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9. BILINGUAL FIRST LANGUAGE ACQUISITION: EXPLORING THE LIMITS OF THE LANGUAGE FACULTY*

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Most general theories of language acquisition are based on studies of children who acquire one language. A general theory of language acquisition must ultimately accommodate the facts about children who acquire two languages simultaneously during infancy. This chapter reviews current research in three domains of bilingual acquisition: pragmatic features of bilingual code-mixing, grammatical constraints on child bilingual code-mixing, and bilingual syntactic development. It examines the implications of findings from these domains for our understanding of the limits of the mental faculty to acquire language. Findings indicate that infants possess the requisite neuro-cognitive capacity to differentially represent and use two languages simultaneously from the one-word stage onward, and probably earlier. Detailed analyses of the syntactic organization of bilingual child language indicates, moreover, that it conforms to the target systems and, thus, resembles that of children acquiring the same languages monolingually, for the most part. At the same time, bilingual children acquire the distinctive capacity to coordinate their two languages in grammatically constrained ways and in conformity with the target grammars during online production. In short, current evidence attests to the bilingual capacity of the human mind and refutes earlier conceptualizations which viewed bilingualism and bilingual acquisition as burdensome and potentially disruptive to development.

Language is undoubtedly the most complex faculty of the human mind. Understanding how language is acquired is a challenge of immense proportions, one that has provoked intense attention from researchers and theorists for the last fifty years. The immensity of the task is heightened by the extremely varied types of language learning that occur there are child and adult learners, first and second language learners, learners of

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oral and signed languages, and monolingual and multilingual learners. The lion s share of attention has focused on children who grow up learning one (oral) language, most often English. The focus of this chapter is on language acquisition in children who grow up learning two oral languages simultaneously, what is often referred to as bilingual first language acquisition. It is important to point out, however, that multilingual acquisition and acquisition of signed as well as oral languages are implied (Petitto et al., in press; Richmond-Welty & Siple, 1999).

In addition to important practical and clinical reasons for studying bilingual acquisition that is, to better promote full normal development and treat pathological development, there are important theoretical reasons. Most current theories of language acquisition are based on monolingual children and are silent on the case of bilingual acquisition. A general theory of language acquisition must ultimately accommodate the facts about bilingual/multilingual acquisition. This is not of trivial importance since, while we have no hard statistics on the number of children who acquire two or more languages simultaneously from birth onward, they undoubtedly constitute a significant population worldwide (Tucker, 1998). Nevertheless, we have scant descriptive information about bilingual acquisition and, thus, little theoretical understanding of how two languages are acquired simultaneously. Research is needed to uncover the facts and reconcile general theories of acquisition with the facts.

Furthermore, investigations of bilingual acquisition permit us to explore the limits of the language faculty of the human mind. It has been argued that humans are uniquely prepared to acquire this most complex of abilities (e.g., Pinker, 1994). Some have argued that this unique ability resides in an innate and language-specific module of the mind (Chomsky, 1997) while others have argued that it is a reflection of the application of general learning mechanisms to the specific domain of language (Bates & MacWhinney, 1987). At present, neither the nativist nor cognitivist position deals seriously with the case of bi- or multilingual acquisition and, thus, leaves unexplored both the capacity of the mind to acquire different linguistic systems at the same time and the way in which this is accomplished (see MacWhinney, 1997, for the case of second language acquisition). This chapter reviews research on three different aspects of bilingual acquisition that are pertinent to these issues:

1. pragmatic aspects of child bilingual code-mixing;
2. linguistic development of young bilingual children; and
3. grammatical constraints on child bilingual code-mixing.

