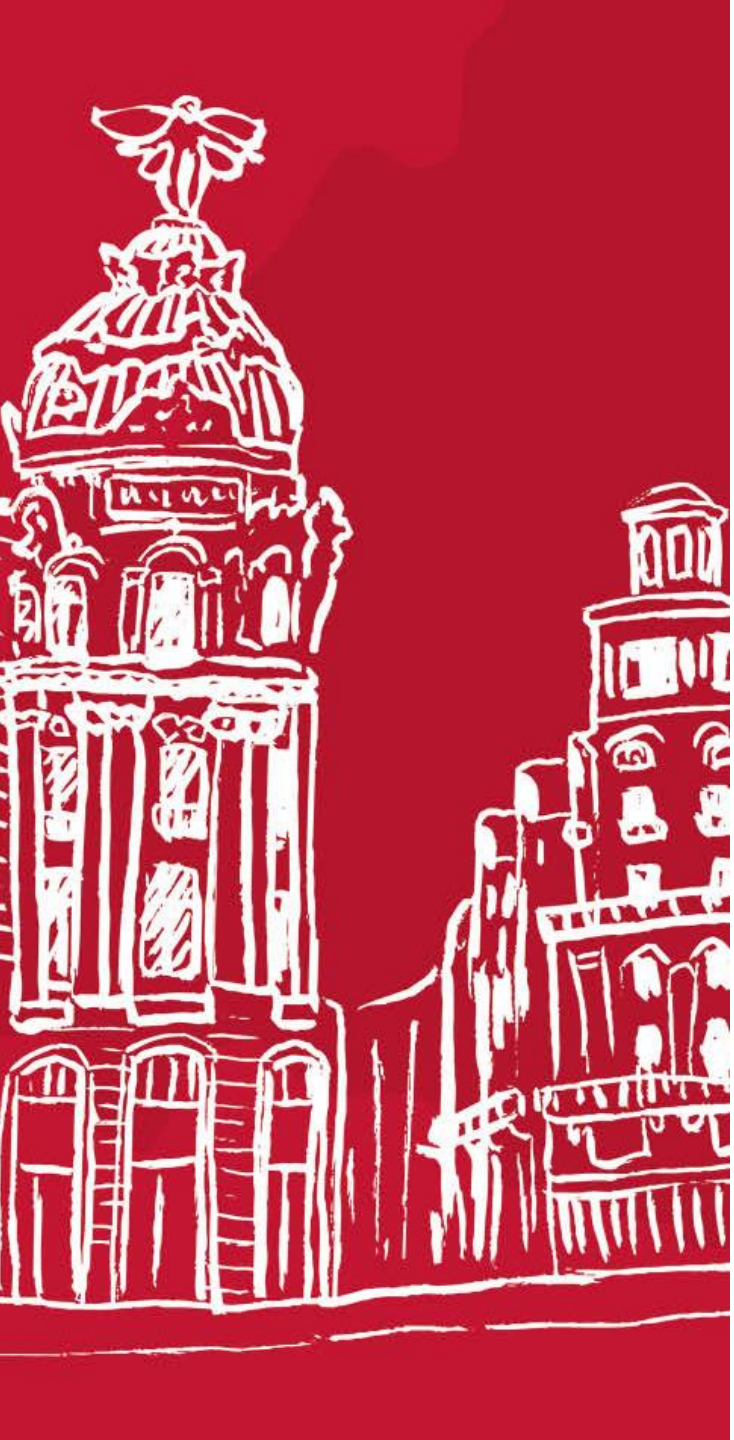

Two languages – single parser: Russian-English code-switching

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Abstract TALK48

Theoretical motivation

Processing experiment:

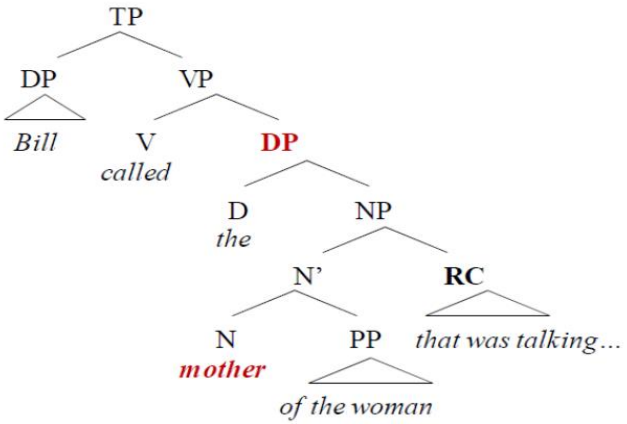
- whether there are universal parsing principles that allow L2ers to operate both their languages in a code-switched sentence
    - Code-switching is typical for balanced bilinguals:
        - a cognitive state the result of which is code-switching
        - a manifestation of bilingual competence *(a surface manifestation of I-language, López 2018)*
- whether L2ers develop this bilingual competence

Linguistic Target

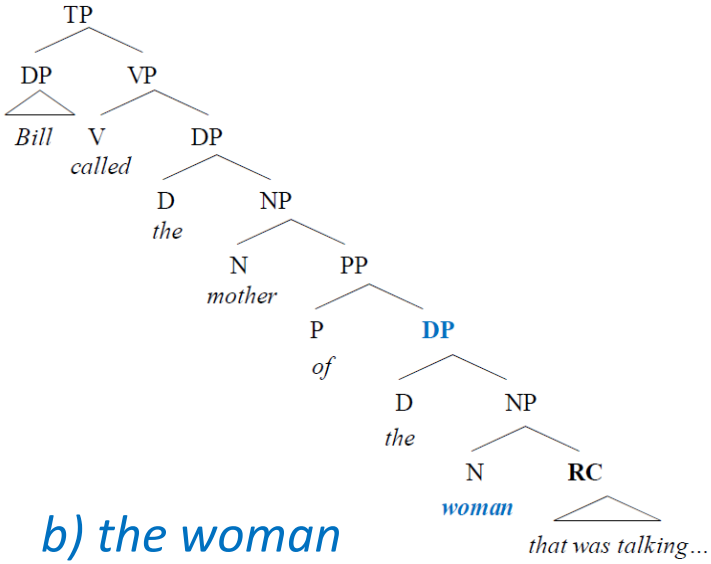
Bill called the mother of the woman [RC that was talking about cosmetics]

