only partially confirmed by the data of our three children. The MLU data suggest that French is the better developed language in Anouk, while it is comparable for the other two children. This dominance is not reflected in the percentage of lexical mixes, as is shown in table 2.

THOMAS		ANNICK		ANOUK	
Age	Dutch words	Age	Dutch words	Age	Dutch words
1.7	30%	2.5	0.6%	2.3	30%
1.8	32%	2.7	11%	2.4	12,5%
1.10	22%	2.9	1.4%	2.7	4.3%
2.0	33%	3.2	1.5%	2.11	6.9%*
2.2	46%	3.4	0%	3.4	1.2%

\* only Dutch “ja” en “nee”

Table 2. Percentage of Dutch words in the French files.

We do not include a table of French words in the Dutch files because these are extremely rare:

- for Annick, we don't find one single French word in her utterances in the Dutch recordings;
- for Thomas we find 3 French words in one Dutch file which was recorded in the presence of the French mother;
- for Anouk, we do find some French words in her Dutch utterances, but they are rare (the maximum score is 5 out of 134 words at age 2.5.20).

Table 2 shows that in the French files, lexical mixing occurs in the language of all three children. In all three of them, there is a more frequent use of Dutch words in the French language context than of French words in the Dutch language context, reflecting the dominance of Dutch in the language context. The table gives an overall image of the proportion of mixed words in the French files, independently of the fact whether they are found in one-word or two-word utterances. We see that the files where there is a substantial amount of Dutch words, are the first two files of Anouk, the second file of Annick, and all the files of Thomas during the whole period of recording. When we look at the actual utterances, we find that a large proportion of the children's “mixes” consist of the Dutch words “ja” (yes) and “nee” (no) in one-word utterances. One may wonder if these have the same status as the other mixes. It seems that the children do know the correct equivalent but choose to use the Dutch word, presumably because it is more frequent in the input (especially in the kindergarten surroundings). This could hold for other Dutch words as well, of course.

As for the other function words and for intra-sentential yes/no, we saw that Meisel (1994, 2002) proposes that there could be a stage when children do not have yet possess a grammatical system. This would change when children acquire language specific word order and verbal inflection; that would be the moment when they

accomplish language differentiation. This is in accordance with the ideas of Powers & Lebeaux and van Kampen that very early utterances are built without category assignment. As category-assignment is language specific, the first a-categorical utterances could be language-independent, which would account for mixes in the one-word utterances as well as the early two-word utterances. If this is true, we should expect mixes to diminish gradually from the moment two-word utterances begin to appear. We should equally expect mixes to be as frequent for function words as for content words.

## 5.2. Analysis of the bilingual data

In the following paragraphs, we will investigate the first two-word combinations in the children. In describing them, for convenience we will use the term of “function word” to designate those small frequent well known words which could serve as triggers for two-word combinations, even if they do not always correspond to the adult category of function word.

### 5.2.1. Thomas

As a matter of fact, the very first French file of Thomas does not give us much information about the questions we asked ourselves. Out of 136 utterances in this file, we see 21 one-word utterances consisting of “yes”/“no”, and 59 consisting of a one-word utterance containing a proper name, mainly “papa” and “mama” but also the name of two other persons, “Maja” (Maaike) and “Kalijne” (Karlijne). The file shows that Thomas still has great problems to communicate his messages. It seems as if he uses proper names (especially “papa”) and “yes” or “no” as placeholders for the messages he still cannot express, as in the following exchanges:

- (7) MOT: Qu'est-ce qu'il fait l'oiseau?  
(What does it do, the bird?)  
CHI: ja  
(Yes)
- MOT: Fais attention. Tu vas glisser. Tu vas te faire mal.  
(Take care. You will glide. You will fall)  
CHI: papa
- MOT: Où est-ce que tu as mal?  
(Where does it hurt?)  
CHI: papa

In this first French file, there are 12 more-word utterances. Of these, 7 are entirely Dutch. Four of these contain “kijk eens” (look) (we did not consider “kijk eens” as a one-word utterance because we equally find “kijk auto” on the same day).

