

A Universal Explanation for Code-blending and Code-switching

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1. Introduction

- This paper examines code-blending of TP and NegP in Hong Kong Sign Language (HKSL) and Cantonese.
- We apply the Null Theory (Mahootian 1993; Nishimura 1997; MacSwan 1997, 2000; Chan 2003, 2008) from code-switching studies of spoken languages to code-blending in order to examine the word order.

2. Null Theory of code-switching in spoken languages

- No third grammar:** 'switching is not constrained by any special mechanisms or principles to switching' (Mahootian 1993:3).
- The head determines the head-complement order of a switched phrase (Mahootian 1993; Nishimura 1997, MacSwan 1997, 2000).

Code-switching (TP)	Comp from T-Comp language	Comp from Comp-T language
T from T-Comp language	T-Comp	T-Comp
T from Comp-T language	Comp-T	Comp-T

- By looking at code-switching between typologically distinct language pairs (e.g. English-Japanese, Moroccan Arabic-Dutch, etc.), Chan (2003, 2008, 2009) found that:
 - Only functional categories (C, I, and D) determine the head-complement order
 - Lexical categories (V and N):

Code-switching (VP)	Comp from VO language	Comp from OV language
V from VO language	VO	VO or OV
V from OV language	VO or OV	OV

5. Methodology

Data sets	(i) Child data	(ii) Adult data in child's recording	(ii) Adult conversation data
Subjects	CC (Male)	Mr. K (Male, age 25-29) Ms. B (Female, age 21-25) Ms. A (Female, age 25-29)	Ms. B (Female, age 24) Mr. P (Male, age 26)
Hearing status	Severe hearing loss, wear hearing aids on both ears since age 1;3	K: Profound hearing loss, used to wear a hearing aid before high school; B & A: Profound hearing loss, wear a hearing aid on the right ear	P: Profound hearing loss, used to wear a hearing aid before high school; B: (see the left column)
Language background	Born to deaf parents, exposing to HKSL since 1;9, having speech training and Cantonese input via the use of hearing aids since age 1;3	All adults: Born to deaf parents, exposing to HKSL since birth, L2 learners of Cantonese and written Chinese since pre-school, English since primary school N.B.: Ms. B and Ms. A are siblings	
Data source	Longitudinal data from Child HKSL Corpus, 10 working transcriptions from 2;0-6;6 which are spaced 6 months apart (Total: around 250 minutes)	Longitudinal data from Child HKSL Corpus, 9 working transcriptions of CC's age from 2;6-6;6 which are spaced 6 months apart (Total: around 200 minutes)	Free conversation data (Total: 10 minutes)

6. Results

- Data from TP and NegP (numbers in tokens):

Phrases	Heads	(i) Child data	(ii) Adult data in child's recording	(iii) Adult conversation data
TP	Modals	12	11	4
	Negative modals	16	14	4
	Auxiliary-like elements (<i>jau5</i> HAVE)	11	7	0
NegP	Negative auxiliary-like elements (<i>mou</i> NOT-HAVE)	24	18	6
	Negator NOT and <i>m4</i> -(<i>hai6</i>)	34	35	5
Total		97	85	19

- Patterns (numbers in tokens):

Patterns	Head-initial order			Head-final order		
	(i)	(ii)	(iii)	(i)	(ii)	(iii)
Code-blending with Cantonese head	1	n/a	n/a	n/a	n/a	n/a
Code-blending with HKSL head	3	n/a	n/a	5	11	6
Code-blending with blended head	23	9	n/a	12	38	7

Other patterns of code-blending with blended heads			
	(i)	(ii)	(iii)
Null Complement	37	25	4
Code-blending of HKSL V-CANNOT with Cantonese V-m4-dou3	7	n/a	1
Portmanteau construction, derived from HKSL grammar	11	2	n/a

- All the adults' production follow the prediction in Section 4.
- CC's productions mostly follow the predictions in Section 4. There are a few violations (n = 3) in which a HKSL head is followed by a code-blended complement, i.e. Head-initial order. Such pattern violates the HKSL grammar as well as the code-blending grammar in HKSL-Cantonese deaf adults.

3. Head-complement order of HKSL and Cantonese TP and NegP

Phrases	Head-initial order	Head-final order
TP	Can: TP T Comp HKSL: Comp T	
NegP	Can: NegP Neg Comp HKSL: Comp Neg	

4. Head-complement order of HKSL and Cantonese code-blending in TP and NegP

Patterns	Head-initial order	Head-final order
Code-switching	Can: TP/NegP T/Neg Comp HKSL: Comp T/Neg	Can: TP/NegP Comp T/Neg HKSL: T/Neg
Code-blending with Cantonese head	Can: TP/NegP T/Neg Comp HKSL: Comp Comp	
Code-blending with HKSL head		Can: TP/NegP Comp T/Neg HKSL: Comp T/Neg
Code-blending with blended head	Can: TP/NegP T/Neg Comp HKSL: T/Neg Comp	Can: TP/NegP Comp T/Neg HKSL: Comp T/Neg

7. Concluding remarks

On null complement:

- Both HKSL and Cantonese allows null complement. The patterns found in code-blending with blended heads selecting null complement follow the grammar of both languages.

On the code-blending of V-CANNOT with V-m4-dou3

- The surface form follows both grammar, i.e. speech follows Cantonese grammar while signing follows HKSL grammar.
- Further syntactic analysis is required on how this kind of structure is derived. Is it Cantonese verb-raising or HKSL based generated complement-head order?

Universal explanation of code-blending and code-switching

- Similar to code-switching in previous studies (including our analysis on HKSL-Cantonese code-switching), functional head determines the head-complement order.
- Adults' productions follow our predictions. In Section 4.
- Most child's productions follow the adult grammar.

Child's violations

- CC adopted the use of HKSL head in head-initial order which violates the adult code-blending grammar.
- This can be explained by some form of syntactic transfer at different domains.