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Pragmatic Aspects of Child Bilingual Code-Mixing

Early theorists held that, although bilingual children are exposed to different sets of linguistic input, they go through an initial stage when they have one linguistic system; the most explicit and earliest version of this hypothesis was articulated by Volterra and Taeschner (1978). This claim applies to the abstract knowledge or competence that underlies bilingual performance and not to
language performance or behavior itself. According to the unitary language system hypothesis, differentiation of two linguistic systems during bilingual acquisition does not begin to occur until approximately three years of age (Genesee, 1989), and, as a consequence, bilingual children are not really bilingual until around three years of age. From a neuro-cognitive perspective, this view holds that, during the initial stages of language development, the language faculty is biologically and, therefore, fundamentally monolingual. By extension, bilingual acquisition challenges the language faculty because it exceeds its biological predispositions; therefore, it results in acquisition that differs significantly from that of monolinguals. Arguably, in the extreme, it also implicates certain costs, such as delayed language development, linguistic confusion, and/or incomplete development of either language.

Claims for an initial unitary system have been based on the frequently reported finding that bilingual children mix elements (phonological, lexical, morphosyntactic) from their two languages in the same utterance or stretch of conversation. Code-mixing can occur within the same utterance for example, one 2-year old French-English bilingual child in our research said **oú car**? (*where car?*) when searching for a car that he had been playing with; or it can occur from one utterance to the next in the same conversation for example, the same child produced an utterance entirely in French when speaking to his English-speaking mother. Indeed, anecdotal evidence and most empirical studies indicate that most bilingual children code-mix during the early stages of development and their mixing declines with age. The precise rates and patterns of mixing vary from study to study and probably reflect a host of factors, some of which will be discussed in a later section (see Genesee, 1989, for a review).

Contrary to the unitary language system hypothesis, current evidence indicates consistently and clearly that bilingual children can use their developing languages differentially and appropriately with different interlocutors from the earliest stages of productive language use. Genesee, Nicoladis, and Paradis (1995), for example, examined 2-year-old children who were learning French and English in the home, with the mother using one language predominantly with the child and the father the other. Although the children code-mixed and often used their dominant

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language extensively with both parents, they nevertheless used more of their mothers language with their mothers than with their fathers, and vice versa for the fathers' language. These findings are corroborated by other researchers (e.g., DeHouwer, 1990; Lanza, 1997a; Meisel, 1989). In a follow-up study, Genesee, Boivin, and Nicoladis (1996) found that two-year-old bilingual children in the one-word stage were similarly able to use their two languages differentially with monolingual strangers. These latter findings are significant because they indicate that (a) pragmatic differentiation is evident from the earliest (i.e., the one-word) stage of productive use; and (b) bilingual children have the cognitive capacity to identify and respond appropriately on-line to important communicative characteristics of their interlocutors (their bilingual proficiency in this case).

Such differentiated language use is difficult to reconcile with a putative unitary system insofar as one would expand random use of each language regardless of the language of the child s interlocutor if the bilingual child truly possessed a fused system comprised of elements from two input languages (see Meisel, in press, for alternative models). These findings also challenge the unitary system explanation of child bilingual code-mixing. A number of alternative explanations of mixing have been proposed. They can be classified into two broad categories those that are input-based and those that are proficiency-based. According to input-based explanations, young bilingual children code-mix because of the input addressed to them by others. Input can influence children s code-mixing in at least two ways. First, according to the modeling hypothesis, children exposed to extensive code-mixing in the language addressed to them by other more proficient bilinguals (parents and other adults) code-mix more than children exposed to relatively less mixed input. Indeed, parents who raise their children bilingually are often counseled to use the one parent/one language rule in order to avoid code-mixing and the confusion and delays that are mistakenly associated with early bilingualism. Second, according to the discourse hypothesis (Lanza, 1992), parents who tolerate child code-mixing use certain discourse acts that indicate to the child that mixing is acceptable, and they, thereby, permit or even encourage their child to code-mix more. For example, parents who continue the conversation following code-mixing by their child indicate that the code-mixed utterance was understood and is acceptable. Conversely, parents who reply to a child s mixing by asking for clarification or by replying that they do not understand indicate that the child s mixing was ineffective and undesirable.