The four French utterances are:

- (8) “Papa et Bet”
- “Bet et Bet”
- “Prends pas”
- “Papa caca”

The last two of these correspond to the categories of word combinations we expected to find (function word + content word; nouns + characterization<sup>3</sup>). The first two are juxtapositions of another kind. There is one mixed utterance in this file: “nee, auto”, where the child corrects his mother who told him that this was a “voiture”, while the child prefers to call it “auto”.

The Dutch recording of the same day gives us the same picture: of the 20 more-word utterances, 7 are a combination of “kijk” with another word, mostly “eens”, once “auto”. Apart from the “kijk”-combinations, we find 9 combinations of function words with content words. The function words are “hier”, “nou”, “ook”, as in:

- (9) “hier Pooh”
- (here Pooh)
- “deed-ienou?”
- ((what) did he do)
- “ook appel?”
- (also apple)
- “aute Pooh ook”
- (other Pooh also)

In this first Dutch file, there are no utterances that can be considered as a combination of a content word with a characterising element.

One month later, more or less the same pattern is found in the French and Dutch files. Here, in the French file, we find the function words “ook” and “aute”:

- (10) aute nounours
- (another bear)
- aute Pooh ook

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<sup>3</sup> An utterance like “prends pas” should perhaps be excluded from this analysis: it is only much later in Thomas’ files that we find other examples of inflected verb forms or of “pas” to express negation. So it is not excluded that the child pronounces “prends pas” as one unanalysed chunk-like utterance.

(other Pooh too)

We equally find again a rather large number of occurrences of “kijk” in the French and the Dutch files, as in: “*kijk* nounours”. This brings us to the suggestion that “kijk” functions as one of those words which are used because they are frequent and well known and thereby easy to combine with other words, despite the fact that normally we would categorise “kijk” as a content word.

The combinations of a function word with a content word cover 63% of the utterances in the first two files. But in the second file we start to find equally the other expected combination of a noun-like element with a characterizer, as in:

- (11) “Papa caca?”  
 (daddy pooh?)  
 “dodo Pooh”  
 (sleep Pooh)  
 “deze Papa”  
 (this one (belongs to) daddy)

These utterances form only 12% of the utterances in the first two files. Together, the two types of utterances cover three quarters of the utterances. The remaining quarter forms a very heterogeneous group. There are combinations of an interjection and a content word, like in “hé papa”, “hé gevallen” (oh, fallen), “mauw hè?” (kitten, no?) or of “yes”/“no” with a content word, as in: “ja papa”, “ja, nounours”. In some rare cases we see the combination of a preposition or a determiner with a noun, as in: “à papa”, “de bal”, “een mauw”.

A few months later, in the files of age 1;11.25, we see a slightly different pattern. There are proportionally less combinations of function words with content words, while there is an increased number of combinations of nouns-like words with characterising words. Some examples:

- (12) “papa zitten”  
 (daddy sit)  
 “boot epot”  
 (boat broken)  
 “kan niet”  
 (can not)  
 “papa ook”  
 (daddy too)  
 “cochon au chelle”  
 (pig on the ladder)



In these files, the combination content words+characteriser account for 42% in the Dutch file, for 32% in the French file. The combination function word – content word accounts for 16% in the Dutch file, for 27.5% in the French file. In other words, the balance is changing, the combinations with function words become less important numerically. This is a pattern we will find back with the other children: as language development advances, other types of utterances become more important.

There is no convincing evidence in Thomas' data that function words are more easily mixed than content words. In the Dutch files, there are no mixes. In the French files, we have a problem in the analysis because in the two-word utterances we generally find more Dutch words than French words. This holds for function words as well as content words. The mixes are more or less equally divided by function words and content words, with a slightly greater percentage of function words among the Dutch words. This percentage grows somewhat in the later files. In the French file at age 1;11.20 for example, most word combinations contain a Dutch or a French word, combined with the Dutch words “ook” and “kijk”.

