

The Capacity of the Language Faculty: Contributions from Studies of Simultaneous Bilingual Acquisition

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The study of bilingual acquisition has had a remarkably long history. The first scientific report of a bilingual child is usually attributed to a publication by Ronjat in 1913 and, of course, there was the monumental, longitudinal study by Werner Leopold of his two bilingual daughters that was published between 1939 and 1949. Despite the early work of Ronjat and Leopold, further research remained sparse until the 1980s. Beginning in the late 1980s, there was an upsurge in attention devoted to bilingual acquisition, including the research by Jurgen Meisel & his colleagues in Hamburg; Annick De Houwer in Belgium; Elizabeth Lanza, in Norway; and Marilyn Vihman in the U.S. This surge in interest can be attributed to several factors. First, there is the growing recognition that simultaneous acquisition of two, or more, languages is not uncommon. While we lack definitive statistics, it has been speculated that there may be as many or even more children who grow up bilingual as monolingual (Tucker, 1998). Therefore, the study of bilingual acquisition is worthy in its own right. Second, theories of language acquisition are currently based largely on monolingual children, but must ultimately incorporate the “facts” of bilingual acquisition if they are to be comprehensive. While most theories do not exclude the possibility of learning two languages at the same time, nor do they address it explicitly or in detail; they are largely silent about bilingual acquisition. Much more research is needed to uncover these facts, especially if bilingual acquisition is found to differ significantly from monolingual acquisition, an issue I return to later.

In addition, research on bilingual children can make a unique contribution to our understanding of the human language faculty because it permits us to examine the capacity of the mind to acquire and use language. As was noted earlier, to date our understanding of the functioning of the language faculty is based largely on the acquisition of one language. The capacity of infants to simultaneously acquire two or more linguistic systems, sometimes with radically different structural properties such as Inuktitut and English, has implications for our conceptualization of the neuro-cognitive architecture of the human mind that underlies acquisition of **any** language. I hope to hint at some of these implications in this paper.

The chapter is organized around two broad questions:

- 1. Are bilingual children initially monolingual?*
- 2. Is bilingual acquisition the same as monolingual acquisition?*

These questions are much broader than can possibly be dealt with thoroughly in a single paper; but, brief overviews of our research in Montreal that is pertinent to each question are presented.

1. The children and the community

First, I would like to describe the children who participated in the studies that I review here. Information about the children is not repeated in each subsequent study unless there are important distinctive features about the children in particular studies.

- The children were learning English and French in the home – French from one parent and English from the other.
- Most of the children were around 2 years or age and were in the one-word or early two-word stage of development.

- The children lived in Montreal, a city where English and French both enjoy widespread use and high social status. This means that the children who participated in the research I am about to describe were exposed to both languages not only in the home but also outside the home with peers and other adults. In fact, some of these children may have never or seldom run into a monolingual during their short lives.

The point that I want to stress here is that Montreal is an ideal setting for studying bilingual acquisition with the view to exploring the capacity of the language faculty because full bilingualism is both highly desirable and realistic in this setting. This kind of learning environment permits us to study what can happen during bilingual acquisition when the conditions are propitious. I want to emphasize at the outset that the goal of my research has been to examine what bilingual children CAN do – not necessarily what they do do. One of the challenges of doing research in the field of bilingual acquisition is examining how the varied learning environments in which bilingual children are raised impacts on their language development; this is a topic for another presentation.

2. Question 1: are bilingual children initially monolingual?

A central issue in research on bilingual acquisition has been the nature of the child’s neuro-cognitive or linguistic representation of their developing languages. It has been argued by some that children exposed to two languages go through an initial stage when the languages are not differentiated. The most explicit formulation of this hypothesis was proposed by Volterra and Taeschner (1978, p. 312). They proposed that differentiated linguistic systems emerge in three stages:

“In the first stage the child has one lexical system which includes words from both languages. . . ., in this stage the language development of the bilingual child seems to be like the language development of the monolingual child. . .

In the second stage, the child distinguishes two different lexicons, but applies the same syntactic rules to both languages.

In the third stage the child speaks two languages differentiated both in lexicon and syntax...”

