

# BILINGUALISM AND ENVIRONMENT: FROM CHILDHOOD TO ADULTHOOD

Come join our online discussion on bilingualism with  
researchers from Australia and Malaysia!



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## ONLINE DISCUSSION

3rd July 2020 | Friday  
11.00 am-12.30 pm (MYT)  
01.00 pm-02.30 pm (AEST)

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# ***Bilingualism and Environment: From Childhood to Adulthood Webinar 3<sup>rd</sup> July 2020***

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# We will look at:

- Human Environment
- acquisition & learning environments
- Two concerns: weaker language and transfer. What are they?
- Language dominance in the bilingual and Language dominance in the environment
- The puzzling results of transfer studies
- A case study tackles the puzzle
- The neglected role of the environmental language ( $L_{\epsilon}$ )

# What characterizes the Human Environment?

- The one common thing to all human environments is **communication through language**
- Humans have evolved sophisticated communication systems: more than **7.000 languages** are spoken on the globe
- Most humans **use more than one language** to communicate with relatives, neighbours, and across groups and countries

# Different learning environments

- Naturalistic environment -
- Instructed environment  
Classroom— (e.g. SLA )
- Instruction in L2 can also occur in where the dominant **Environmental language** is the same L2



# Diversity of acquisition contexts

- Most research in childhood bilingualism has been based on **one-parent one-language** situations in western nuclear families (Yip & Matthews, 2007)
- BUT Many other acquisition environments can nurture bilingualism: Asian ‘extended’ families (e.g., Malaysia, Singapore, HK)

## **One parent two-languages**

- Diverse acquisition contexts offer new windows on bilingual acquisition (e.g. immigrant families in Australia, Qi 2011):

## **One-environment one-language (context-bound)**



all those **Bilingual Input Conditions** have chances to succeed,

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**Bilingualism Research Lab (BRL): Looks mainly at**

**Context-bound One-Environment and**

**One-Language (1E1L) (Qi, DiBiase & Campbell, 2006; Qi 2011; Qi & Di Biase 2019 )**

Theoretical and practical concerns of  
Childhood Bilingualism include:

The weaker language issue –

Transfer (and language mixing)



# Content (wh-) Questions: A window to look at transfer

In a sample of 902 languages (Dryer 2013) *wh*-questions are found to exhibit three positional patterns:

(I) the interrogative phrase is obligatorily **in initial position**, e.g., Dutch, English, French, Italian; (29%)

(II) ‘***wh*-in situ languages**’, in which the interrogative phrase is not obligatorily in initial position, such as Cantonese, Japanese, Korean and Mandarin; (68%)

(III) **mixed**, in the sense that some interrogative phrases are obligatorily initial and some are not, such as Indonesian. (3%)

- In their study of Cantonese-English bilingual children in Hong Kong Yip & Matthews (2007) documented a number of areas which demonstrate cross-linguistic influence in early grammatical development
- The direction of **systemic** (i.e., not occasional) transfer was primarily **from dominant Cantonese** towards the **weaker English**: e.g., among other areas, the lack of so-called *wh*- movement of the **in-situ question word** in English.

e.g., Daddy is where?

Other studies also found similar transfer from Environmentally dominant towards the weaker language

## Empirical cases with Transfer

(a) Yip & Matthews (2007) longitudinal, about 1.5 yrs  
4 children 1;03;10~2;01;22 Hong Kong

(b) Soriente (2007) longitudinal, 1 child 1;7 - 4;6 Jakarta,  
Indonesia

(c) Strik & Perez-Leroux (2011) cross-sectional 8 children,  
ages 4;03~6:04 France

# Empirical cases with no transfer

(d) Strik&Perez-Leroux (2011) cross sectional 8 children, ages 6;05~7;11  
France

(e) Mishina-Mori (2005) longitudinal 1 child: 1;11 to 3;02 USA

(f) Mishina-Mori (2005) longitudinal 1 child: 2;04 -3;03 USA

(g) Di Biase & Itani-Adams (2016); Itani-Adams (2013) longitudinal 1 child:  
1;11 – 4;10 Australia

(h) Park-Johnson (2017) longitudinal, 11 months ~ 2 years. 7 children 2;04  
~ 7;11 USA

(i) Yip & Matthews (2007) longitudinal 1 child 1;08;28-3;00;03 Hong Kong

(j) Yip & Matthews (2007) longitudinal 1 child 3;01;05-4;06;07 Hong Kong

(k) Qi (2011) Qi & Di Biase (in press) longitudinal 1 child: 1;07 to 4;06  
Australia

# explanations

- Where transfer has been observed different explanations are offered:
- External factors:
  - **Language dominance (in the child)**
- Internal factors:
  - **Structural overlap**
  - **Structural complexity**
  - **Isomorphism**
- **transfer** in bilingual children remains a **theoretical puzzle**.