To date, the evidence concerning each version of the input hypothesis is surprisingly limited and largely inconclusive. Goodz (1994) reports positive and statistically significant correlations between parental and children s rates of code-mixing in families in the Montreal area who

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were raising their children bilingually. However, Genesee, Nicoladis, and Paradis (1995), also working with bilingual families in the Montreal area, failed to obtain statistically significant relationships between parental and children s rates of code-mixing. Likewise, Lanza (1992) reports evidence in support of the discourse hypothesis in a case study of a child raised in Norwegian and English in Norway (see also Deuchar & Quay, 2000), whereas Nicoladis and Genesee (1998) failed to find statistical evidence in support of this hypothesis in a study of five children learning English and French simultaneously.

Virtually all children, except for pathological cases, ultimately acquire the language behaviors and conversational norms of the communities in which they grow up. Undoubtedly, children raised bilingually also eventually acquire the patterns and forms of code-mixing that occur in their communities as part of their language socialization (see, Poplack, 1987, for contrasting norms of code-mixing). The inconclusive evidence reported to date on children s acquisition of code-mixing and its relationship to input factors indicates that we are a long way from understanding how bilingual children are socialized to bilingual patterns of language usage in their communities, but the question is still important and valid. Clearly, much additional research is called for.

According to the second broad category of explanations of code-mixing, the proficiency hypotheses, young bilingual children code-mix to fill linguistic gaps in their language proficiency. Arguably, a child who says un petit *bird* when speaking to her French-speaking mother does not know the word for bird (*oiseau*) in French, but does in English and, therefore, borrows the English word temporarily to complete her French utterance. Indeed, on occasion, even fully proficient adult bilinguals do this when they experience a temporary lack of memory or when an appropriate word or expression does not exist in the language they are speaking. There is considerable evidence in support of this explanation of code-mixing. First, it is commonly reported that bilingual children mix more when using their less proficient language than when using their more proficient language (Genesee, Nicoladis, & Paradis, 1995). Second, it has been documented that bilingual children are more likely to mix words for which they do not have translation equivalents than words for which they do (Deuchar & Quay, 2000; Nicoladis, 1994; Wolf, Genesee, & Paradis, 1995). The proficiency hypothesis is also consistent with reports that bilingual children tend to mix less as they get older (e.g., Redlinger & Park, 1980; Vihman, 1982) arguably, as they acquire a more complete stock of words and expressions in both languages, bilingual children need to borrow less. While these examples have been drawn from the lexical domain, evidence in support of the proficiency hypothesis has been presented from morpho-syntactic domains as well. Gawlitzek-Maiwald and Tracy (1996) have argued that bilingual children use syntactic

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structures from their more developed language to bolster use of their less developed language what they refer to as bilingual bootstrapping, and Petersen (1988) has argued that inflectional morphology from the dominant language can co-occur with free morphemes from the non-dominant language, but not vice versa.

Returning to the central theme of this chapter, the important point is that child bilingual code-mixing does not reflect an incapacity of the language faculty to develop functionally differentiated systems during the initial stages of acquisition. Code-mixing is more appropriately viewed in terms of performance factors (e.g., proficiency) and not in terms of the child s fundamental underlying competence. Indeed, the pragmatic performance of bilingual children, even those in the one-word stage, reveals quite sophisticated pragmatic skills, skills that imply underlying differentiation, at least at the functional and possibly also at the representational levels.

Linguistic Development: Autonomous or Interdependent?

More direct evidence concerning the nature of bilingual children s representations of their developing languages comes from detailed analyses of their phonological and syntactic development. At issue here is the nature of the abstract knowledge (or competence) that underlies the bilingual child s language performance. The specific question is whether young children exposed to two languages acquire abstract constraints (or rules) that are different for and specific to each of the target languages. Evidence that they do would provide additional insights into the capacity of the language faculty and, in particular, its ability to represent the abstract grammatical properties of different languages during the early stages of acquisition.