What is most important about their model for present purposes is that it proposed that the initial state of the developing bilingual child is essentially monolingual. It is only by the third stage that the child can be considered truly bilingual. Volterra and Taeschner were not alone in proposing that bilingual children go through a monolingual stage -- as this quote from Leopold demonstrates:

“The free mixing of English and German vocabulary in many of her sentences was a conspicuous feature of her speech. But the very fact that she mixed lexical items proves that there was no real bilingualism as yet. Words from the two languages did not belong to two different speech systems but to one...”

There are different sources of evidence that one can draw on to address Question 1 -- including evidence about bilingual children’s phonological, lexical, or morpho-syntactic development. For present purposes, I draw on evidence concerning bilingual children’s functional or what I will call their pragmatic performance. A primary reason for focusing on the functional performance of bilingual children stems from the fact that early arguments for the initial monolingual state hypothesis were based on the observation that virtually all children who acquire two language simultaneously code-mix during early stages of development. That young bilingual children code-mix within the same utterance or stretch of conversation is indisputable. What is in question is what code-mixing tells us about the capacity of the language faculty. Does it tell us that the language faculty is limited to one language initially or does it tell us that it can handle two? If children are initially monolingual, then they should use their two languages indiscriminately regardless of context.

In order to uphold the notion that code-mixing reflects an initially monolingual stage in bilingual development, one would need to establish that, all things being equal, bilingual children use elements

from both languages indiscriminately in all contexts of use. This means that one would need to examine to what extent children do not code-mix; that is, to what extent they use their languages differentially and appropriately with interlocutors who use different languages. Evidence that bilingual children can use each language differentially and appropriately would be difficult to reconcile with the proposal of an underlying monolingual system. Such evidence would be more compatible with underlying differentiation of the languages. I want to describe three studies that I and my colleagues have conducted concerning bilingual children’s language use: the parent, stranger, repair studies.

In our first foray into research on bilingual acquisition, Elena Nicoladis, Johanne Paradis and I observed a group of French-English bilingual children during interactions with their parents (Genesee, Nicoladis & Paradis, 1995). The children were between 22 and 26 months of age and were in the one- and early two-word stage of language development. We deliberately sought to examine bilingual children in the earliest stages of verbal development in order to capture this monolingual stage, if in fact it exists. The parents of our children claimed to use the one parent/one language rule and our observations of them in the home and during our recording sessions supported this contention. What is important here is the parents presented different language contexts and so we sought to examine systematically whether bilingual children could use their languages in context-sensitive ways. We expected that the children would demonstrate essentially random use of their two languages with their parents, if they were in fact functioning like monolinguals.

We included observation sessions with the child and each parent separately and with both parents together on the assumption that if the children were really working with one language despite having had dual language input, then this would be most apparent when both parents were interacting at the same time in their respective languages with their child. During our sessions, the parents used their primary language almost exclusively with the children. We were primarily interested in the extent to which these children used single language utterances that were appropriate to each parent (i.e., French utterances with the French-speaking parent and English with the English-speaking parent) since this would provide evidence concerning their functional differentiation. Much of the previous research had focused on the extent of their mixing.

We found that even when the parents were together with the child, as illustrated in Figures 1 and 2, the children used significantly more of the mother’s language with the mother than with the father, and more of the father’s language with the father than with the mother. These differences were statistically significant. That these children’s language use was context-sensitive argues for functional differentiation of their languages – contrary to the monolingual stage hypothesis.