### 5.2.2. Anouk

The first two files of Anouk are comparable with the latter files of Thomas as far as MLU is concerned. The data of these files present more or less the same image as Thomas for word combinations, but not for mixed utterances. Proportionally, the combinations of noun+characteriser are more frequent in Anouk's first files than the combination function word- content word. In the first two French files, we find combinations of a functional word with a content word, as in:

- (13) “lait nee”  
 (milk no)  
 “acore pain”  
 (more bread)  
 pomme aussi  
 (apple too)

Frequently used words in this combination type are “aussi”, “encore”, “un aut(re)”, “nee”. This type of utterances forms 25% of the utterances. We equally find utterances which combine a nouns-like word with a characteriser, like in:

- (14) “maman chaud”  
 (mummy hot)  
 “malade Anouk”

(ill Anouk)  
 “maman mange Anouk”  
 (mummy eats Anouk)

They form 42% of the utterances.

The remaining third of utterances are diverse. We find combinations of two functional elements, like in: “nee, acore” (no, again), or combinations of determiners/adjectives with nouns, as in: “des bateaux” (det + boats), ja (la) poupée (det + puppet), “petit poisson” (small fish).

So in Anouk’s first files, we find largely the same pattern as in the comparable files of Thomas: combinations of function words with content words decrease in number, content words with characterisers increase, as does the diversity of utterances.

There are no indications in Anouk’s data that function words are more easily mixed than content words. In the first two French files, only a small minority of function words and content words are mixed.

### 5.2.3. Annick

Finally, when we look at the data of Annick, from the first file onwards, we find utterances which are much more complex than in Anouk and Thomas. Determiners, for example, are provided already in about half of the obligatory contexts, and there are already a series of verbal inflected forms. So most elements in Annick’s utterances are no more a-categorial. Nevertheless, in Annick’s data we still find the two types of word combinations we found in Thomas and Anouk. The combinations of noun-like element + characterizer are not very frequent, however. Many utterance are subject-less and contain only a VP-like part, like in:

- (15) “dessine sur une feuille”  
 (draw on a paper)  
 “faire une “ture”  
 (make a car)  
 “eh main, la main Annick”  
 (eh hand, the hand of Anouk (as object of a non expressed verb “to draw”))  
 “avec une bouche”  
 (with a mouth)

The combinations of function words combined with a content word, are still represented, but to a lesser degree than in the other two children. We find combinations

of a content word with words like “naut” (another), “aussi” (also), c’est (that is), “et puis” (and then), and the Dutch word “zo” (that way).

Together, the two types of utterances account for 43% of the utterances. This is clearly much less than for the other two children. That could mean that indeed the two “base constructions” we proposed above, and especially the combination function word – content word, are to be considered as triggers for the first word combinations and that they make place for other constructions when the basis for syntax is established.

As for mixed utterances, we do not find more than a few of them in Annick’s data. There are some word insertions of Dutch words in the French files, like “paard” (horse), “rijde” (ride) in the 2.7 file. We further find some examples of the Dutch word “zo” (that way), which is found mainly in one-word utterances but also in one more-word utterance; “zo, du pain” (there you are, bread). These few occurrences of mixes are extremely rare and do not give any indication that function words are more easily mixed than content words. But probably, this is no to be expected, because Annick’s utterances clearly show that the elements carry functional features. This means that these elements are strongly tied to the language they belong to, so mixing is no more expected to be easy.

When we look at the data of our three French-Dutch bilingual children, the general image is that indeed, in the very first utterances, there is a majority of combinations involving a function word, which helps the children to start constructing their first more-word utterances. The elements in these first utterances do probably lack functional features. Gradually, this type of combination diminishes to make place for other structures, showing that the child starts constructing language specific grammar.

In the first utterances, there is more mixing than in the latter, but there is no convincing evidence that function words are more easily mixed than content words.

