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ΕΚΠΑ

Correction by focus

Focus constructions and the cross-linguistic variation in phonological form

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Functional Complementarity

The idea that syntax and prosody are complementary in the expression of discourse notions (topic, focus) is recurrent in research on information structure.

- **plastic languages** (variable nuclear accent placement), such as English, use accents for the expression of focus; **non-plastic** languages use syntactic means for the same purpose (Engdahl & Vallduví 1996).
- if focus is **metrically visible** (Germanic), syntactic movement is optional; if not (Romance), syntactic movement is obligatory (Zubizzareta 1998).

Reasoning: syntactic operations must be chosen in the *absence of prosodic possibilities* for encoding certain discourse functions

Functional Complementarity

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- Objection from phonetics

  even languages without pitch accents have various reflexes of focus, e.g., deaccenting, tonal compression, further effects on intensity/duration, etc.; e.g. Xu 1999, Greif 2012, Chen and Gussenhoven 2008, on Chinese.

- Objection from acceptability studies

  Vander Klok, Goad & Wagner (2018): both English and French have prosodic means expressing variation in prominence but use these prosodic devices under different circumstances.

Core question: Do variations in the prosodic marking of discourse prominence arise through cross-linguistic differences:

- in the *potential* of realizing prosodic events or
- in the *value*, i.e., the semantic-pragmatic import, of these events in a specific language?

Cleft constructions

Cleft constructions are a typical example of syntactic construction that is associated with a particular information structure.

(1) A: *Did Mary buy the bicycle?*

B: *No, it's* JOHN *that bought the bicycle*.

pivot — cleft clause

Cleft-focus principle: The pivot (or a part of it) must receive contrastive focus interpretation (Rochemont 1986).

Cleft constructions

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Research on focus (English and further languages) discusses cases with different focus structure (‚informative presupposition clefts' in Prince 1978; topic-comment clefts in Hedberg 1990, further facts in Delin 1992, 1995, detailed discussion in Hartmann 2015).

(2) A: *Joe Wright you mean.*

B: *Yes, yes.*

A: *I thought it was Joe Wright who'd walked in at* FIRST.

(Delin 1992: 293)

Crucially: not necessarily counterexamples; „double" focus structure:

- syntax: pivot invokes excluded alternatives, clefted clause: shared knowledge that somebody walked in first (~ second-occurrence focus)
- prosody: nuclear stress on the (phonological head of) the asserted-information domain.

Cleft constructions

Similar examples in the case of corrective statements - clearer instance of second-occurrence focus (SOF).

(3) A: … *It's John that bought the car*.

B: *No, it is John that bought the* BICYCLE.

Trigger of the cleft construction: **structural parallelism** between the corrective statement and the antecedent statement, which is an instruction to the addressee to identify the relevant statement in discourse (Van Leusen 2004: 437, Clifton & Frazier 2016).

Prosody (Büring 2015, Beaver et al. 2007, Féry and Ishihara 2006, Baumann 2016):

- if the SOF precedes the nuclear accent, it *may* be marked by prenuclear accents;
- if the SOF follows the nuclear accent, it will be most likely deaccented.

Cleft constructions

Research question:

Does the range of contexts in which a syntactic construction (in this case, cleft constructions) occur depend on the prosodic possibilities of a given language?

Study 1: Speech production

Do ‘plastic’ languages (English, German) and ‘non-plastic’ languages (French, Chinese) have prosodic reflexes of focus – under identical contextual manipulations?

Study 2: Contextual felicity

Do ‘plastic’ languages (English, German) and ‘non-plastic’ languages (French, Chinese) use cleft constructions under same/different contextual conditions?

Speech production

Do ‘plastic’ languages (English, German)

and ‘non-plastic’ languages (French, Chinese)

have prosodic reflexes of focus – under identical contextual manipulations?