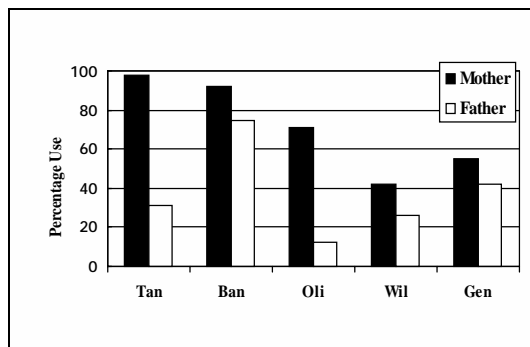


Figure 1: Children’s Use of Mother’s Language with Parents Together

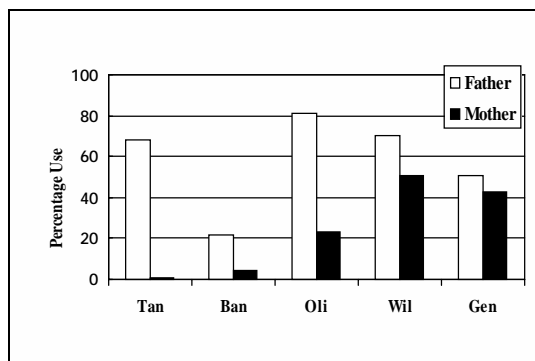


Figure 2: Children's Use of Father's Language with Parents Together

Elena Nicoladis, Isabelle Boivin and I conducted a follow-up study to further examine young bilingual children's ability to differentiate their languages (Genesee, Boivin & Nicoladis, 1996). On the one hand, our initial study might have underestimated the children's ability to separate their languages because their parents, like the parents of many bilingual children, knew and sometimes used both languages with their children. In other words, these parents did not strictly require separation of the languages and, therefore, their children may not have demonstrated the full extent to which they could use their languages differentially. On the other hand, we may have overestimated these children's ability to differentiate because the language separation they demonstrated may have reflected a long term process of associative learning whereby each child had come to associate certain words with each parent – French words with the French-speaking parent and English words with the English-speaking parent. True bilingual communicative competence entails the ability to adapt one's language use on-line in accordance with one's interlocutor's language preferences or proficiency. The question we asked in the next study was: Can young bilingual children adapt their language use on-line with unfamiliar interlocutors?

In order to answer this question, we observed a number of additional French-English bilingual children during play sessions with a monolingual stranger. We have found it useful in some of our work to depart from entirely naturalistic data collection and to intervene and manipulate the context in which the children are observed so that we can better observe the limits of their abilities. In this study, we observed the children with monolingual strangers on the assumption that evidence of differential language use with such an interlocutor would attest to their capacity to differentiate their languages on-line in accordance with her language proficiency. These children could not use the right language with the stranger, as they had with their parents, as a result of associative learning because this was the first time they had talked with her. We selected monolingual strangers in order to test the children's ability to limit their communication to one language. In fact, the language spoken by the stranger was the less proficient language of most of the children, so this was a particularly rigorous test of their abilities to accommodate the stranger because they had to suppress the use of their more proficient language.

The results of three children from this study are summarized in Figures 3, 4, and 5 so that you can get a picture of general trends as well as individual differences that we obtained. From Figure 3, you can see that Jessica used more of the stranger's language with the stranger than with her parents and, in particular, she used more of the stranger's language with the stranger than with her father who habitually spoke the same language with the child. In contrast, Jessica used significantly less of the other language with the stranger than with either parent and, most interestingly, with her parent who spoke the same language. The distribution of each language was otherwise relatively equal for Jessica because she had relatively equal proficiency in both languages. The results for Joelle (see Figure 4) show the same general pattern of differential use of English and French – more of the stranger's language with the stranger than with either parent and less of the other language with the stranger than with her parents. Joelle was much more proficient in the language that was not spoken by the stranger and, thus arguably, used more of this language than the stranger's language simply because she knew it better. This is a pattern that we have observed even with children and their

parents. Finally, Jennifer (see Figure 5) showed a mixed pattern of differentiation. Specifically, she showed little differentiation when it came to using the stranger’s language, but significant differentiation when using the other language, which was her stronger language. Jennifer’s results are included here to illustrate that not all bilingual children perform alike any more than monolingual children. Nevertheless, taken together, these results indicate that the children were extending their use of the strangers’ language as much as possible and minimizing their use of the language the stranger did not know as much as possible.

