Language interaction in emergent grammars: Evidence from children's code-switching in Estonian and English

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Outline

- Background: Why children's code-switching?
- Data: CS utterances from diary on 2 bilingual children
- Analysis of utterances:
  - ❖ Do children adhere to the constraints posited for adult CS (Myers-Scotton & Jake 2000)?
  - ❖ Is there evidence for online construction of complex morphology in early acquisition?
- Results:
  - System Morpheme Principle
  - (Morpheme Order Principle)
  - Online construction of holistic forms
- Implications

Background: MLF model

- Languages in code-switching are distinguishable.
- Asymmetry between Matrix language and Embedded language > Matrix Language Frame (Myers-Scotton 2002, 2005, M-S & Jake 2000, Bolonyai 2000)

  "It is only in the bilingual clause that the grammars of both languages are in contact and [...] the basic hierarchical opposition [...] between the matrix language and the embedded language makes any sense."

  (Myers-Scotton 2005: 329

Predictions from the MLF/4M model

- Asymmetry: Matrix Language structures the bilingual clause
- Distinction bw content, early and late system morphemes

1. System Morpheme Principle

   only Matrix Language (late system) morphemes indicate grammatical relations within mixed (ML + EL) constituents

2. Morpheme Order Principle

   morpheme order will follow Matrix Language in mixed constituents

3. ML Blocking Hypothesis

   filter blocks insertion of EL content morpheme incongruent with ML morpheme.

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Background: Interaction

Another view:

- Once two languages are used together in bilingual conversation, they interact
  - Both languages influence each other; linguistic knowledge is not a steady state, but dynamic (De Bot 2004, Backus 2014, Backus & Verschik 2012, M. Vihman, 2016)
- Not always possible to identify a Matrix Language (Auer & Muhamedova 2005)
- Same process underlying code-switched utterances and structural transfer (e.g. Johanson 2002)

Background: Children's Speech

- We can't always see process or knowledge underlying output:
  - e.g. does it reflect knowledge of co-occurrences or more abstract generalisations?
- During bilingual acquisition, abstraction of regularities can be seen in innovative constructions.
- Bilingual children may mix languages differently than adults,which can be revealing for:
  - constraints on code-switching, linguistic development and cognitive processes underlying speech production

Background: Children's Code-Switching

- Quantitative & qualitative differences in CS in practice:
  - Proficiency (Poplack 1980, Meisel 2004)
  - Age
    - *Grammatical deficiency hypothesis* (Meisel 2004)
    - Function words mixed more in early CS (Vihman 1985, Deuchar 1995)
    - Predicate mismatch more than argument (Deuchar & M. Vihman 2005)
  - Age of acquisition (Backus 1996, Deuchar et al. 2014)
  - Also individual differences, e.g. between siblings (M. Vihman 1998)
- Myers-Scotton's constraints
  - French-English bilinguals aged 2;0-3;6 (Paradis, Nicoladis & Genesee 2000)
  - Least adherence to SMP: 82% overall, shows development

Data

- Bilingual Estonian-English siblings (two girls) living in Estonia, aged:
  - M: 6;6 – 8;3 and K: 2;10 – 4;7
- Diary data gathered during everyday activities by myself (their mother).
- 600 examples of mixed utterances:
  - 85% come from younger sibling, K (2-4 years old)

Data in context

- Same languages as in Vihman (1985, 1998), but sociolinguistic context is different.
  - OPOL: Mother speaks English, father Estonian w. children
  - Estonian common parental language, FT day-care, school
  - English-language entertainment and educational media available & abundant
- Children often prefer to speak English with each other
- Language dominance is not easy to assess
- Diary study: no frequency information
  - Proportion of examples with Estonian inserted in English ML says nothing about frequency, only observer bias.