Factorial design

	subject	object
canonical	INSTRUCTOR: Everyone brought something to the potluck today. Peter brought the bread. PARTICIPANT: **No, [Layla]$_F$ brought the bread today.**	INSTRUCTOR: Everyone brought something to the potluck today. Layla brought the salad. PARTICIPANT: **No, Layla brought the [bread]$_F$ today.**
cleft construction	INSTRUCTOR: Everyone brought something to the potluck today. It's Peter that brought the bread. PARTICIPANT: **No, it's [Layla]$_F$ brought the bread today.**	INSTRUCTOR: Everyone brought something to the potluck today. It's Layla that brought the salad. PARTICIPANT: **No, it's Layla that brought the [bread]$_F$ today.**

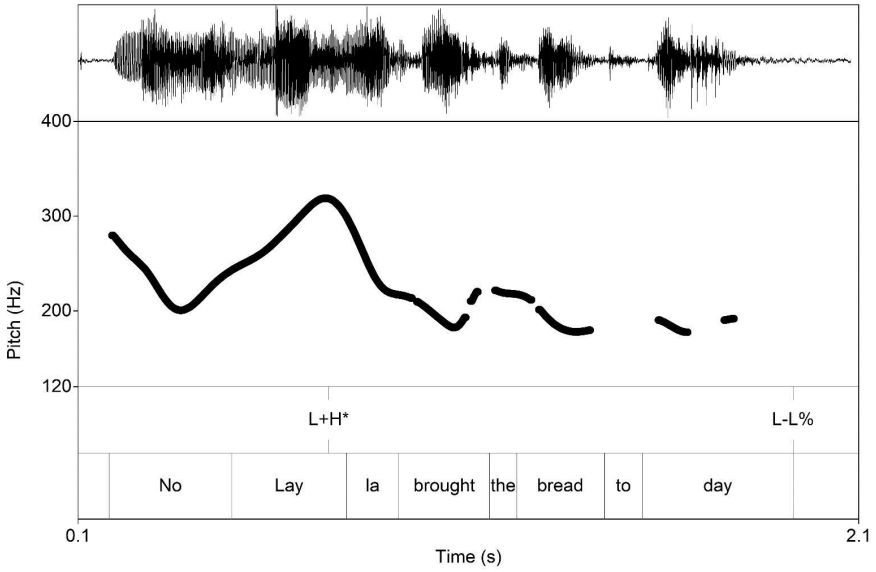
Data

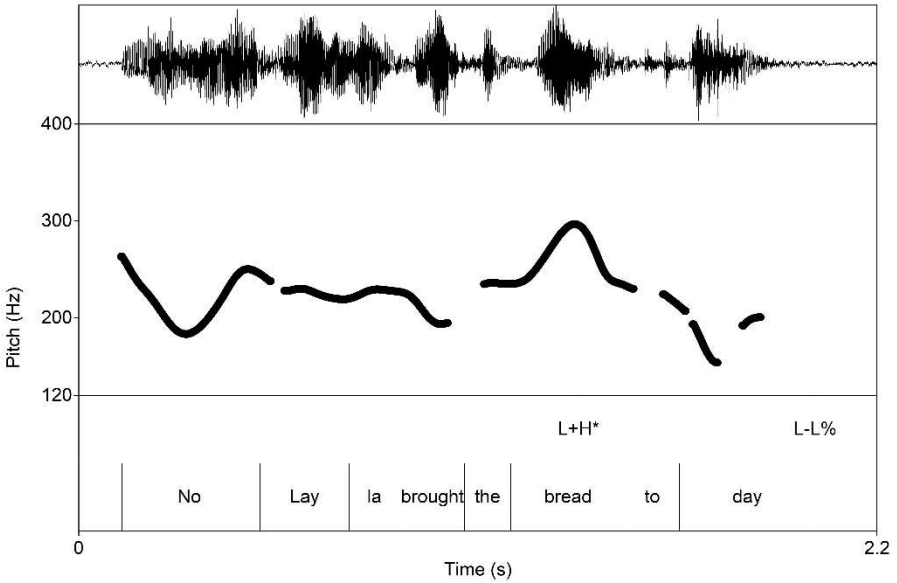
4 items × 16 speakers = 64 tokens per experimental condition (à four conditions: 256 utterances per language).

Experimental items were mixed with fillers in a 1 (target) : 3 (fillers) ratio.