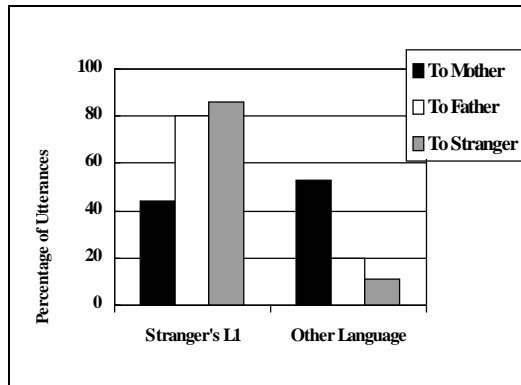


Figure 3: Jessica’s Use of Languages

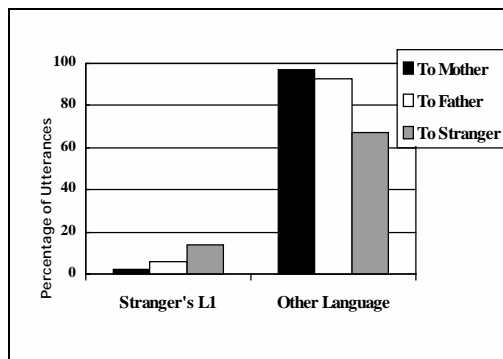


Figure 4: Joelle’s Use of Languages

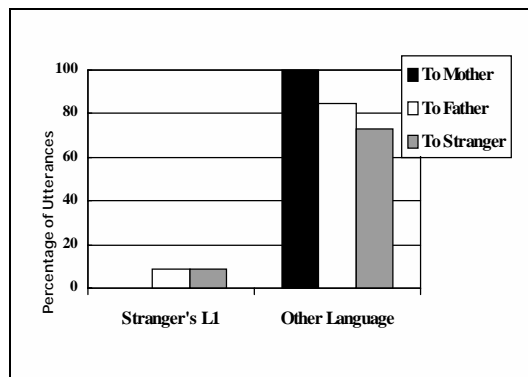


Figure 5: Jennifer’s Use of Languages

Thus, despite the fact that these children had had no prior experience with this adult and despite the fact that some of them were compelled to use their less proficient language with her, they gave some evidence of differential and appropriate language use. We have other data from other stranger studies that paint a more clear-cut and consistent picture, but these results are particularly interesting, in my opinion, because these children were in very early stages of verbal development. They had a combined MLU = 1.56, with individual MLUs as low as 1.08 in French for Joelle). Thus, they provide some indication of how early in development functional differentiation is possible.

We were intrigued, and somewhat surprised, by these children's sensitivity to the language preference of the stranger since we had previously been unable to show a link between parental patterns of language use and the children's (Genesee, Nicoladis & Paradis, 1995; Nicoladis & Genesee, 1998). We initially thought that our failure to find this correlation reflected the fact that in the very early stages of acquisition bilingual children do whatever they can do with the limited proficiency they have. In other words, we thought that factors internal to the child (i.e., proficiency) might be more significant than factors external to the child (i.e., input) in accounting for bilingual children's language choices during these early stages. The results from our stranger studies, however, have refuted this initial impression. As a result, we have carried out a number of studies that have sought to understand how children know which language to use with others. In the next study, which was carried out by Liane Comeau, our specific goal was to examine bilingual children's ability to repair breakdowns in communication due to their use of a language that was dispreferred by their interlocutor (Comeau & Genesee, 2001).

Bilingual as well as monolingual children are often called upon to repair communication that has broken down for a variety of reasons: inaudible utterances, idiosyncratic lexical choices, off-topic comments, etc. Bilingual children face an additional source of breakdown, namely, the use of a language that their interlocutor does not speak or prefers not to speak. We wanted to examine young bilingual children's ability to repair breakdowns in communication that were due to language choice versus those that were due to other more general causes. We also wanted to know how explicit the request for a language change had to be for children to make appropriate repairs to language-based breakdowns. In fact, requests for clarification are often ambiguous, as when an interlocutor says simply "what" or "I don't understand" following a comment that is unclear. Such feedback leaves unspecified the reason for the breakdown and also the repair necessary to fix it. This study sought to examine whether bilingual children could infer that language is a source of breakdown that calls for a different form of repair than breakdowns that occur for other reasons and that are common for all children.

We used our stranger paradigm again to examine these issues. As before, the strangers used only one language and it was usually the less proficient language of the child, as best as we could determine. We used their less proficient language in order to create contexts for language-based breakdowns and, thus, opportunities for the interlocutor to request clarifications. So, for example, if the child used French with an English-speaking stranger, the stranger requested clarification of the utterance from the child. The interlocutor was trained to request clarification of the child following comments that were difficult to understand or interpret for reasons that were unrelated to language choice. These are the non-language-based breakdowns that I referred to earlier. In fact, the interlocutors were trained to make a series of requests (see below), varying from general requests that did not specify the precise source of the breakdown nor the precise repair that is called for to explicit requests in which the repair is specified:

- What?
- I don't understand.
- Can you tell me that so that I can understand?
- I don't understand French?
- Can you say it in French?