Estonian and English

- Dissimilarities > potential structural conflict
  > potential innovation

	ENGLISH	ESTONIAN
Argument structure marked by	Word order (SVO, rigid)	Case-marking (SVO, flexible; OVS possible)
Morphology	Limited, Mostly affixal	Rich, Affixes and stem changes
Negation	Finite V + NEG	NEG + V
Adpositions	Preposition + N	N + Case ending N + Postposition

Verbs

- Verbs > lower rates of code-switching (CS) than nouns.
  - central role in argument structure
  - functional information and morphological complexity
- Predicates are treated differently from arguments in early word combinations (Deuchar & Vihman 2005)
- CS verbs can be very telling.
- Matrix Language Frame, 4M model and Differential Access Hypothesis (Myers-Scotton): clear predictions regarding integration of CS verbs.

System morphemes on finite verbs: Embedded verbs with ML inflection

1. Today we **võimle**-d at preschool
   [do-gymnastics-PAST*]* (K, 3;8.15)

2. When the big boy **kalju**-s [yell-s] in the bathroom then my friends can't sleep. (K, 3;5.7)

3. Bazoo [=cat] **tagurda**-d. Like this.
   [went-backward-PAST*]* (M, 7;9.17)

4. Issi kui me käisime arstis
   siis ma **choose-**isin selle **sparkly** konna. (K, 3;9.14)

   'Daddy when we went to the doctor's then I **chose** [choose-PST.1sg] this **sparkly** frog.'

Embedded verbs with null inflection

a. You ***kleebi-ø*** *[stick]* the wings on. 3;10.2

b. Jät-ø *[leave]* some for me too! 3;8.24

jät(t) < jät-ma BUT verb stem & imp. form is *jäta*

c. When we do the *õppimise [learning]* thing, when we ***õpi-ø*** *[learn]* then we don't go upstairs 3;10.16

d. I ***jät-ø*** *[leave/left]* some for M... because she's hungry 3;8.24

- Best analysed as following English morphology or lacking morphology? (NB ex. d).

SMP violation:
EL verbs with EL inflection

5. Jüri ***kliimusta-s*** my hand when we were going
   [scratch-3sg.PST] outside. (K,3;10.16)

6. Mommy, [...] when I was there,
   Vanaema ... ***korista-s***... the *tänav*.
   [granny] [clean-3sg.PST] [street.nom]
   'Grandma cleaned the street' (K, 3;9.21)

7. I knew daddy's letter but our teacher .
   ikka **õpeta-s**
   still teach-3sg.PST (K, 3;9.21)
   'our teacher still taught [it to us].'

SMP compromise strategy?
Blended morphology

8. We **are** **mängi-n** **peitust** with the **karu**
play-**n** hide-and-seek.PAR bear (K, 3;5.10)
'We are playing hide-and-seek with the bear'

9. I wasn't hitting you, I was **koputa-n** (K, 3;5.24)
knock-n
'…I was knocking'

Is this a 1st-person marker mixed with English progressive?

10. Why you're **kirjuta-n**, Mommy? (K, 3;5.25)
write-n

V. Vihman (in press)

SMP compromise?
Blended morphology

Phonological reorganisation of linguistic resources:

'taga ajama' = phrasal verb ['drive+behind'] > chase

11. K: This is a bad plate because

this guy is **aja-n** **tema taga**

chase-n him

Mom: *What is he doing?*

K: He is **aja-ing** **tema taga**

chase-ing him. (K, 3;5.17)

V. Vihman (in press)

Interaction in emergent morpheme inventory?

- Morphemes on EL Estonian verbs in English MLF draw on both languages for about 6 months.
- Limited set of inflections on CS verbs which:
  - phonologically suit Estonian verbs,
  - match existing Estonian V-morphemes,
  - while being selected according to similarity with English morphemes and grammatical functions:

-d > PAST (-ed), -s > 3sg PRES (-s), -n > PROG (-ing)

Interaction in morpheme inventory?

More blended morphology?

12. Õue-s dark (K, 3;4.9)

Garden/outside-ine

'It's dark outside'

-s = inessive (locative) case ending and

-s = English copula

Determining the ML

13.

the **hiiglane** **aja**-d **juttu** with daddy

giant.nom carry/drive talk.par

(K, 4;0.11)

✓ ‘juttu aja-ma’ = ‘chat, have a conversation’ (phrasal verb)

Determining the ML

13. After the dinosaurs came then a **hiiglane** [giant] sat on the green couch with daddy and
the **hiiglane aja**-d **juttu** with daddy
and daddy was talking with the **hiiglane**.