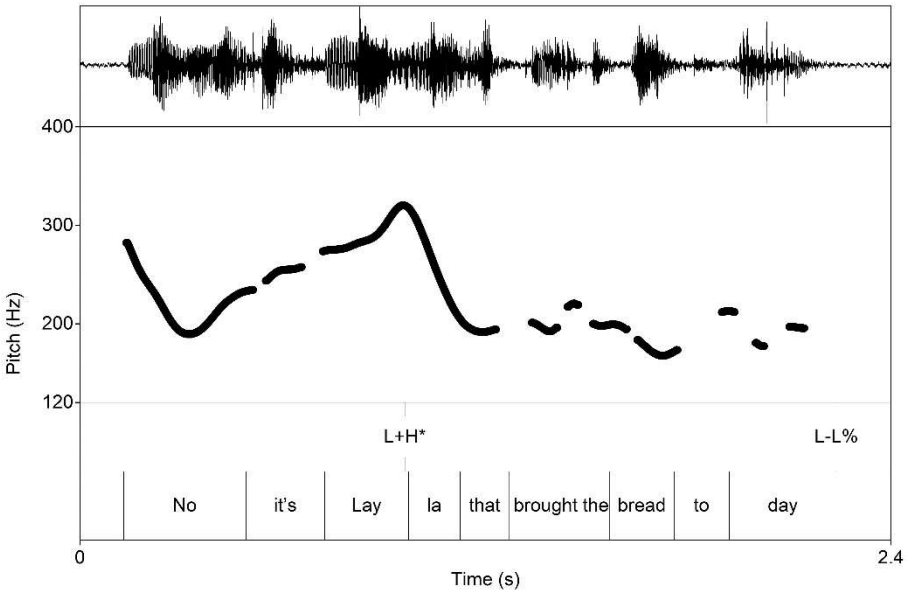
language	**place**	**gender**			**age**	
		F	M	total	range	average
English	London	8	8	16	18-29	22.1
German	Bielefeld	8	8	16	19-34	23.4
French	Lyon	8	8	16	18-44	25.9
Chinese	Beijing	8	8	16	18-24	20.8