The interlocutor made each request in sequence until the child either made an appropriate response, changed topic, or indicated annoyance at our questioning. The interlocutor asked a similar sequence of requests (from implicit to explicit) to clarify these language-based and non-language-

based breakdowns. In this way, we were able to see if the children could identify differences between language and non-language-based breakdowns and whether they required explicit requests to do so.

Figure 6 indicates that the most prevalent repair the children made following a request for clarification of a language-based breakdown was translation; this is an appropriate and, in fact, the only appropriate repair for such a breakdown. Translation entailed a change in language with or without a change in wording of the previous response. Figure 7 indicates that the children were able to infer that a change in language was an appropriate repair for language-based breakdowns even when the request for clarification was implicit. Almost half of the appropriate language changes they made occurred after the first request, a request that did not specify the source of the breakdown. An additional 25% of the language changes the children made in response to requests to clarify language-based breakdowns occurred after the 2nd request which still did not specify the source of the breakdown. Since it might be argued that the children's responses were an artifact of their tendency to change language whenever they were asked to clarify, we compared the strategies they used to repair language-based and non-language-based breakdowns. Figure 8 indicates that they never changed language to repair a non-language based breakdown, indicating that they could differentiate breakdown types without being told explicitly what the source of the breakdown was.

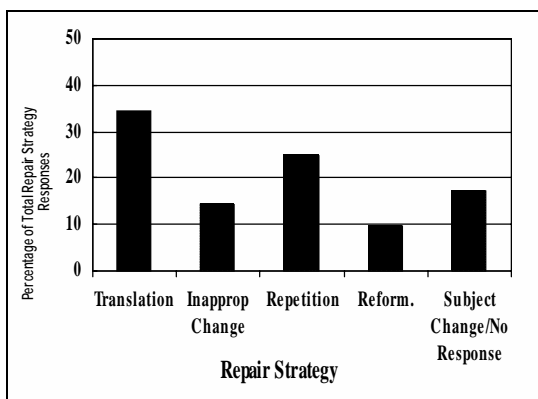


Figure 6: Repair Strategies Following Language-based Breakdowns

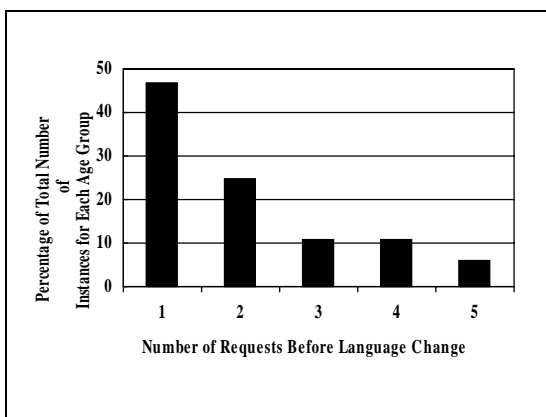


Figure 7: Appropriate Language Changes Following Language-based Breakdowns

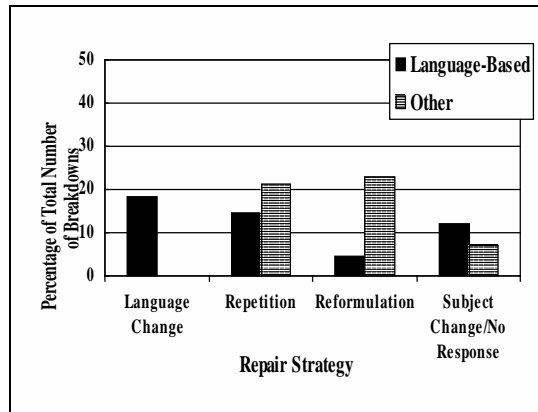


Figure 8: Repair Strategies Following Language-based Breakdowns Versus Other Breakdowns

So what have we learned from these studies of children’s functional language use?

- Bilingual children in the 1- and 2-word stages can use their languages differentially and appropriately with their parents.
- They are also able to adapt their language use in accordance with an unfamiliar interlocutor’s language proficiency/preference.
- They are able to infer an interlocutor’s intentions concerning the source of breakdowns in communication.