# Explaining cases of no transfer

- Case (d) the older group of children in Strik & Perez-Leroux (2011) cross-sectional study (> 6 yrs old) is a clear effect of age. Cf. Yip & Matthews (2007:119)
- Cases (e-h) NO Isomorphism (Japanese-English and Korean-English **SOV** vs. **SVO**)
- Case (k) Isomorphism (Chinese-Mandarin), Dominance (Mandarin), Overlap and Complexity are all there. Why is there no transfer?

**RQ: What is the missing piece in the puzzle?**

# Ruying Qi

The missing piece of the puzzle

# The role of the environmental language $L_{\epsilon}$

- We are proposing a new approach:
- if the environments are separated and of equal status in terms of strength of input, children learn structural rules of different languages quite independently and associate them strongly to different social settings. The rules for language use are not separated from the environmental context, so the strength of association of a grammatical rule with a context outweighs any possibility of interference. We call this:
- **Independent Socially-situated Indexing**

**Table 1 Summary of cases in Bilingual children *wh*- questions studies**

Empirical cases	Child dominant language L <sub>a</sub>	Child 'weaker' language L <sub>α</sub>	Environment-prominent language L <sub>ε</sub>	Structural overlap/ complexity	La-L <sub>α</sub> Isomorphism	Transfer
(a) Yip & Matthews (2007) longitudinal, about 1.5 yrs 4 children 1;03;10~2;01;22 Hong Kong	Cantonese	English	Cantonese (=L <sub>a</sub> )	YES	YES	YES
(b) Soriente (2007) longitudinal, 1 child 1;7 - 4;6 Jakarta, Indonesia	Indonesian	Italian	Indonesian (=L <sub>a</sub> )	YES	YES	YES
(c) Strik & Perez-Leroux (2011) cross-sectional 8 children, 4;03~6:04 France	French	Dutch	French (=L <sub>a</sub> )	YES	YES	YES
(d) Strik & Perez-Leroux (2011) cross-sectional 8 children, 6;05~7;11 - France*	French	Dutch	French (=L <sub>a</sub> )	YES	YES	NO
(e) Mishina-Mori (2005) longitudinal 1 child 1;11 to 3;02 USA	English	Japanese	English (=L <sub>a</sub> )	YES	NO	NO
(f) Mishina-Mori (2005) longitudinal 1 child 2;04 - 3;03 USA	Japanese	English	English (=L <sub>α</sub> )	YES	NO	NO
(g) Di Biase & Itani-Adams (2016); Itani-Adams (2013) 1 child longitudinal Australia. 1;11 - 4;10	Japanese = English	Japanese = English	English	YES	NO	NO
(h) Park-Johnson (2017) longitudinal, 11 months ~ 2 years. 7 children 2;04 ~ 7;11 -USA	Korean	English	English (=L <sub>α</sub> )	YES	NO	NO
(i) Yip & Matthews (2007) longitudinal 1 child 1;08;28-3;00;03 - Hong Kong	English	Cantonese	Cantonese (=L <sub>α</sub> )	YES	YES	NO
(j) Yip & Matthews (2007) longitudinal 1 child 3;01;05-4;06;07 Hong Kong	Cantonese=English	Cantonese (=English)	Cantonese	YES	YES	NO
(k) Qi (2011); Qi & Di Biase (2019) 1 child longitudinal 1;07 to 4;06 Australia*	<b>Mandarin</b>	<b>English</b>	<b>English (=L<sub>α</sub>)</b> <b>L<sub>ε</sub></b>	YES	YES	NO