Studies on syntactic development show that bilingual children from as early as two years of age (or during the two- and early multi-word stages) use language-specific and different syntactic constructions when addressing interlocutors who speak different languages (DeHouwer, 1990; Ingram, 1981/82; Meisel, 1989, 1994; Paradis & Genesee, 1996, 1997). Likewise, studies of phonological development show that bilingual children demonstrate different phonological patterns in each language even prior to overt use of syntactically-patterned language (Celce-Murcia, 1978; Johnson & Lancaster, 1998; Paradis, 1996; Schnitzer & Krasinski, 1994). Thus, contrary to earlier conceptualizations, it is generally agreed now that the languages of the bilingual child are represented in underlyingly differentiated ways at least from the beginning of early language production, and possibly earlier. It is also interesting to note here that research on speech perception in children raised bilingually (Catalan and Spanish) indicates that they can discriminate different

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language-specific phonological contrasts as early as 4½ months of age, prior to the production of their first words (Bosch & Sebastián-Gallés, in press). Thus, children exposed to two languages appear to possess the capacity to perceptually discriminate different linguistic systems at birth, a capacity that is a prerequisite to establishing different representations of two languages.

That young bilingual children have differentiated representations of their two languages still leaves open the question whether their systems develop autonomously or interdependently (Paradis & Genesee, 1996). Autonomous development would be reflected in patterns of acquisition and linguistic representation that match those of monolingual children acquiring the same languages. In effect, bilingual children look like monolinguals. This is not to say that they are the same as monolinguals. As we shall see in the next section, bilingual children clearly have grammatical capacities permitting them to use and manage their two languages that set them apart from monolinguals. With respect to the main theme of this chapter, evidence of autonomous development would also be evidence for the capacity of the language faculty to acquire and represent the distinct structures and constraints that comprise the grammars of each language.

Paradis and Genesee (1996) define interdependent development as

> the systemic influence of the grammar of one language on the grammar of the other language during acquisition, causing differences in a bilingual's patterns or rates of development in comparison with a monolingual's (Paradis & Genesee, 1996, p. 3).

Interdependence could take several forms. First, the simultaneous acquisition of two languages might pose challenges to the language faculty that could result in slower development for bilinguals in comparison to monolinguals acquiring the same languages. While this might influence general development in both languages, it could also influence development of specific aspects of one or both languages. For example, children acquiring English and Spanish simultaneously might be delayed in the obligatory use of subjects in their English as a result of exposure to Spanish, a language that licenses the omission of subjects in certain contexts. Second, and in contrast, bilingual acquisition could accelerate language development in cases where two languages share certain structural properties and especially structures that normally emerge earlier in one of the languages when acquired monolingually. For example, for reasons that are not fully understood, monolingual French-learning children acquire finite verb forms at an earlier age than monolingual English-learning children (Paradis & Genesee, 1996). Children acquiring English and French simultaneously might show an accelerated acquisition of finiteness in their English as a result of the early emergence of finiteness in their French verbs.

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Yet another form of interdependence is transfer, the systematic incorporation of a linguistic property from one language into the other. For transfer to be distinguished from acceleration, it would have to result in a deviant structure or pattern in comparison to the target language for example, generally speaking, verbal negatives in English precede the lexical verb (e.g., I do **not** like raspberries.), but follow it in French (e.g., Je n'aime **pas** les framboises.) If English-French bilingual children were shown to place negatives after lexical verbs in English and French, this could constitute evidence for transfer and, thus, interdependent linguistic development.

The languages of bilingual children need not, nor are they likely, to develop entirely autonomously or interdependently certain aspects might develop interdependently while the rest develops autonomously. Furthermore, interdependence might be characteristic of certain language combinations, but not others. Indeed, Paradis and Genesee (1996) report that 2- to 3-year-old French-English bilingual children from Montreal demonstrated no evidence of transfer, delay, or acceleration in the syntactic development of their languages in comparison to monolingual controls, even for structures that differ in normal monolingual acquisition. In contrast, cross-language influences 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. Döpke (2000) reports that Australian children learning English and German simultaneously overgeneralized the -VO word order of English to German which instantiates both -VO and -OV word orders depending on the clausal structure of the utterance. Working within the Competition Model (Bates & MacWhinney, 1987), Döpke argues that children learning German and English simultaneously are prone to overgeneralize S-V-O word order in their German because the -VO order is reinforced on the surface of both the German and the English input they hear. Hulk and Müller (2000, p. 5), have similarly argued that there has to be a certain overlap of the two systems at the surface level for cross-linguistic syntactic influence to occur. Structural overlap and ambiguity in the input have also been invoked as possible explanations in phonological transfer by Paradis (in press) in a study of the phonological development of French-English 2-3 year olds.

