

Report of Phonetic Research 2011

REVIEW:

THE BILINGUAL CHILD: EARLY DEVELOPMENT AND LANGUAGE CONTACT. BY VIRGINIA YIP AND STEPHEN MATTHEWS
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Bilingualism, a hot research area concerning linguistics, psycholinguistics and cognitive sciences, is being investigated from both perceptual and productive aspects. Before we introduce and review this work on the bilingual children written by Virginia Yip and Stephen Matthews, we first examine some recent results on bilingual development in the early stage from perceptual aspect.

The ability to acquire language is one of the hallmarks of our species, deeply embedded in our biology (Werker et al. 2009). However, the cognitive process or mechanism of such kind of “language innate” (Pinker 1994) is still far from being clear to us. Children who are exposed to monolingual input seemingly acquire their native language very quickly in their first several years without too much effort, just like how they learn to walk and recognize individual faces. As bilingual children presumably have to learn roughly twice as much language as their monolingual counterparts, one would expect their language acquisition to be somewhat delayed.

Facing the same task of language acquisition in monolingual and bilingual children to become proficient language speakers, researchers wonder about the learning mechanisms underlying bilingual acquisition, such as language discrimination and separation, phonological development, grammatical category segmentation, and word learning. On the other hand, parents may ask questions such as “Are two languages too

Report of Phonetic Research 2011

much for a child? Do children get confused with the two languages? Can they be equally proficient in both? If children have a language instinct as has often been suggested, how does this instinct cope with two languages at the same time?" (Virginia Yip and Stephen Matthews, Preface: xiv)

Previous studies have shown that infants process various aspects of the languages they are exposed to from very early on. Figure 1 is a summary diagram suggested by Werker et al. (2009) that depicts the ages at which monolingual and bilingual children show success in a variety of speech processing and word-learning tasks. For bilingual children, the ability to discriminate the two languages is a prerequisite for successful bilingual acquisition. Increasing evidence suggests that bilingual infants commence the process of language acquisition by separating the languages from the start (Genesee et al. 1995, Meisel 2001, Bosch 2001). Additionally, studies from the perceptual aspect have indicated that the critical development milestones passed by bilingual children are approximately the same as for their monolingual counterparts (Pearson & Fernandez 1994, De Houwer 1995, Oller et al. 1997, Petitto et al. 2001, Werker et al. 2006, 2008, 2009). Among these, developmental milestones are the following:

- (1) Sounds are the fundamental elements of words and grammars. Infants can discriminate native and non-native sounds equally well in the first half year of life. During the second half of the first year, infants show poor discrimination of difficult non-native consonant distinctions, and the language-specific organization of vowel categories occur earlier. Moreover, their performance on native contrasts is not only maintained but also sharpened. While the pattern of bilingual development shows some similarities in macro-structure, it also shows some differences in micro-structure. Bilinguals refine their native phonetic categories in the first year of life as the monolinguals do. However, bilingual infants may undergo an interval in development when they temporarily collapse some native-language categories before successfully pulling them apart again (Werker et al. 2006, 2009). More interestingly, in the production period, there is a silent period during which the bilingual child understands the input language but refuses to produce in the same language. In the corpus data shown by Virginia Yip and Stephen Matthews, this silent period always varies across individual children, between one to two years of age.

(2) In an eye-tracking study, 7-month-old infants, raised with two languages from birth, display improved cognitive control abilities when compared with matched monolinguals. This shows that processing representations from two languages leads to a domain-general enhancement of the cognitive control system well before the onset of speech (Kovács and Mehler, 2009b).

(3) For word learning, a slightly different ability is observed between monolinguals and bilinguals. On basic word-learning tasks, they show identical abilities. However, in both word learning and recognition tasks, bilinguals succeed at a delayed age in comparison to monolinguals. Monolingual infants, as young as 14 months, are able to learn to associate phonetically dissimilar words with objects, though they fail to learn phonetically similar words at 14 months but do succeed by 17 months of age. Bilingual infants succeed in the minimal pair word-learning task later at 20 months of age (Werker et al. 2006, 2009).

(4) Preverbal 12-month-old bilingual infants have become more flexible at learning speech structures than monolinguals. When given the opportunity to simultaneously learn two different regularities, bilingual infants learned both, whereas monolinguals learned only one of them. Hence, bilinguals may acquire two languages in the time in which monolinguals acquire one because they quickly become more flexible learners (Kovács and Mehler, 2009a).