**Table 2: Conditions for transfer**

Cases	Isomorphism	$L_a = L_\alpha$	$L_\varepsilon = L_a$	$L_\varepsilon = L_\alpha$	Transfer
a	+	n/a	+	-	+
b	+	n/a	+	-	+
c	+	n/a	+	-	+
d*	+	n/a	+	-	-
e	-	n/a	+	-	-
f	-	n/a	-	+	-
g	-	+	n/a	n/a	-
h	-	n/a	-	+	-
i	+	n/a	-	+	-
j	+	+	n/a	n/a	-
k	+	n/a	-	+	-

\* Age factor: past transfer period

# Solving the puzzle



**Table 2.** James' sociolinguistic settings and input conditions.

Age period	Sociolinguistic settings	Carers	Context	Input	Hours/day
0;1;1;0	Family	Mother; Father; Auntie	Daily routine & storytelling, songs & rhymes	M	5–6
			English TV, storytelling, other outside activities	E	1–2
1;1;0–2;8;0	Family	Grandmother Mother Father Auntie	Daily routine & storytelling, TV, games, songs & rhymes	M	6
			English TV, storytelling, English parent meeting, other activities	E	2
2;8;0–3;2;0	Family	Grandmother Mother Father Auntie	Daily routine & storytelling, TV, games songs & rhymes	M	5
			English TV, storytelling, other activities	E	1.5
	Child care centre	Teachers & peers	Child care life	E	2
3;2;0–4;7;0	Family	Grandmother Grandfather Mother Father Auntie	Daily routine & storytelling, TV, games songs & rhymes	M	3
			English TV, storytelling, chatting, other activities	E	1
	Child care centre	Teachers & peers	Child care life	E	5

# The role of $L_{\epsilon}^*$ in the extra-domestic environment

The robust input from the extra-domestic environment, which we call  $L_{\epsilon}$ , balances out the dominance of the intra-home environment providing two structural templates which the child keeps distinct in their acquisition. (Qi & Di Biase, 2019)

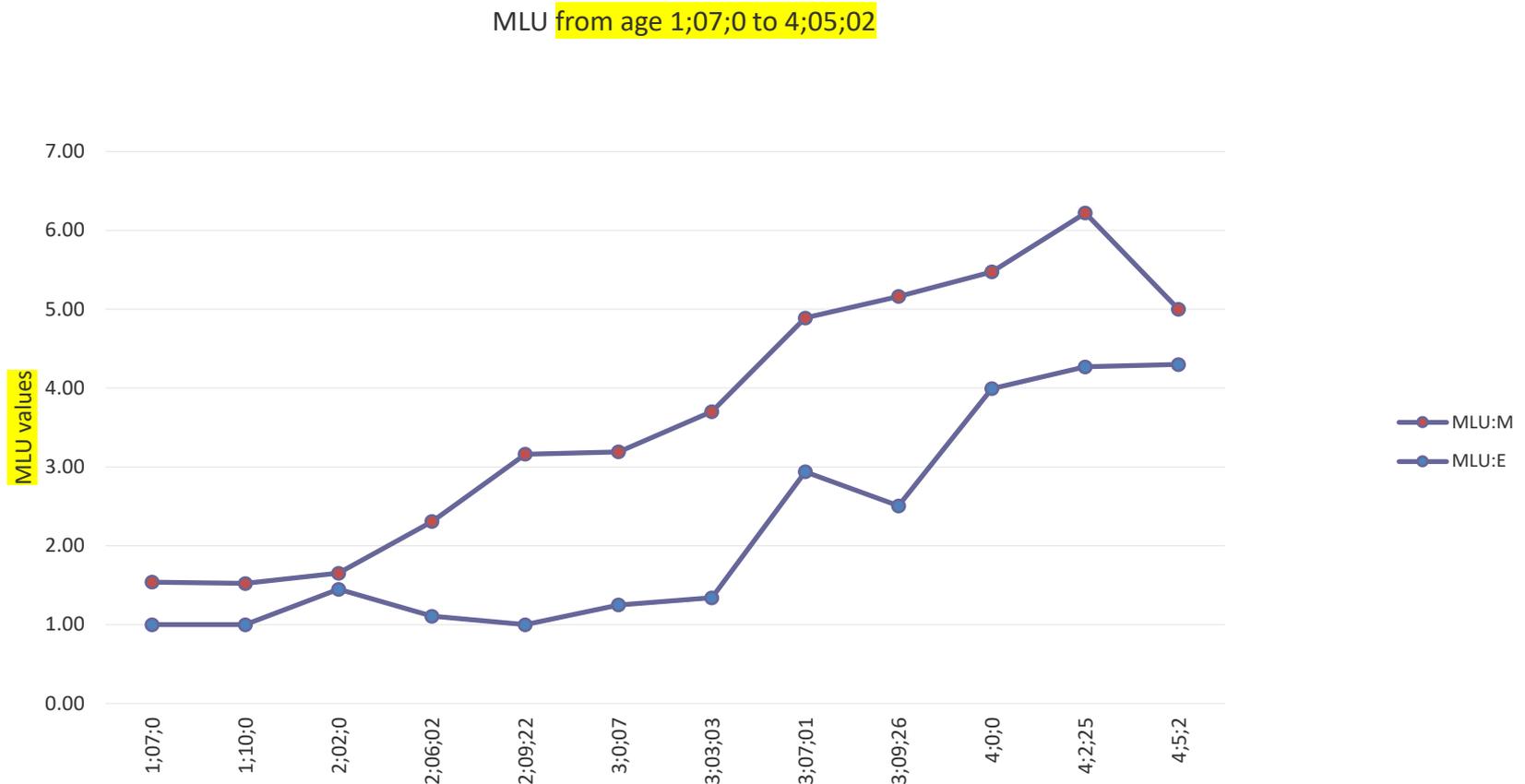
\*Language epsilon: the language which is the official or majority language predominantly used in the bilingual child's extra-domestic environment.