The Döpke, Hulk and Müller, and Paradis explanations, all of which emphasize the interplay between surface cues in bilingual input and the underlying structural properties of the languages being learned, highlight the unique challenge of bilingual acquisition how to sort out two abstract linguistic systems from input that often provides ambiguous or inconsistent cues about the distinctive underlying structural properties of the target languages. It remains to be seen if other factors are at play in all cases of transfer for, as noted earlier, Paradis and Genesee (1996) did

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not find evidence of cross-linguistic influences in the French and English of the bilingual children they examined, despite the fact that there are features of these two languages that have the same surface features but different underlying properties (i.e., subject pronouns are clitics in French but full NPs in English). Dominance may also be at play in some instances (Matthews, personal communication).

A great deal of additional investigation is needed to explore the linguistic development of bilingual children and, in particular, the extent and nature of transfer, before we can present definitive conclusions. Nevertheless, these early findings are significant for our understanding of both bilingual acquisition and the language faculty of the human mind and, thus, are worth considering briefly. To date, the evidence indicates that, for the most part, the linguistic systems of bilingual children develop autonomously and like that of monolingual children. Instances of transfer that have been documented do not compromise this general conclusion for at least two reasons. First, transfer is temporary. We know from other research that, given sufficient exposure to two languages, bilingual children can acquire the same grammatical competence in each of their languages as monolinguals in the long run (White & Genesee, 1996). Whether or not individual children exposed to two languages at birth become bilingual is largely a matter of circumstance rather than of inherent limitations in the language faculty s ability to handle two languages at the same time.

Second, and more importantly, the extant evidence indicates that transfer during bilingual acquisition is restricted to specific aspects of syntax or phonology. Moreover, although the transferred structures identified by Döpke and Hulk and Müller deviate from the language that hosts them temporarily, they nevertheless map onto the child s developing version of the host language in ways that respect its distinct internal structure. Recall that, to date, documented instances of transfer have involved analogous structures that share features (however, see Yip and Matthews, in press, for possible counterexamples from an English-Chinese learning child). For such cross-linguistic transfer to occur, the language faculty, be it defined in nativist or cognitivist terms, must be capable of active analysis and comparison of the respective target input systems, albeit in some abstract, implicit form. Monolingual children also exhibit nontarget constructions that deviate from adult forms but nevertheless conform to the overall structure of the target language (e.g., *goed* instead of *went*). However, the nontarget constructions of monolingual children are always based on the same system in which they occur. In contrast, transfer in bilinguals can cross language boundaries. That transfer in bilingual children is constrained in structure-dependent ways indicates that the language faculty is able to coordinate different

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linguistic systems in the course of, and arguably in the service of, development.

Grammatical Constraints on Child Bilingual Code-Mixing

In the preceding section, we examined the possibility of interactions between the developing systems of bilingual children with respect to underlying representations, or competence. In this section, we examine interactions between the bilingual child s languages during on-line production and, more specifically, during intra-utterance code-mixing. Mixing elements or structures from both languages in the same utterance clearly implicates interactions between the languages involved. Research on adult bilinguals indicates that their intra-utterance code-mixing is not random, but is grammatically constrained and, furthermore, complies with the language-specific characteristics of the participating languages (Myers-Scotton, 1997; Poplack, 1980). Although there is no consensus on the nature of the specific constraints that organize intra-sentential code-mixing in adults, there is consensus that constraints serve to avoid grammatically illicit or awkward constructions. The evidence indicates, further, that proficient adult bilinguals engage in more fluent, more sophisticated, and more prevalent code-mixing than less proficient bilinguals, since fluent mixing arguably calls for full grammatical competence in the languages involved. It is interesting to note here that while code-mixing has been linked to bilingual proficiency in the case of adults, it has been attributed to linguistic incompetence in young bilingual children.