## 6. Discussion

In this paper, we investigated two questions:

- what is the role of function words in early bilingual utterances?
- Is it true that function words are more easily mixed in these early utterances?

The second question was more easy to answer: we found no convincing evidence that function words are easier to mix. In the first place, we found virtually no mixes in the Dutch files of our bilingual children. If function words were more language independent and therefore easier to mix, we would expect this to go in both ways, French-Dutch as well as Dutch-French. In our data, however, the only mixes go from Dutch to French. Among the Dutch words in French utterances in the early stages, the number of function words is somewhat higher than that of content words but this is probably just a reflection of the fact that function words are generally more numerous in these early files. So our data do not confirm the claim by Deuchar (1999) that function words are more easily mixed.

A surprising finding was that the number of mixes in the children data is not related to language dominance as expressed in MLU-values. We would have expected that when at a certain age, MLU is higher for one language than for the other, the language with higher MLU is the dominant language. This is not reflected in the number of lexical mixes in the children's data however: Mixes are frequent in Thomas, rare in Anouk and non-existent in Annick. They all go from Dutch to French, even when the MLU-values seem to show that French is the child's dominant language, as for Anouk, or balanced, as in Annick. We can but conclude that language dominance is a socio-linguistic rather than a language-systematic phenomenon.

The fact that function words are not more easily mixed than content words is related in our opinion to the answer to the second question. We have investigated the claim, made for monolingual children by Powers & Lebeaux (2000), van Kampen (forthcoming), that early more-word utterances do not have a hierarchical structure. The elements in these utterances do not carry formal features. When the first two-word utterances are constructed, functional words play a special role. They are small frequent words, well known by the child, and they help her to make the first word combinations. In these combinations, these words function as illocutionary operators: they express intentions like deictic, modal, attracting attention, turn taking. In fact, these "function words" do not always correspond to the adult category of closed class word. The children may have their own preferred elements, like "kannie" (cannot) in van Kampen's child, "kijk" (look) in the utterances of Thomas.

The data of our bilingual children seem to confirm this analysis. This is shown best in the data of Thomas, where we witness the very first two-word utterances. There,

a majority reflects the combination of function words with a content word. Other combinations, like noun element plus characteriser, are almost absent. They become more frequent only somewhat later, when the child starts to produce more two-word utterances. The first files of Anouk are recorded when she is at a slightly higher level of development, as measured in MLU. Her data are comparable to those of Thomas at the same MLU stage: The number of combinations noun plus characteriser has become more frequent, the number of combination with a function word is becoming smaller. When we look at the data of Annick, finally, we see that she has clearly reached the stage where elements do have formal features, a stage which is characterised by Meisel as starting “as soon as language specific word order properties and inflectional morphology emerge in the children’s speech” (Meisel, 2002: 17). In Annick’ data, we still find the two types of word combinations which prevail in the utterances of Thomas and Annick, but we equally find a large proportion of much more diverse and more complex combinations.

If it is true that early two-word utterances do not have a hierarchical structure, as we seem indeed to find in our data, then there is no reason to assume that function words are less intimately tied to the language context than content words: all words are a-categorial and could be claimed to entertain a rather loose relation to the specific language the children are working on. There is then no reason to think that function words are more easily than other words mixed in the utterances of bilingual children. And this is exactly what we find.

To conclude, our data seem to confirm the analysis of child data that has been proposed recently for monolingual children by authors like Roeper (2002), Powers & Lebeaux (2000) and Van Kampen (forthcoming). Children’s first words lack formal features. This holds not only for the one-word stage but it holds equally for the early more-word utterances. As these utterances become more frequent, the child starts attaching functional categories to the elements in their utterances. At that point, language mixing becomes more difficult because function features are language-specific.

The question that remains to be answered in further research, is what makes children start assigning categories to the word in their utterances after an initial a-categorial stage. This assignment is necessary for them to progress in the direction of a fully-fledged grammar of their native tongue(s).

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