# Method

<b>Informant:</b>	<b>J (1;7 – 4;6)</b>
<b>Languages:</b>	<b>Mandarin &amp; English (context-bound= one language-one environment)</b>
<b>Residence:</b>	<b>Australia (Australian English)</b>
<b>Home environment:</b>	<b>Immigrant extended family</b>
<b>Data type:</b>	<b>spontaneous speech production</b>
<b>Data collection:</b>	<b>audio-recording + diary recording</b>
<b>Sessions:</b>	<b>82</b>
<b>Duration:</b>	<b>30 mins/session (approx)</b>
<b>Venues:</b>	<b>home/child care centre/outings</b>

# English as the weaker language in J's case

- The dominant language in J's case is Mandarin. English is the 'weaker language' over the period of the investigation (from 1 year 7 months to over 4 years of age).



# Findings: Emergence of questions

## MANDARIN

- Questions emerge at age **2;6**
- **In situ** questions emerge clearly at **2;7**
- Questions are target-like from the beginning

## ENGLISH

- Questions emerge at **3;6**
- **No in-situ** questions emerge
- They follow a similar developmental path as monolinguals.

## James Wh- Questions in **Mandarin**

(2;7;3)

**gan4 ma?**

do what?

*what are you doing?*

(2;9;22) ci4wei2 zai4 **gan4 ma?**

hedgehog is do **what**

*What is the hedgehog doing?*

(3;0;14) mei4mei zai4 **na3 li3?**

Little sister in where?

*Where is my sister?*

	Syntax: English questions	Age
6	Where is daddy going? I don't know where Daddy?	4;7
5	what do you like? What can I do? What are you doing?	4;6
4	could you read my book? Joy. could you give me that book? can I have it? (Yes/No questions)	4;0
3	what colour you have eat?	3;7
2	mummy. you get some sunblock? you want this big one. or not big one? this is the book? (Yes/No questions)	3;9 3;7
1	What? How much?	3;6

# Rabiah Tul Adawiyah

## Mohamed Salleh

- The influence of linguistic environment is also seen in a study by Mohamed Salleh et al (2016, 2019) on the development of plurals in Malay and English in a bilingual child.
- The child was observed to acquire the plurals based on the dominant language environment.
- The child used grammatical plural –s in English to express plurals in Malay and English when she was in Australia- where the dominant language is English.
- In Malaysia, where the child's dominant language is Malay, she used Malay grammatical plurals to mark nouns in both languages.

