The role of language dominance for syntactic and phonological transfer into L3 English

L3 Workshop: Multilingual Language Acquisition, Processing and Use Poznán, 6-7 May, 2017

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Overview

1. Background:
   - Heritage speakers in L3
   - Language dominance
2. Our study
3. Results
4. Discussion
Our focus

L3 transfer in early bilinguals (Italian-German)

Comparing transfer across domains (syntax vs. phonology)

The potential role of language dominance
L3 in heritage speakers (HSs)
What is a heritage language?

“A language qualifies as a heritage language if it is a language spoken at home or otherwise readily available to young children, and crucially this language is not a dominant language of the larger (national) society. Like the acquisition of a primary language in monolingual situations and the acquisition of two or more languages in situations of societal bilingualism/multilingualism, the heritage language is acquired on the basis of an interaction with naturalistic input and whatever in-born linguistic mechanisms are at play in any instance of child language acquisition.”

(Rothman 2009: 156)
Some L3 studies using heritage speakers

Main observations:

- Transfer often seems to occur from **typologically closest** and **dominant** language (e.g.: Sağin Şimşek 2006, Iverson 2009, Kupisch et al. 2013, Giancaspro et al. 2015, Lloyd-Smith et al. 2016)

- Positive transfer from **HL** has been related to **bilingual balance** or **use** (e.g., González-Ardeo 2001, Gabriel et al. 2014, 2015)

- Transfer may occur from both L1s **depending on phenomenon** (Westergaard et al. 2016)
L3 studies using HSs

Possible assumptions for HSs:

1) **Language dominance** may be the driving force for transfer
2) The source may depend on the **domain** of investigation
Measuring language dominance

Consensus

• Proficiency should be measured in both L1s
• Dominance measure should provide “relative weight” between languages (Montrul 2015)

Varied approaches

• Use of objective proficiency measures, or
• Self-reported aspects of exposure/use (e.g. BLP, Birdsong 2012)
• Both?

In this study, we use a an objective proficiency measure (vocab task)
Transfer across domains

“[T]he mechanisms underlying crosslinguistic influence will vary according to the linguistic domain under investigation [...] For example, it is obvious that syntactic CLI may require at least some explanatory principles that are quite different for those operating in phonological CLI”

(Sharwood Smith and Kellerman 1986: 7)
Domains of investigation

(I) Syntax: Embedded wh-questions
  • Displays asymmetry across the 3 languages

(II) Phonetics-phonology: Accent rating
  • Phonetic-phonological CLI is operationalized as perceived accentedness (Wrembel 2012; Lloyd-Smith, Gyllstad & Kupisch 2016)
Research questions

1) Does transfer stem from one or both languages?
2) Is this the same for the domains of syntax and phonology?
3) Does the transfer source relate to degree of bilingual balance?
**Selected L3 models**

<table>
<thead>
<tr>
<th>Model</th>
<th>Prediction</th>
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<tr>
<td><strong>Typological Primacy Model</strong></td>
<td>Wholesale transfer from <strong>one</strong> language at <strong>initial state</strong></td>
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<tr>
<td><strong>Linguistic Proximity Model</strong></td>
<td>Selective, structurally-based transfer from <strong>either/both</strong> languages</td>
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<tr>
<td>(Westergaard et al. 2016)</td>
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<tr>
<td><strong>Scalpel Model</strong></td>
<td>Selective transfer from <strong>either/both</strong> languages (affected also by, e.g., input, use, complexity).</td>
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<td>(Slabakova 2016)</td>
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2. OUR STUDY: Participants

Bilinguals
• 21 Italian-German bilingual university students (mean age=23)
  – Simultaneous (n=7)
  – Successive (n=14)

Controls
• 10 monolingual English NS students (mean age = 30)
• 10 monolingual German NS students (mean age = 23)
• 10 monolingual Italian NS students (mean age = 23)
**Methods**

1. **Dominance measure:**
   - Y/N vocabulary task in Italian & German (50 real words, 25 non-words)
   - Words appear on screen, participants vote by mouse click

2. **Syntactic transfer measure:**
   - Acceptability judgement task (48 stimuli)
   - Stimuli presented acoustically, participants vote by mouse click

3. **Foreign accent measure:**
   - 51 speech samples à 10 seconds (21 bilinguals + 30 monolingual controls)
   - Rated for accent strength and accent origin (32 NS raters)
Syntax task: main test conditions

(1) Italian transfer condition (ITC) (n=6)

* Julia doesn’t know where went Lukas

Giulia non sa dove è andato Luca.
G. NEG know-3SG where AUX.3SG go-PTCP-MSG L.

