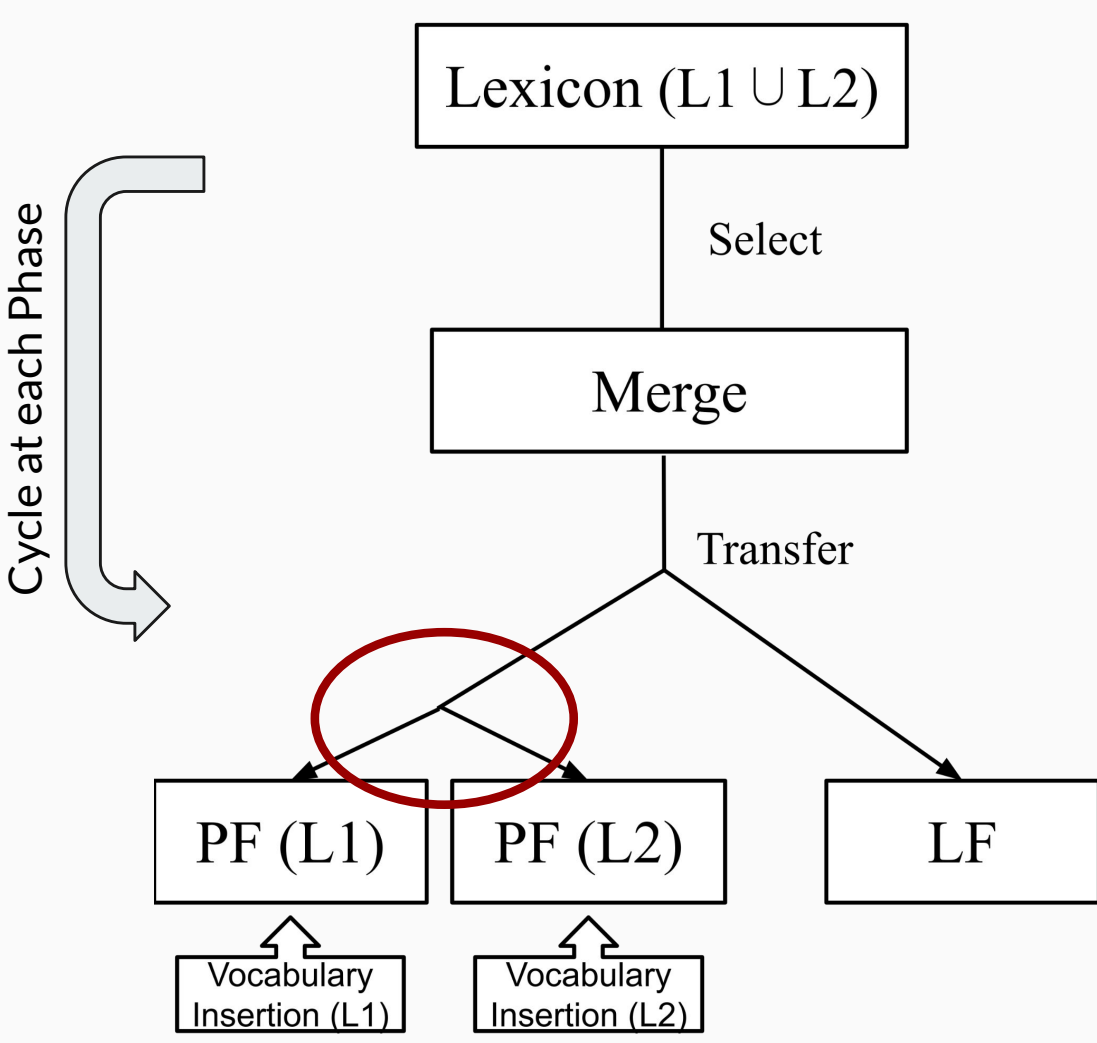


Mapping intra-sentential code-switching (ICS) at PF

Bilinguals maintain language-specific phonetic targets and phonological processes, even when code-switching, suggesting that they represent two phonological systems [1-3].

Under this assumption, the derivation of an ICS sentence must be divided between two PF components, as in the model of bilingual grammar below.

Can any unit of derivation be divided between two PFs? Is there a unit that must be transferred wholly to a single PF component, blocking code-switching within it?