Taken together, the results from these three studies argue that children in the 1-2 word stage of bilingual development are functionally bilingual.

3. Question 2: is bilingual acquisition the same as monolingual acquisition?

While the results from these pragmatic studies suggest that bilingual children demonstrate functional differentiation of their languages early in development, a fundamental question still remains whether bilingual acquisition is the same as monolingual acquisition. By this I mean is the acquisition of each language of bilingual children like that of children acquiring the same languages monolingually. In comparing bilingual acquisition to monolingual acquisition, I do not wish to say that this is the only or best way to understand bilingual acquisition. However, it is a common way of assessing the progress of bilingual children both within the scientific community and the community at large. In the case of the community at large, it is a comparison that can lead to misunderstandings with significant real world consequences. Many of the concerns that parents and professionals express about individual bilingual children who are experiencing language difficulties or delays stem from the fact that bilingual children do not behave linguistically like monolingual children. Often these differences are interpreted as signs of delayed, incomplete, or even impaired language development. In some cases, there can be considerable educational, clinical, or personal consequences for the children and their parents, as illustrated in the example below, when parents who are raising their children bilingually are advised to use only one language if the child is suspected of having difficulty learning language. The clinician referred to in this quote sees the differences that are entailed by dual language learning as problematic:

“... the resource centre specialist indicated that my daughter will end up being illiterate in both languages in grade 5 because of my refusal to do what is best for her now. She also stressed that all the research supports putting a child with difficulties such as my daughter’s in an unilingual environment.” (quote from an anonymous parent. June 2002)

A major clinical challenge in understanding bilingual acquisition is not only to identify domains of similarity and difference between bilingual and monolingual children, but equally importantly to know how to interpret differences that bilingual children present that set them apart from monolinguals. From a more theoretical perspective, understanding the true nature of the differences that bilinguals manifest can contribute significantly to our understanding of the capacity of the language faculty.

As when addressing Question 1, there are multiple sources of evidence that could be used to address Question 2. One could examine bilingual children's phonological, lexical or morpho-syntactic development and then look for similarities and differences in their patterns and/or in their rates of development in each of these domains in comparison to those of monolinguals. In fact, there is considerable activity in this line of research as part of a larger endeavor to document and explain bilingual acquisition – the work of Meisel, Muller and Kehlo and their colleagues in Hamburg is significant here; as is the work of van der Linden and Hulk in The Netherlands; Yip and Matthews in Hong Kong, and Paradis and Nicoladis in Edmonton.

I would like to take a somewhat different tack in addressing Question 2. I want to focus on a domain of bilingual acquisition that is clearly different from monolinguals, a difference that is often misconstrued as evidence of problematic development. And I want to demonstrate how this difference actually speaks to the bilingual child's competence, not incompetence. The difference I am referring to concerns code-mixing.

As I pointed out earlier, virtually all children code-mix. Code-mixing, especially by children within the same utterances, is often viewed as a troublesome form of language because it is thought to be either deviant from a grammatical point of view or symptomatic of confusion – as implied by the Volterra & Taeschner and Leopold positions that I described earlier. Indeed, parents are generally reluctant to code-mix with children who are in the process of learning two languages, or at least they are reluctant to admit that they code-mix with their children, because they believe that it leads to confusion and delayed acquisition. Indeed, the one parent/one language rule is espoused by many as a way of avoiding the potentially problematic consequences of code-mixing with children. And yet research on adult bilinguals indicates that code-mixing within an utterance or sentence is not random, but is grammatically constrained in accordance with the morpho-syntactic properties of the participating languages (see MacSwan, 1999; Myers-Scotton, 1997; and Poplack, 1980). There is no consensus on the specific form of the constraints that operate on adult intra-sentential code-mixing, but there is consensus that constraints serve to avoid grammatically illicit or deviant constructions. In other words, adult code-mix, or codeswitching as it is often called, is like all other language phenomena – it is orderly. However, child bilingual code-mixing is often viewed as a sign that something is wrong.