(K, 4;0.11)

✓Within clause ML=Est (SMP violation), but within discourse context ML=Eng, no violation

Getting lost

- 'Get lost' = *eksi-ma (ära)*
  - *Ära:* perfective particle 'away/up/out'
- Lexical gap/lexical retrieval:

14. They were the wrong people. They had . um . gotten … **Nad eksi-sid ära**

they get-lost-3pl.pst PRF

(M, 7;9.23)

Getting lost

- 'Get lost' = *eksima (ära)*
- *Ära:* perfective particle 'away/up/out'
- Three days later, referring to same incident:

15. he was **ära** (=ära) **eksinud** .
PRF gotten-lost.past-participle
he **eksi-s** **ära**. he **eksi-d** **ära**.
got-lost PRF got-lost PRF
(K, 4;2.5)

Predictions from the MLF/4M model

- Only finite verbs bear inflectional morphology from other language

> "...Code switching also provides good evidence that Jackendoff's semi-productive elements are based on single units in the mental lexicon; they are *not constructed on line*.
>
> The evidence is that *Embedded Language nonfinite verb forms*, especially for the participles, from different languages *always appear as holistic units* in code switching."
> (Myers-Scotton, 2005: 333)

Participles: holistic forms?

16. When your eyes are *kinni* ***seo-tud*** *[tied-up]* then you can't see. And then you break piñatas and then you get candy! (K, 3;4.27)

17. Now Katie's necklace is ****tee-dud*** [> *'teh-tud'*].
made-PRT (K, 3;6.2)

18. Now it's even more ****mur-dud.*** [> *'mur-tud'*]
broken-PRT (K, 3;11.8)

19. You should've ***told-en** us earlier (M, 7;3.20)

Participles constructed online

20. Kribu [the cat] ate a drumstick that was ***jät*-en** over 3;6.5
    - ✓ *jäta* [leave] + Eng '-en' suffix pro 'left' over

21. Ma jätsin pildi mida ma ei ***finish***-onid lasteaeda
    I left picture what I NEG -**PART** at-preschool
    I left a picture that I didn't finish at preschool. 3;11.3
    - ✓ Estonian Neg Past form is NEG + ACTIVE PAST PARTICIPLE

22. That thing is ***riputa*-d** on the tree.
    [hang-ed*]*

- ➢ Vihman (1998) also reports form ***wreck*-*itud***
- ➢ Violations of Myers-Scotton's prediction: suggest that participles can also be constructed online.

Morpheme Order Principle: Violations

- OVS in English ML:

23. Mommy vihmaussikesed eat birds!
earthworms (K, 2;11.21)

- Presentational/existential XVS in English ML:

24. In this tall grass be sisalikud and froggies sometimes
lizards (K, 3;3.7)

Morpheme Order: Non-CS contexts

- XVS in English clause, no Estonian words

  25. Very beautiful is that table now! (K, 3;4.4)

  26. That's very beautiful, nice and straight is it (K, 3;4.25)

- Preverbal O in English clause, no Estonian

  27. Not always your song I want to sing, Mommy (K, 3;6.22)

  28. [Can we choose one more?]
  Let's pretend that this one chose daddy. (M, 7;8.24)

Summary: embedded verbs

- Embedded verbs appear with:
  - zero marking (well- & ill-formed ML constructions)
  - morphology from EL *or* ML
  - a blend, where both EL & ML constrain forms used
- Both finite and nonfinite forms can take bound morphemes from EL or ML
- Morpheme order violations occur in CS clauses and clauses without CS

Implications

- Individual differences may affect children's CS more than adults'
  - Less attuned to community norms
  - Less developed knowledge of morphosyntactic system
- SMP violations may be developmental, and more prominent in early CS (as suggested in Paradis et al. 2000)
- MLF framework is useful, but has limits: analysis can reveal interaction of various kinds
  - Not always possible to determine ML
  - Examples where morphemes themselves show interaction
  - Structural transfer may be related to same processes as CS

Thank you **kuulamast**!

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