That bilingual children ultimately acquire grammatical constraints on their code-mixing is attested by studies on adult bilinguals. The questions of concern here are whether there are structural constraints on child bilingual code-mixing, the nature of those constraints, and the age at which they are evidenced. Aside from their specific theoretical significance, these questions address the view that bilingual acquisition challenges the language faculty and, thus, poses certain risks to language development since evidence for grammatical constraints during code-mixing would argue for competence in coordinating two languages during on-line processing, much like that which has been attested in adult bilinguals.

To date, research has examined constraints on intra-utterance code-mixing by bilingual children learning the following language pairs: French and German (Köppe, in press; Meisel, 1994); French and English (Genesee & Sauve, 2000; Paradis, Nicoladis, & Genesee, 2000); English and Norwegian (Lanza, 1997a,b); English and Estonian (Vihman, 1998); and Inuktitut and English (Allen, Genesee, Fish, & Crago, 2000). The constraint models of Poplack (1980) and of Myers-Scotton (1997) have formed the basis for most, although not all, analyses in studies on this

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topic (except, see Köppe, in press, and Meisel, 1994, who based their analyses on more general generativist principles). The Myers-Scotton and Poplack models differ substantially in the extent to which they refer to abstract, underlying grammatical constructs (such as system and content morphemes) versus surface level grammatical phenomena (such as word order and bound versus open class morphemes), respectively.

Despite the diversity of language pairs and analytic frameworks that comprise this body of research, all researchers conclude that child bilingual code-mixing is grammatically constrained. The operation of constraints based on abstract notions of grammatical knowledge, which are at the core of Myers-Scotton's Matrix Language Frame model, is most evident in bilingual children once they demonstrate such knowledge in their languages (as marked by verb tense and agreement, for example), usually around 2;6 years of age and older, while the operation of constraints that reflect surface features of grammar (such as word order) is evident even earlier in development, prior to overt marking of abstract grammatical relations in the child's language, from the two word/morpheme stage onward. Köppe (in press) has proposed a hybrid model, composed of linear, word order constraints during the early stages of production and abstract, hierarchically-organized constraints subsequently.

Research in our laboratory has compared code-mixing in children learning language combinations that differ in typological similarity: English and French versus English and Inuktitut (Allen et al., 2000; Genesee & Sauve, 2000). Although members of different language families, English and French share many typological characteristics. Both have relatively sparse morphology, particularly with respect to inflectional morphology; the morphology they have follows a mildly synthetic pattern. Syntactic relations are indicated primarily through word order, with the basic word order being SVO. In contrast, Inuktitut, a member of Eskimo-Aleut family, is polysynthetic, with syntax being marked *within* the word, both through extensive inflectional morphology and through a variety of derivational affixes that change word class. Indeed, Inuktitut has extremely rich morphology, which includes some 400 derivational affixes and more than 1000 inflectional affixes. As well, although basic word order is SOV, word order is typically relatively free, and, in contrast to English, differences in word order are linked to discourse phenomena rather than to syntactic relations.

Poplack, Wheeler, and Westwood (1987) have found that adult bilinguals who know similarly contrasting language pairs (English-French versus English-Finnish) use different patterns of intra-sentential code-mixing. In brief, adult English-French bilinguals avoid code-mixing in utterances that contain word order or morphological contrasts in French and English, whereas adult English-Finnish bilinguals engage in extensive

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nonce borrowing. Nonce borrowing is a strategy in which single lexical items, usually nouns and verbs, from the donor language are syntactically, morphologically, and sometimes phonologically incorporated into the host language. In effect, the donor word is treated like a word from the host language and, thus, avoids the risk of violating the morphosyntactic constraints of the host language. Our comparisons of English-French and English-Inuktitut children also revealed differential use of these same code-mixing strategies.

In sum, these findings indicate that there is no fundamental difference between the constraints on child code-mixing and those that have been attested in adult bilinguals. Moreover, bilingual children, like adult bilinguals, adopt different code-mixing strategies in accordance with the typological characteristics of their languages. Once again, we have evidence that the language faculty is unperturbed by the complex grammatical challenges posed by bilingual acquisition even during on-line production. To the contrary, the constrained systematicity that marks early monolingual acquisition, as well as early bilingual acquisition (as noted earlier), is also evidenced in the grammatical interactions that occur when the two languages co-occur in the same utterances during child code-mixing.