That bilingual children ultimately acquire grammatical constraints on their code-mixing is attested by results from the studies on adult bilinguals. Questions remain, however: Are there grammatical constraints on child bilingual code-mixing? What do they look like? and When in development are they evident? Evidence of grammatical constraints on the code-mixing of young bilingual children would provide important insights about their capacity to learn and use two languages at the same time since in order to code-mix in ways that respect the grammars of the participating languages one has to have acquired the grammars of both languages and one must also be able to access them simultaneously so that they can be co-ordinated during production. Evidence that the constraints are operative from the outset would argue that they are not learned, but are an inherent feature of bilingual grammatical competence.

To explore these issues, we have carried out a number of analyses of the intra-utterance mixing of many of the French-English bilingual children who participated in our other studies (Sauve & Genesee, 2000). I will focus on the results from Sauve & Genesee because of the simplicity of their analyses. These analyses were carried out on naturalistic language samples from 10 French-English bilingual children that were longitudinal in most cases, stretching from when the children were as young as 1 yr-10 months old until some were 3yrs - 8 months of age. The entire corpus consisted of over 10,000 utterances. From this large corpus, we identified all utterances of at least two morphemes that contained lexical or morphological elements from both French and English. Of the entire corpus of over 10,000 utterances, we identified 429 mixed utterances – that is, 4.2% of the entire corpus. These 429 utterances were then subjected to careful analyses to see if they were grammatically constrained.

Our analyses focused on the word-order and morpho-syntactic constraints proposed by Poplack for adult code-mixing (Poplack, 1980).

There are two basic constraints in Poplack's model. According to the Equivalence Constraint, code-mixing will not occur around points where the surface structure of the two languages lack equivalence. In French and English, object pronouns should not be mixed since they occur pre-verbally in French and post-verbally in English – “Je veux it” (I want it). Of the 429 mixed utterances that we identified in our corpus, fully 426 had equivalent structures in French and English and thus complied with Poplack's equivalence constraint; only 3 out of the 429 had non-equivalent structures and, thus, can be said to violate this constraint. It is important to point out that the children were producing utterances that were subject to this constraint; in other words, they were producing utterances that included word order constructions that differ in English and French: adj+N, possessor + possessed; direct/indirect object placement; and placement of verbal negatives. When we inspected the data for age trends, we could detect no shift in the children's compliance with this constraint as a function of age. In other words, the constraint appeared to be operative from the outset of two word utterances onward; thus, arguably, it was not learned.

According to Poplack's Free Morpheme Constraint, codes may be switched after any constituent provided that constituent is not a bound morpheme; in other words, bound inflectional or derivational morphemes should not be mixed; for example, BROS-ing DENTS -- “brushing teeth”. In the entire corpus of 10,000 utterances, we identified only 6 instances of mixing of bound morphemes – three of these are summarized below.

- **BROSS-ing DENTS** (Gen-2;07; with Father)
“brushing (my) teeth”
- **S'HABILLE-ing** (Gen-2;07 with Father)
“dressing”
- **I want take some supper and you ... you want QUOI IL want from from eating**
(Gen-3;06 with Mother)
“..... what he want(s) from from eating”

Once again, the children's compliance with this constraint cannot be explained away as an artifact of their not producing utterances with bound morphemes. The rate of production of utterances that contained bound morphemes by the children who produced these 6 violations ranged from 4.5% to 17% of their entire individual corpuses. Whether or not there were age-related shifts in compliance with this constraint is moot since children in the early stages of learning English and French do not produce the inflectional morphology for which this constraint is relevant so we have no evidence of its operation in our youngest children. But, also clearly given such a low rate of violations it could be argued that the children complied with the constraint once the structures over which it operates were evident in their productions.

Before interpreting these results, it is important to point out that the same general patterns were obtained when a different constraint model was used. In an additional set of analyses, Paradis, Nicoladis and Genesee (2000) used Carol Myers-Scotton's Matrix-Language Frame model to examine the mixing of these same 10 and an additional 5 English-French bilingual children (Myers-Scotton, 1997). The findings from those analyses were the same in critical respects as the results I have just reported, although there are possibly important development details that emerge from the Matrix Language Frame analyses that I do not have time to discuss here. Yet other researchers have also examined constraints on intra-utterance code-mixing for a variety of language pairs: French and German (Köppe, in press; Meisel, 1994); English and Norwegian (Lanza, 1997); English and Estonian (Vihman, 1998), and Inuktitut and English (Allen, Genesee, Fish, & Crago, 2000). While there is some disagreement on how early in development constraints are evident in child bilingual code-mixing and the precise nature of the constraints that operate, all researchers conclude that child bilingual code-mixing is grammatically constrained, at least once the structures over which the constraints operate emerge, and in accordance with constraints that operate on adult code-mixing.