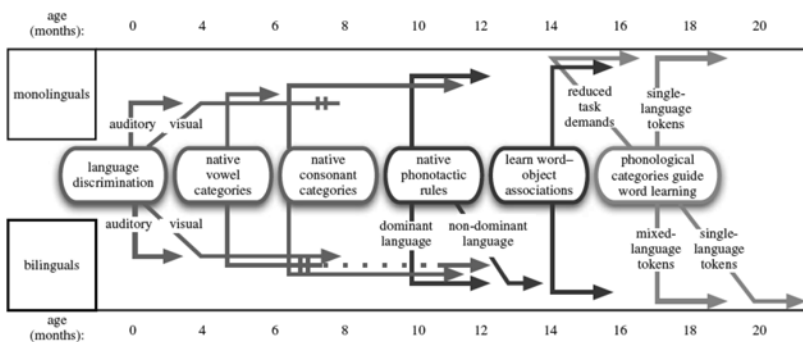


Figure 1. A summary diagram showing the age at which monolingual and bilingual infants show success in a variety of speech processing and word-learning tasks. (after Werker et al. 2009)

Report of Phonetic Research 2011

(5) By 18 months of age infants have established a sizeable receptive lexicon which is distinguished by speech sounds. Monolingual and bilingual children have relatively equal sized vocabularies, although bilinguals have larger vocabularies than the same aged monolinguals (Pearson & Fenandez 1994, Pearson et al. 2004).

Cross-linguistic studies of monolingual acquisition show that although all children acquire language knowledge including phonology, morphology, syntax and semantics of their native language within the first few years, the structural properties of the particular language can influence both the age and the order in which different structures are learned. For more complicated input contexts for bilingual children, what is the situation? How and why does the development of grammar in bilinguals differ from that observed in their monolingual counterparts? What light does bilingual development shed on language contact phenomena such as substrate influence and contact-induced grammaticalization? These are the theoretical issues addressed from the productive aspect by *The Bilingual Child: Early Development and Language Contact*.

The authors of the book, Professors Virginia Yip and Stephen Matthews, are both researchers and parents. Their three children served as subjects in the research. This book is the summary product of their projects on the HK bilingual children language acquisition spread over 10 years. The book was published in 2007 and won the prestigious Leonard Bloomfield Book Prize of the Linguistic Society of America. I think there are several reasons why the book deserved this prize.

First, the bulk of previous research on bilingual development during the period from birth to three years of age has focused on European languages, including English-German, English-Dutch, German-Italian, etc. In contrast, this study focused on the typologically divergent language pair of Cantonese-English, which is the first longitudinal study of this kind on 6 bilingual Cantonese-English children from 1 to 3 years of age, and even extended to 5 years. The study has thus filled the gap in Chinese language childhood bilingualism, providing a new window for viewing development processes and pathways, and, at the same time, enriching both the theoretical investigation and empirical foundation of early bilingual acquisition.

Second, the methodology used in this study of bilingual acquisition is diverse and novel. Their work is grounded on the complementarities of generative and typological approaches. In their analysis, corpus-based data (see Table 1 for details)

Report of Phonetic Research 2011

serve as primary material and are complemented by diary-based data. Both studies and longitudinal studies are jointed together. Additionally, both qualitative and quantitative measurements are used throughout the analysis, for example, the difference or ratio of MLU (Mean Length of Utterance) is calculated to indicate the dominance of the languages. (discussed in detail in Chapter 3)

Table 1. Number of files and number of child utterances produced by six children in the Hong Kong Bilingual Child Language Corpus (p. 67)

Age	2;01;22 -3;06;25	1;06;00 -3;00;09	1;03;10 -3;00;24	2;00;12 -3;04;17	3;01;05 -4;06;07	1;08;28 -3;00;03	Total Files
No. of Cantonese files	35	40	40	17	17	19	168
No. of utterances in Cantonese files	10,631	12,574	6,217	3,831	4,281	4,012	41,546
No. of English files	38	40	40	17	17	19	171
No. of utterances in English files	6,241	6,717	5,109	4,121	4,202	4,621	31,011

Third, the authors have outlined a theoretical framework for the analysis of grammatical development in child bilingualism and its role in language contact. They have also raised a number of theoretical issues. They have made their proposals after checking a number of transfer grammatical phenomena produced by the six Cantonese-English bilingual children and then contrasting them with monolingual children and SCE (Singapore colloquial English) as well as HCE (Hawaii Creole English). They agree with the notion that the two languages are differentiated early on and that the children have ‘bilingual instinct’. But there is strong evidence for syntactic transfer and interaction between the two linguistic systems developing in the mind of the bilingual child. The principles determining the transfer direction and

Report of Phonetic Research 2011

its mechanism include language dominance, development asynchrony and input ambiguity. The cross-linguistic influence evidenced in the bilingual development is bidirectional and goes primarily from the dominant language to the non-dominant (weaker) language. The developmental patterns in bilingual individuals parallel and reflect prominent features of contact varieties, such as SCE spoken by a community of adult bilinguals at the societal level. Table 2 lists the contact phenomena at both individual and societal levels. (this part is primarily presented in the Introduction and Chapter 2 ‘theoretical work’).