Conclusions

Research on children who grow up learning two languages simultaneously indicates that, contrary to earlier conceptualizations, they acquire differentiated representations of the target languages early in development, from the one-word stage onward, and possibly earlier. This conclusion is reinforced by consistent evidence from a number of researchers that bilingual children can and do use their developing languages differentially and appropriately with familiar and unfamiliar interlocutors from the one-word stage of development. Children exposed to two languages clearly possess the requisite neuro-cognitive competencies that underlie differential representation and use of two languages from the one-word stage of development, the earliest stage of productive language use. Studies of speech perception in children exposed to two languages from birth suggest that they probably have the cognitive-perceptual capacities that are prerequisite to establishing simultaneous differentiated representations of more than one language from the very outset of exposure to two languages.

Detailed analyses of the grammatical organization of bilingual child language indicates that it conforms with the target systems, taking into account development. Analyses of child bilingual code-mixing indicate further that it is not random, but is constrained in essentially the same ways as adult code-mixing and, most importantly, in conformity

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with the grammatical properties of the target languages at the stage of development of the child.

The extant evidence does not mean that bilingual acquisition does not challenge some children. It surely does, just as monolingual acquisition challenges some children. There is still much to be done to identify the circumstances and causes that differentiate normal from deviant acquisition, bilingual and monolingual. Indeed, there is still much to do to extend our understanding of bilingual acquisition in its diverse forms. This chapter has touched on one constellation of bilingual acquisition acquisition of two oral languages in the home. Bilingual acquisition occurs in different sociocultural contexts, and it entails different language combinations and modalities (signed and oral). We have barely begun to explore these diverse forms of bilingual acquisition.

In sum, research findings on bilingual children challenge the notion of the monolingual mind designed to handle only one language system and burdened with dual or multiple language input. To the contrary, extant results support a view of the mind that is fundamentally capable of acquiring more than one language at the same time thus, a bilingual or even *multilingual* mind.

Notes

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This collection of chapters is based on papers presented at the VIIIth International Congress for the Study of Child Language in San Sebastian, Spain, in July 1999. It reflects a broad range of theoretical topics and state-of-the-art investigations of issues in the field of bilingual acquisition. Included are papers on infant speech perception, babbling, word learning, the acquisition of syntax, and the development of communicative competence. This collection provides a very useful and up-to-date synopsis of the diverse current trends and findings in the field.

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Deuchar, M., & Quay, S. (2000). *Bilingual acquisition: Theoretical implications of a case study.* Oxford: Oxford University Press.

This book presents the findings of a case study in bilingual acquisition and explores their implications for theories of first and second language acquisition. The authors focus on the emergence of two languages (Spanish and English) during one child s second year of life. It examines the process of language learning from the perspectives of phonology, lexicon, syntax, and language choice and addresses prominent theoretical issues in each domain. This is an excellent example of the utility of case studies in language acquisition research.

Genesee, F. (Guest Ed.) (2000). Syntactic aspects of bilingual acquisition. Special issue of *Bilingualism: Language and Cognition*, *3,* 167 281.

This special issue of the journal *Bilingualism: Language and Cognition* includes 6 studies on the syntactic development of children acquiring two languages simultaneously and an Introduction to the issue by the Guest Editor. Collectively, these studies reveal that the syntactic development of bilingual children acquiring a variety of languages (French-German, French-English, English-German, Chinese-English, Catalan-Spanish, and Swedish-French) conforms for the most part to that demonstrated by children acquiring the same languages monolingually. At the same time, there is evidence of cross-linguistic transfer of syntactic features during the acquisition of languages with ambiguous or overlapping syntactic properties. Evidence is also reported of grammatical constraints during bilingual code-mixing indicating that bilingual children, like bilingual adults, can coordinate the deployment of their grammars during online production so as to avoid illicit or inappropriate syntactic patterns.

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