What do these results tell us about the capacity of the language faculty and about differences between bilingual and monolingual language learners?

- Bilingual children can acquire differentiated language systems early in development and they are like those of monolinguals in important morpho-syntactic ways; otherwise, we would not find compliance with constraints that are specific to the languages in question.
- Young bilingual children are able to activate the grammars of both languages simultaneously in order to co-ordinate their two languages on-line during mixing; otherwise, how else could one explain the overall lack of grammatical violations.
- Constraints on code-mixing appear to constitute an intrinsic operational property of the bilingual's dual language competence. They do not appear to be learned but emerge with the emergence of grammar. Socio-cultural constraints on the form and frequency of mixing probably are learned.

4. Conclusions

In conclusion, I would like to return to the two general questions that I posed at the beginning. With respect to Question 1: Are bilingual children initially monolingual?, it would appear that the answer is **NO**, at least with respect to functional differentiation and probably morpho-syntax. The results I reviewed here pertain to functional differentiation and point toward this conclusion. In support of this conclusion, the collective findings from numerous researchers whom I have not reviewed here and who have examined morpho-syntactic development indicate that children acquiring two languages simultaneously demonstrate differentiated systems that are generally the same as those of children acquiring the same languages monolingually. At the same time, cross-language influences, or transfer, have been noted -- by Döpke (2000) in German-English bilingual children, by Hulk and van der Linden (1996) and Müller (1998) in German-French children, and by Yip and Matthews (2000) in a Chinese-English child. Instances of cross-linguistic transfer that have been reported are restricted; they pertain to specific aspects of the child's developing grammars and they appear to occur only under certain linguistic circumstances -- where there is overlap in the structures of the two languages for the analogous property. Moreover, they are temporary since we know from research on adult bilinguals that, in the long run, bilingual children can acquire the appropriate target language forms. In short, these instances of transfer, while interesting, do not compromise the general conclusion that the syntactic systems of bilingual children are differentiated and they are the same in most respects as those of monolingual children at the same stage of development. With respect to Question 2: Is bilingual acquisition the same as monolingual acquisition?, the answer would appear to be **YES** and **NO**. As was just noted, the patterns of morpho-syntactic development of bilingual children resemble those of monolingual children, for the most part. It is important to point out here that this may not be true in all cases since there may be mitigating circumstances that result in different patterns. For example, Paradis (1996) and Yip and Matthews (2000) have proposed that dominance may mediate transfer so that one might well expect considerably more transfer and deviation from monolingual patterns in cases where exposure to or proficiency in each language is not balanced. Thus, this conclusion pertains to the child's capacity to acquire two languages simultaneously and not to what happens in every case. At the same time, results from intra-utterance code mixing indicate that bilingual children can access and coordinate grammars of both languages on-line during intra-utterance code-mixing. This is a difference that sets bilinguals apart from monolinguals; but a difference that attests not to incompetence but to the capacity to not only learn two languages in target-appropriate ways but also to use them simultaneously in target appropriate ways.

Taken together, the picture of the language faculty that is emerging from this line of research argues for a bilingual or even multilingual capacity from early stages of verbal development. Whether and to what extent language processing of preverbal bilingual children attests to differentiation is an open question at this time (Maneva & Genesee, 2002). Of course, much remains to be done. Bilingual acquisition is complex, and we have only begun to understand the myriad factors that might influence this process. There are variations arising from different language combinations, different language modalities (aural and signed) and different amounts and kinds of exposure that remain to be explored. There are also complex issues concerning children with impaired language ability and children who

learn more than two languages. The past decade has laid a solid and broad foundation for future research into these under-explored issues.

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ISB4: Proceedings of the 4th International Symposium on Bilingualism

edited by James Cohen, Kara T. McAlister,
Kellie Rolstad, and Jeff MacSwan

Cascadilla Press Somerville, MA 2005

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ISBN 978-1-57473-210-8 CD-ROM
ISBN 978-1-57473-107-1 library binding (5-volume set)

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