(2) German transfer condition (GTC) (n=6)

* Julia doesn’t know where Albert last week was

Julia weiß nicht, wo Albert letzte Woche war
J. know-3SG NEG where A. last-ACC.FSG week-ACC.FSG be-IMPF-3SG

(3) Control items and fillers (n=36)
- Grammatical in English, ungrammatical in Italian
- Grammatical in English, ungrammatical in German
- Ungrammatical in all languages
3. Results: Y/N vocabulary task

**Italian vocabulary**

![Box plot for Italian vocabulary in bilingual and IT_mono groups]

**German vocabulary**

![Box plot for German vocabulary in bilingual and GE_mono groups]
Results: Y/N vocabulary task

Bilingual dominance

Score VSPT

German

Italian

Language

06.05.2017
Syntactic and phonological transfer into L3
Results: Syntax

% errors per condition

- **Bilinguals**
  - GTC: 26.8%
  - ITC: 26.6%

- **L1 German**
  - GTC: 16.6%
  - ITC: 26.6%

- **L1 Italian**
  - GTC: 33.3%
  - ITC: 29.1%
Errors per condition (bilinguals)
Dominance and ITC

- No relation between dominance and transfer from Italian (ITC)
English Vocab vs. English Syntax

Highly significant relation between vocab and overall syntax scores in English

($\beta=0.85$, $SE=0.21$, $t=4.05$, $p=<0.005$)
Results (II): Foreign accent

Accent rating task

- 51 samples (21 bilinguals + 30 monolingual controls)

- Rated by 32 English NSs for:
  1) Foreign accent strength (1=No foreign accent; 7=Strong foreign accent)
  2) Origin of accent (German, Italian, English, Other)
Mean accent strength (1=no FA; 7 = strong FA)
Determine the speaker’s L1

Rater accuracy

- **L1 English**: 94%
- **L1 German**: 77%
- **L1 Italian**: 52%
- **Bilinguals**

Legend:
- EN
- GE
- IT
- OTHER
Determine the speaker’s L1

Bilingual profile

- **L1 English**: 94%
- **L1 German**: 77%
- **L1 Italian**: 52%
- **Bilinguals**: 66%
- **Other**: 20%

Languages: EN (English), GE (German), IT (Italian), OTHER
Origin of accent: Bilinguals vs. Germans

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<tr>
<th></th>
<th>L1 German</th>
<th>L1 Italian</th>
<th>Other</th>
</tr>
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<tbody>
<tr>
<td>Bilinguals</td>
<td>66%</td>
<td>9.8%</td>
<td>20.8%</td>
</tr>
<tr>
<td>L1 Germans</td>
<td>77%</td>
<td>2.6%</td>
<td>15.3%</td>
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Dominance and perceived accent source

- No relation between dominance measure (Italian vocab) and source of accent
Dominance profiles

Strong Italian

Weak Italian

Sound Italian

Sound German

6

7

5

3
Highly significant correlation between English vocab and accent strength (t=3.41, df=19, p<0.005) (cf. Wrembel 2012)
Summary of results

Syntax
• Syntactic transfer appears to stem from both L1s in equal measure
• Bilinguals behave like L1 Italians
• Unrelated to dominance

Foreign accent
• Phonetic-phonological transfer is predominantly German
• Related to dominance on a group level
• Unrelated to dominance on an individual level
Research questions

1) Does transfer stem from one or both languages?
   - From both languages

2) Is this the same for the domains of syntax and phonology?
   - It doesn’t appear to be:
     - Syntax: transfer occurs in equal measure from both languages
     - Foreign accent: predominantly from German (cf. Lloyd-Smith et al. 2016)

3) Does this relate to degree of bilingual balance?
   - Not for syntax
   - Only on a group level for foreign accent
Discussion

Why the difference between domains?

- **Syntactic representations** are active and _equally available_ in both languages, irrespective of dominance/relative balance.

- For _foreign accent_ it could be that dominance of one language has an impact on the other language.

- This is consistent with findings in early bilingual acquisition, where _phonology_ seems to be _more affected by acceleration, delay and transfer_ (see Kehoe 2015 for an overview) than syntax (see Kupisch, forthcoming for a comparison).
Thank you!

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Selected references