López et al. 2017's hypothesis: *ICS by Phase*

Each **Phasal spell-out domain** must be sent to one PF, blocking ICS within it.

López et al. attribute a contrast between ICS after a **wh-phrase** (1) and after a **complementizer** (2) to the features of C modulating transfer.

- (1) Ich weis nicht, [CP welches Buch [TP Juan compró]]
I know not which book Juan bought. Ger/Spa
- (2) *Eduardo denkt [CP que [TP Elena schreibt sich]] ...
Eduardo thinks that Elena Registers SELF

We investigate an alternative:

ICS by prosodic phrase: ICS cannot occur within a prosodic phrase.

Methodology

- We report acceptability patterns collected across **3 auditory judgement studies**, each including two tasks: one switching from Hebrew to English, and one from English to Hebrew.
- The materials targeted multi-word ICS, to avoid confusion with borrowing, and were pre-recorded by a Hebrew-American English bilingual using natural intonation and no pause at the switch site.
- Each task included 48 early simultaneous Hebrew-English bilingual participants (96 per study).
- Results were analysed using *brm* models.

References: [1] Caramazza et al. 1973, *JASA*; [2] Olson 2019, *J. Phon*; [3] MacSwan 1999, *Garland*; [4] López, Alexiadou & Veenstra 2017, *Languages*; [5] Koronkiewicz 2014, *UIC*; [6] Kratzer & Selkirk 2007, *Linguistic Review*; [7] Cheng & Downing 2012, *McGill*; [8] d'Alessandro & Scheer 2015, *LI*; [9] Bošković 2016, *Linguistica*.

ICS at the CP edge

Embedded declaratives (n=12)

ha-melcarit hodi'a {še-/that} the restaurant is closing soon
the-waitress announced that

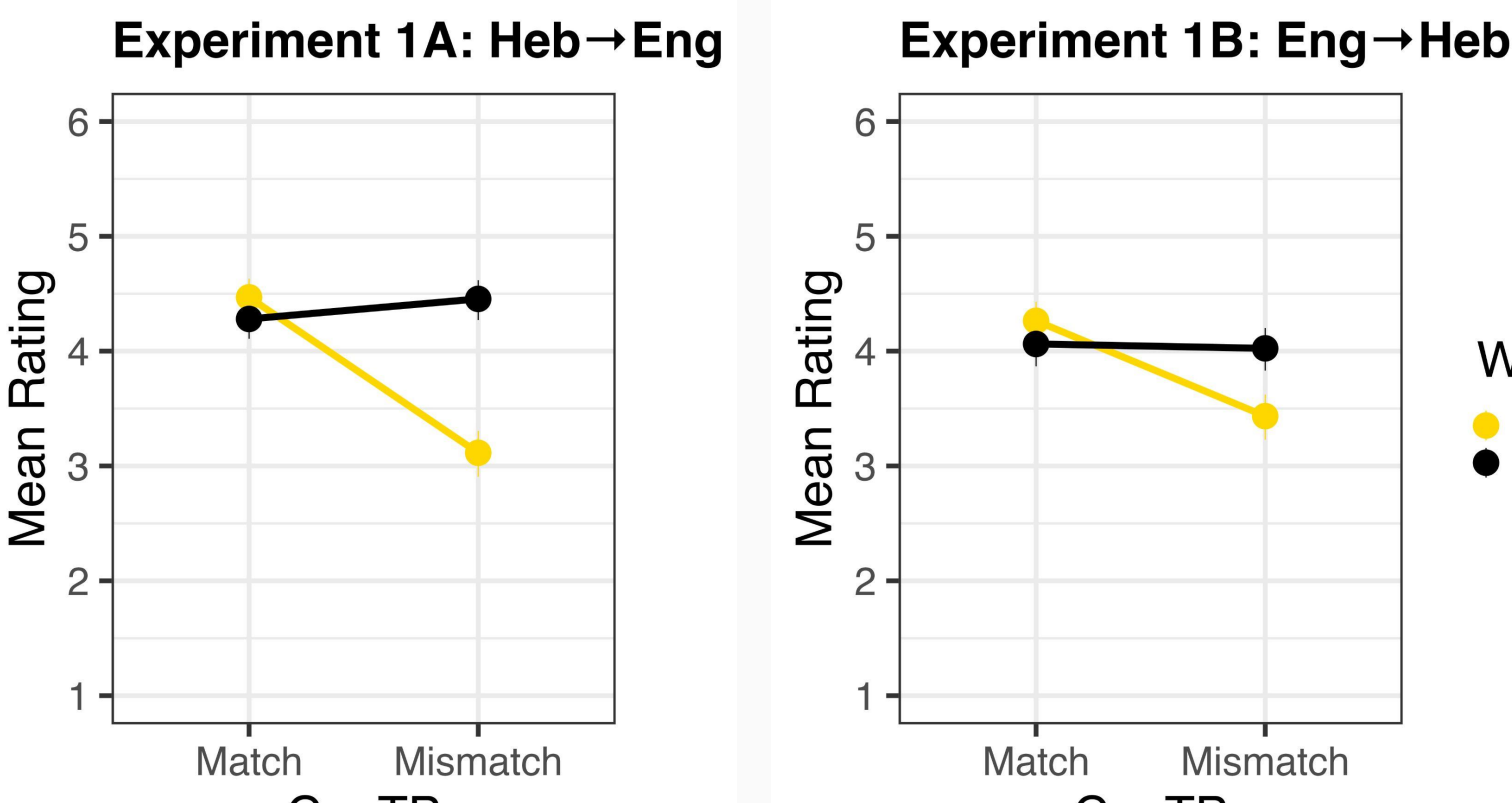
1A	C+TP Match	4.39 / 6	Est.	E	Err	95% l	95% u
	C+TP Mis.	3.99 / 6	0.38	0.18	0.02	0.74	
1B	C+TP Match	4.23 / 6	Est.	E	Err	95% l	95% u
	C+TP Mis.	4.02 / 6	0.22	0.11	-0.01	0.44	