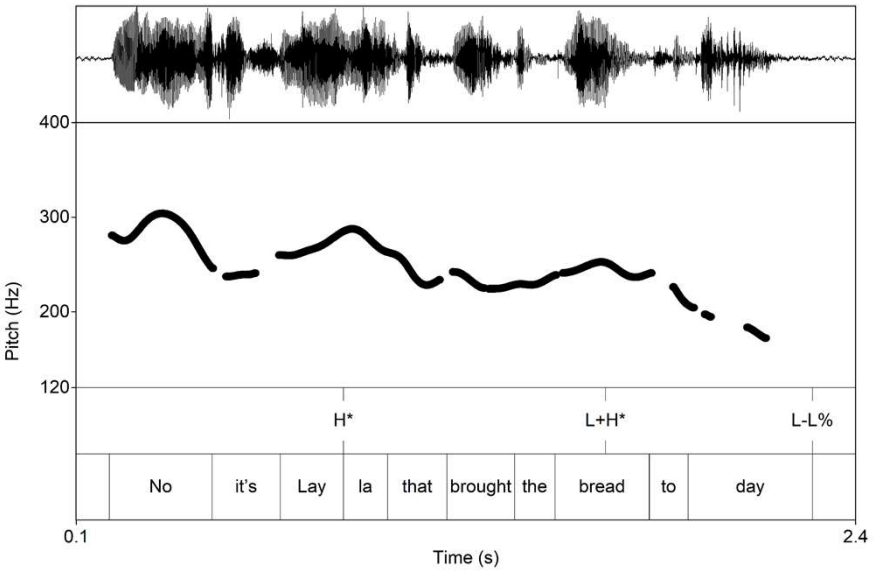
Results: English canonical clauses





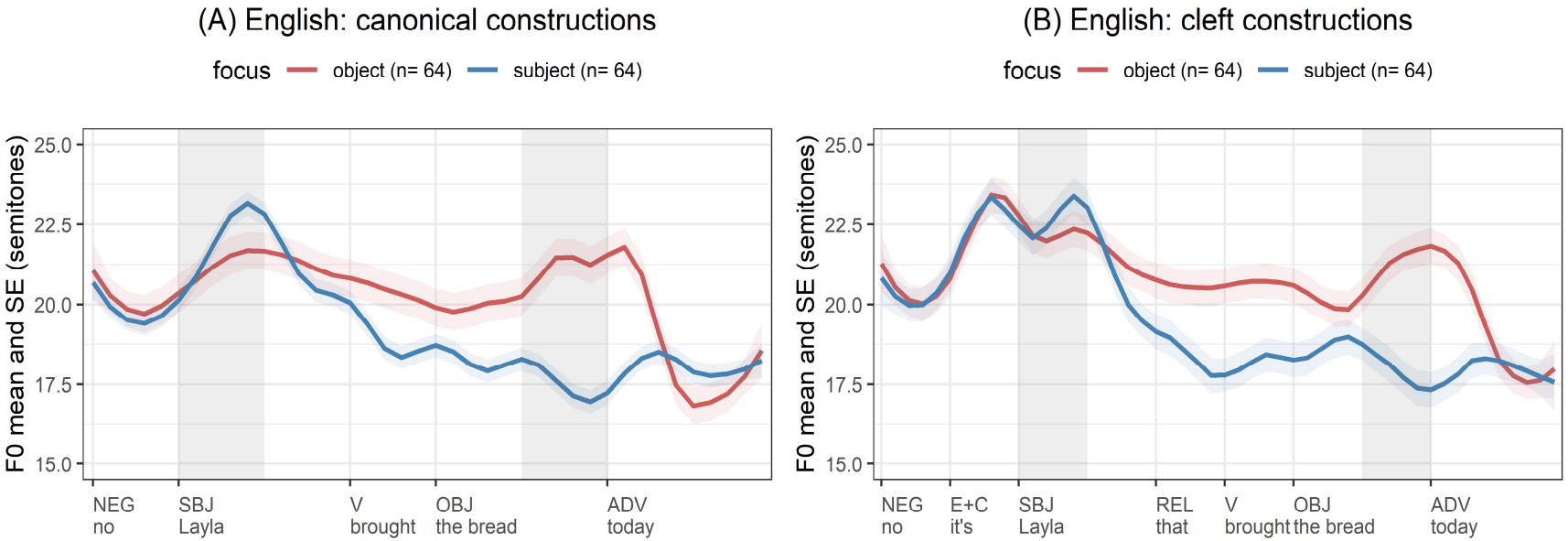
Results: English cleft constructions





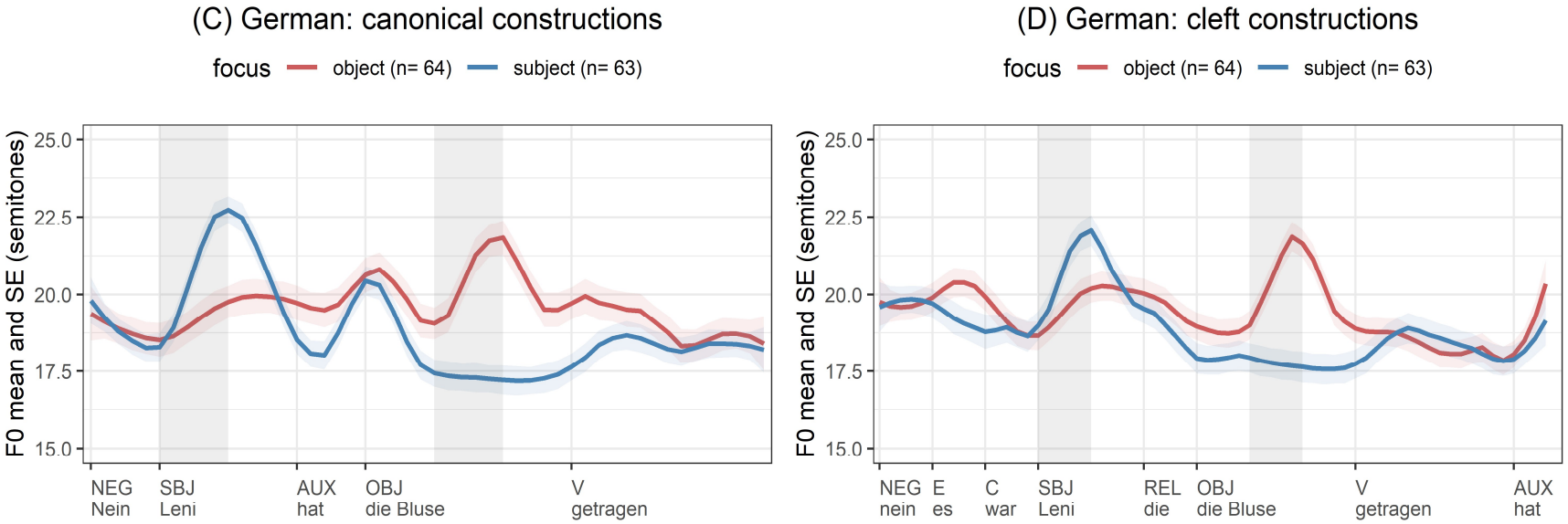
Aggregated results: British English

- major contrast between early focus (on the subject, blue line) and late focus (on the object, red line) - across constructions.
- stressed syllable of the focus (grey cell): rising contour with subject and object foci