Table 2. Language contact phenomena at individual and societal levels(p. 13)

	Micro-processes in bilingual individuals:	Macro-processes in bilingual communities:
Lexical	Transfer	Substrate influence
Grammatical	Bilingual bootstrapping	Grammaticalization convergence
Development	Language acquisition Language attrition	Pidginization Creolization Language shift

Fourth, the book presents a series of case studies and empirical findings in early bilingual development which are analyzed from Chapter 4 to Chapter 8:

Chapter 4: ‘Wh-interrogatives: to move or not to move’. Wh-interrogative in English requires wh-word being moved to the initial position, while the dominant language Cantonese doesn’t have it. All the children in the corpus show the non-target wh-word in-situ structure at their developed stage. Quantitative analysis was made for both monolingual and bilingual children’s wh-in-situ distributions, giving clear evidence of syntactic transfer from dominant Cantonese. The diary data reported a new finding on split what questions. ‘Bilingual Bootstrapping’ is exemplified by ‘what are doing’ (substituting ‘why’) used by some bilingual children. Besides language dominance, another mechanism of language contact is discussed in contact languages, such as SCE and CPE (Chinese Pidgin English), which provide parallel data as for the bilinguals.

Report of Phonetic Research 2011

Chapter 5: 'Null objects: Dual Input and Learnability'. The authors note that both input ambiguity and language dominance contributed to the transfer of null objects. The frequency of null objects in bilingual children's English is correlated with the degree of dominance. The bilingual children take a longer time to unlearn this non-target structure but have a better chance to acquire the target structure than adult L2 learners.

Chapter 6: 'Relative clause: transfer and universals'. 'In typological terms, prenominal relatives are the universally dispreferred option, and especially rare in SVO languages, with Mandarin Chinese the only case instantiating this combination in many language samples' (p. 156). With this language specific property, the authors find that prenominal relatives primarily emerge in object positions, presenting a clear syntactic transfer from Cantonese to English. The use of resumptive pronouns shows a developmental stage of the structure. Furthermore, the transfer from Cantonese to English of the bilingual children is parallel with relative clauses in SCE, strongly supporting the substrate language influence in language contact.

Chapter 7: 'Vulnerable domains in Cantonese and the directionality of transfer'. The authors found that three domains of grammar in Cantonese can be identified as vulnerable domains: placement of prepositional phrases, dative structure with *Bei2* and verb-particle constructions. The transfers in these grammatical domains are from the weaker language of English to the dominant language Cantonese, regardless of language dominance. For the verb-particle constructions, the transfer is bidirectional. Input ambiguity rather than language dominance is the major mechanism contributing to this 'negative transfer' as we always used in L2 learning.

Chapter 8: 'Bilingual development and contact-induced grammaticalization'. The authors discuss the advantages and disadvantages of some models, including Heine and Kuteva's model of contact-induced grammaticalization, the traditional notion of 'calquing' or with 'polysemy'. The authors have adopted the grammaticalization model and verified the process parts: (1) interlingual identification: the children's parallel usage as in the cases of *already* and dative *give* supports the perceived equivalence between the model and replica languages; (2) intermediate steps: bilingual children's *give-passives* develop via permissive usage, mediated by bridging contexts; (3) gap

Report of Phonetic Research 2011

filling: the children create perfective (*already*) and passive forms (*give-passives*) to plug the gaps. These findings, including the above mentioned parallels, suggest that cross-linguistic influence in the course of bilingual development represents a possible mechanism for substrate influence, both generally and specifically in the development of contact languages, such as pidgins and creoles.

Finally, the book sets a good example for those who want to conduct grammatical research on bilingual language acquisition or language contact in Chinese languages. As summarized by the authors, we may explore experimental diagrams about the future research in aspects of language perception, production and comprehension. Apart from grammatical structure, the typological divergence between Chinese and English (or other European languages) rests on the phonetic and prosodic levels as well, which leaves a vast amount of space to explore. Moreover, we believe that neural-cognitive research such as ERP and FMRI studies will enrich evidence showing the mechanism of language acquisition.

It's far beyond my ability to summarize all the findings and implications of the book. But I highly recommend this book as an excellent textbook or a valuable reference book to students and researchers who are engaged in work on monolingual, bilingual or SLI (Specific Language Impairment) child language acquisitions, as well as L2 acquisition.

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Report of Phonetic Research 2011

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