A 'that' complementizer should match the language of the embedded clause.

Embedded interrogatives (n=24)

ha-mazkira badka {mi/who} is supposed to come in today
the-secretary checked who

ha-mazkira badka {eize mitlamed/which intern} is supposed to come ...
the-secretary checked which intern



A bare *wh*-word should match the embedded clause; a lexical *wh*-phrase need not.

Exp 1A– match × *wh* type:

Est.	Est	Err	95% l	95% u
0.33	0.05	0.22	0.43	

Exp 1B– match × *wh* type:

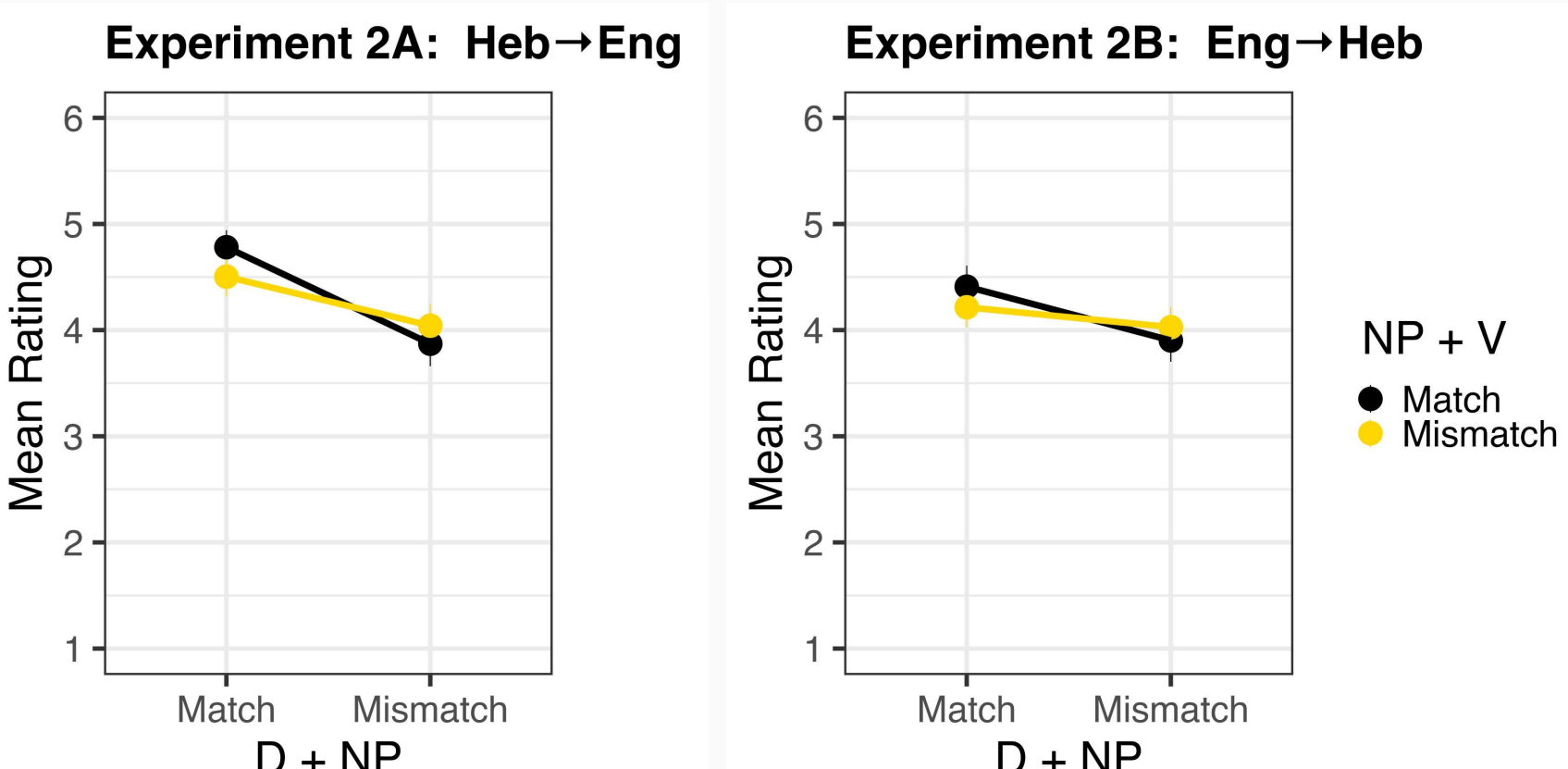
Est.	Est	Err	95% l	95% u
0.16	0.05	0.06	0.26	

ICS at the DP edge

D+NP: {mismatch/match} (n=24)

NP+V *In my opinion, {the/ha-} nose šel ha-xibur dey šanui be-maxloket*
the-topic of the-essay bit lies in-debate

NP+V *In my opinion, {the/ha-} nose šel ha-xibur is a little controversial*
the-topic of the-essay



A determiner should match the language of its complement NP.

+ this preference was somewhat stronger when NP+V matched

Exp 1A– D+NP match:

Est.	Est	Err	95% l	95% u
-0.28	0.07	-0.41	-0.14	

Exp 1B– D+NP match:

Est.	Est	Err	95% l	95% u
-0.13	0.05	-0.23	-0.03	

ICS with pronominal subjects

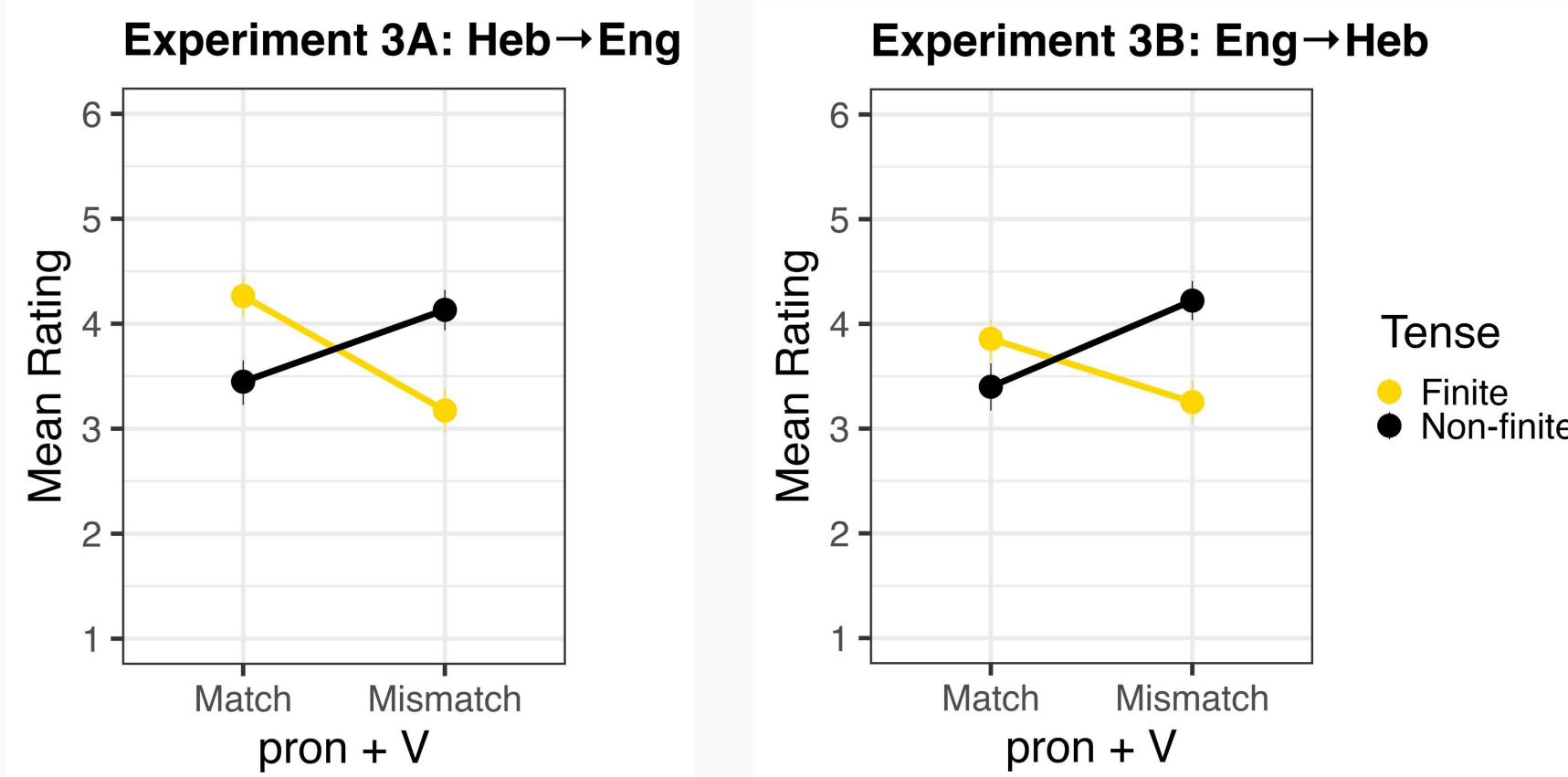
Koronkiewicz (2014): ICS after a weak pronominal subject is unacceptable, while strong pronouns (cleft, stressed, modified...) allow ICS. This suggests the ban on ICS with a pronominal subject is prosodic.

Q: Does phasal spell-out modulate the element the subject must match in language?

pron+V: {mismatch/match} (n=24)

Finite *The teacher saw [{that they/še-hem} meramim ba-bxina]*
that-they cheat in.the-exam

Nonfin *The teacher saw {them/otam} meramim ba-bxina*
them cheat in.the-exam



In finite clauses, a pronominal subject should match the *embedded* verb in language.
In non-finite clauses, the pronoun should match the *matrix* verb.

Exp 1A– match × tense:

Est.	Est	Err	95% l	95% u
0.36	0.06	0.24	0.49	

Exp 1B– match × tense:

Est.	Est	Err	95% l	95% u
0.28	0.05	0.18	0.39	

Discussion

- Phasal complement domains do not predict patterns on ICS, contra *ICS by Phase* [4].
- Instead, our results motivate a **prosodic restriction** on ICS, wherein prosodically dependent functional material must match the language of its host (incl. complementizers, bare *wh*-words, determiners and pronouns).
- This restriction respects the boundaries defined by full phases, rather than phasal complements, joining independent monolingual prosodic phenomena that pose challenges to the classic version of phase theory [6-9].

? Implementation

VI >> Prosodification

Intra-p-phrase CS cannot be parsed by the subsequent phonology, leading to a crash.
(cf. MacSwan 1999 on intra-word ICS)

Prosodification >> VI

Only one vocabulary component may be accessed at each prosodic phrase.