# Discussion

## The role of linguistic environment

- In J's case, contrary to expectation (dominant language, structural overlap and isomorphic nature of Mandarin and English), transfer of in-situ patterns towards the weaker (English) language did not occur. The environmentally predominant language (**L<sub>ε</sub>** English) exerts a strong counterbalancing influence to transfer in support of the weaker language.
- The **developmental variable**: the Strik & Perez-Leroux study observed transfer in their younger group **only**. Not the older informants. Similarly Yip and Matthews' informants eventually converged towards the target (2007:119). Soriente's informant also reached the mature Italian wh- initial construction when he moved to Italy and his environmental **L<sub>ε</sub>** was Italian.
- So, where **transfer** appears it will be, at most, a **temporary phenomenon** which, can be overcome when it is given **environmental support** in the course of development.

## Conclusion: The role of $L_{\epsilon}$

- If the **separate environments** are afforded equal status in terms of **strength of input**, children can learn structural templates of different languages quite independently and in strong association to different interlocutors and social settings. **Transfer** is unlikely to occur under such conditions.
- In a supporting  $L_{\epsilon}$  environment **the weaker language** will develop like that of their monolingual peers.

*Thank you*

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**Table 4 James emergence and development of English *Wh*-questions**

Age/ Structures	3;6 to 3;11:29		4;0 to 4;6	
	Recordings 10 sessions	Diary entries	Recordings 10 sessions	Diary entries
SVWh-Subj(V)(sub- clause )			1	
Wh- Cop Subj			3	1
Who/What <sub>SUBJ</sub> VO/C			3	2
Wh-(phrase) Aux Subj V			11	7
Wh-(phrase) S Aux V(X)	2		1	2
What's C	17	7	6	2
Wh-X	22		10	5
Single Wh-word	2	4	4	3
Song with wh-word	2	(n)		(n)
<b>Total</b>	<b>45</b>	<b>11</b>	<b>39</b>	<b>32</b>

# Conclusion

Variability itself should be expected as a characteristic of acquisition & learning. Cf. Grosejan's (1989) holistic intuition that bilinguals are not two monolinguals in one but have their own unique profile.

Bilingual children are thus prime examples of human adaptability. Humans continuously adapt to variation and change while endeavouring to communicate with other humans (cf. Evans, 2003).

# Transfer

- Transfer in bilingual children may be broadly understood as “the incorporation of a grammatical property into one language from the other “ Paradis and Genesee (1996). They add “by systemic we mean influence at the level of representation or competence, sustained over a period of time” (1996:3)
- For Meisel (2007) however, **qualitative** changes of linguistic knowledge maybe attributed to transfer **only if integration of grammatical properties** of one language into another **system** can be demonstrated. If it is a strategy for language **use** or the result of occasional online activation of knowledge from the other language then we have only **quantitative changes**.
- In this study we focus on the **Wh- questions** domain where certain patterns occur in bilingual development that are **not found in monolingual development**.

# Transfer in bilingual children: Content (*wh*-) questions

Research into the development of the two languages in bilingual children shows structural transfer from some *wh*-in-situ languages towards non-*wh*-in-situ languages, usually affecting the weaker language.

# ABSTRACT: The role of L $\epsilon$ in bilingual development

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This paper aims to show the relevance of linguistic ecology, particularly the hitherto neglected role of what we call L $\epsilon$ , i.e., the prevailing language in the extra-domestic environment, for the conceivable emergence of transfer in bilingual development. We examine the hotly debated area of content (or *wh*-) questions in languages that present contrasting typology in constructing such questions, and look at possible transfer of '*wh*-in situ' question patterns, such as exhibited in e.g., Cantonese, Mandarin, Japanese and Korean towards languages with a non *wh*-in-situ typology such as, e.g., English, French and Dutch, over the course of bilingual development. In reviewing eight recent (mostly longitudinal) key empirical studies examining *wh*- questions we identify 11 separate configurations of bilinguals, different from each other with respect to at least one variable chosen among those structural hypotheses offered in those studies as accounting for transfer (or lack thereof) from *wh*-in-situ question languages towards non-*wh*-in-situ languages. These critical variables are dominance (stronger/weaker language of the child), structural overlap/complexity, isomorphism, the environmentally prominent language (L $\epsilon$ ) and the presence/absence of transfer of the *wh*-in-situ question. Invariably, L $\epsilon$  patterns with lack of transfer, i.e., transfer does not occur towards the language of the child that coincides with L $\epsilon$ , even when it is the weaker language of the child and the languages are isomorphic in their basic syntactic patterns such as Mandarin and English, both SVO. This state of affairs is compatible with a critical role for L $\epsilon$  in accounting for crosslinguistic influence.