Who was talking about cosmetics?

a) the mother



b) the woman



a) the mother

Russian
Spanish
Italian
French

b) the woman

English
Norwegian
Swedish
Romanian

Implicit Prosody Hypothesis

Bill called the mother of the woman
that was talking about cosmetics

HA: Bill called the mother of the woman prosodic break that was talking …

(Russian)

LA: Bill called the mother prosodic break of the woman that was talking …

(English)

(Fodor 2002)

- L2ers are sensitive to the prosodic organization of their L2 *(Dekydtpotter et al. 2008)*

What prosodic structure would a RC with code-switching adopt?

Does the placement of CS force a prosodic break that shapes RC resolution?

Predictions: RC with code-switching

- bilinguals adopt the parsing strategy typical of the last language they read

  (Valenzuela et al. 2013)

- switching into the non-dominant language is costlier than into the dominant one (L2 Spanish and Simultaneous Bilinguals)

  (Valenzuela 2018)

RC with code-switching demonstrates the following pattern:

Rus → *Eng* = *LA*

Eng → *Rus* = *HA*

Code-switchig Rus → Eng is costlier

Stimuli (1)

Implicit Prosody Hypothesis (Fodor 2002)

- Bill called the mother of the woman
  that was talking about cosmetics in the yard.
  (forces HA-pause) predicted answer: the mother

- Bill called the mother
  of the woman that was talking about cosmetics in the yard.
  (forces the LA-pause) predicted answer: the woman

Direction of code-switching:

L1 → L2: 50% stimuli start in Russian

L2 → L1: 50% stimuli start in English

Stimuli (2)

Sentence Length

- Bill called *the mother of the woman that was talking about cosmetics in the yard.*

- Bill called the mother of the woman that was talking about cosmetics *in the yard.*

Russian length	*English length*
predicted answer: the mother	predicted answer: the woman

Direction of code-switching:

L1 → L2: 50% stimuli start in Russian

L2 → L1: 50% stimuli start in English

Participants

Russian-English L2 learners

N	Age	Exposure to L2, yeas	Daily use of L2, hours	C-test, %
14	20 (19-20)	13.5 (11-17)	3.5 (1-8)	78 (63-90)

Proficiency:

63-80 % in C-test – Intermediate

80-90 % in C-test – Advanced

Data Analysis

Self-paced reading experiment administered via IbexFarm

General pattern of RC resolution in code-switched sentences

- Noun choice: Pace of CS * Direction of CS * Proficiency
  - GLMM with bionomial destribution
  - HA is a reference category

Processing costs of code-switching

- Reading Time : Pace of CS * Direction of CS * Proficiency.
  - GLMM at noun1, noun2, the complemetizer, the last word
- Response Time: Pace of CS * Direction of CS * Proficiency
  - GLMM

Results: RC attachment

HA (the mother) is a reference category

CS_pause, $p < .05$

Estimate 0.90122 *Std Error* 0.37287 *z-value* 2.417 *Pr(>|z|)* 0.01565 *

	HA_pause	LA_pause	Rus_length	Eng_length
RC-resolution	22%	15%	22%	28%
Rus → Eng	22%	15%		
Eng → Rus	22%	15%		

Place of CS * Proficiency, $p < .01$

Estimate -2.08727 *Std Error* 0.76173 *z-value* -2.740 *Pr(>|z|)* 0.00614 **

	Intermediate, $p < 0.5$	Advanced, $p < 0.5$
Eng_length	39%	17%

Results: Processing effect of CS

Bill saw *the mother of the woman that was talking in the yard*

↑

Rus/Eng_length, $p < .05$

RT at noun 1:

Eng → Rus = 687 ms

Rus → Eng = 447 ms

Code-switching into dominant language is costlier

Results: Processing effect of CS

Bill saw the mother *of the woman that was talking in the yard*

↑

(LA_pause), $p < .06$

RT at noun 2:

Eng → Rus = 688 ms

Rus → Eng = 446 ms

Code-switching into dominant language is costlier

Results: Processing effect of CS

Bill saw the mother of the woman *that was talking in the yard*

↑

(HA_pause) $p < .05$

RT at complementizer:

Eng → Rus = 557 ms

Rus → Eng = 670 ms

Code-switching into NON-dominant language is costlier

- ambiguity of *that* in English

Results: Processing effect of CS

Bill saw the mother of the woman that was talking *in the yard*

↑

(Rus/Eng_length) $p < .05$

RT at noun *yard*:

Eng → Rus = 454 ms

Rus → Eng = 351 ms

Code-switching into dominant language is costlier

Discussion

Russian-English L2ers:

- RC resolution in code-switched sentences favors LA
- RC resolution in code-switched is sensitive to the prosodic structure prompted by the place of code-switching
- Code swithing into the dominant language is costlier than in the non-dominant one
  - Exception: the complementiser *that*
- Respose Time is not affected by direction or placement of code-switching

Conclusion

L2ers develop bilingual competences that allow them to process sentences with code-switching

The processing do not depend on language dominance (proficiency) or on the direction of code-swithing

Thank you very much for your attention!