- early foci (on the subject): postnuclear domain is clearly deaccented.



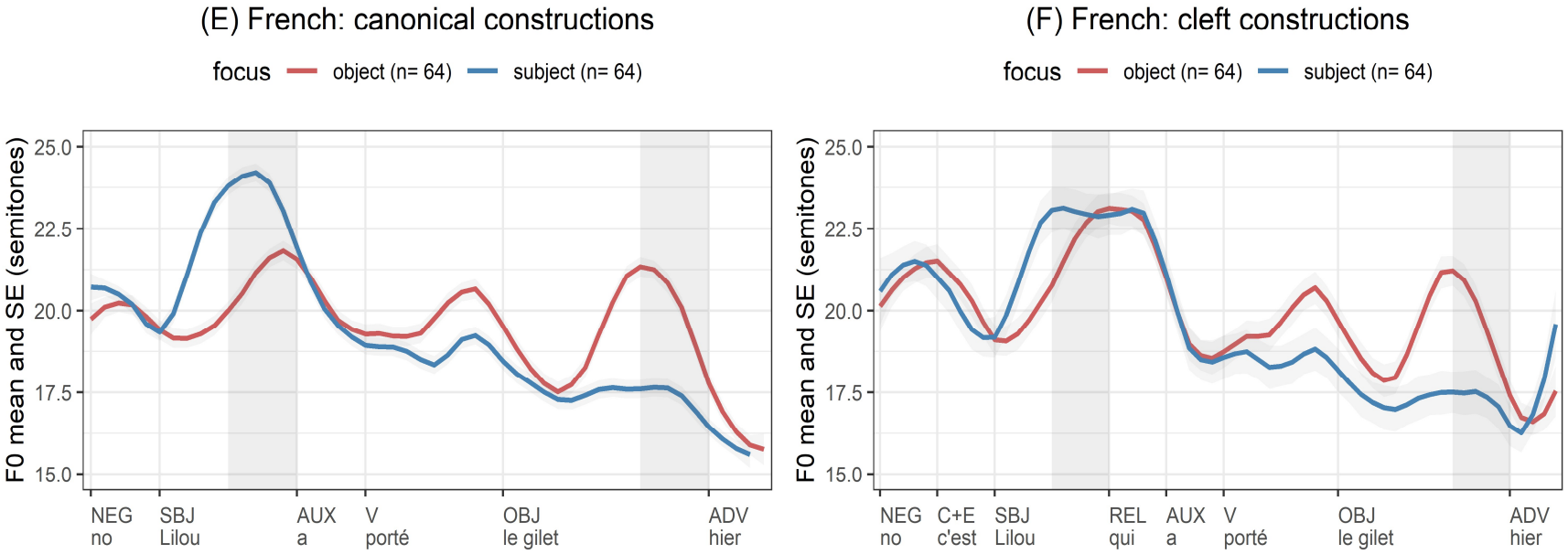
Aggregated results: German

- stressed syllable of the focus: rising; German bi-tonal L+H* for contrastive assertions (Grice et al. 2005: 65, 71, see Alter et al. 2001 on contrast)
- Postnuclear deaccenting, while prenuclear accents optional, also for rhythmical reasons (Baumann and Riester 2013: 20, Féry and Kügler 2008, Féry 2017: 154)



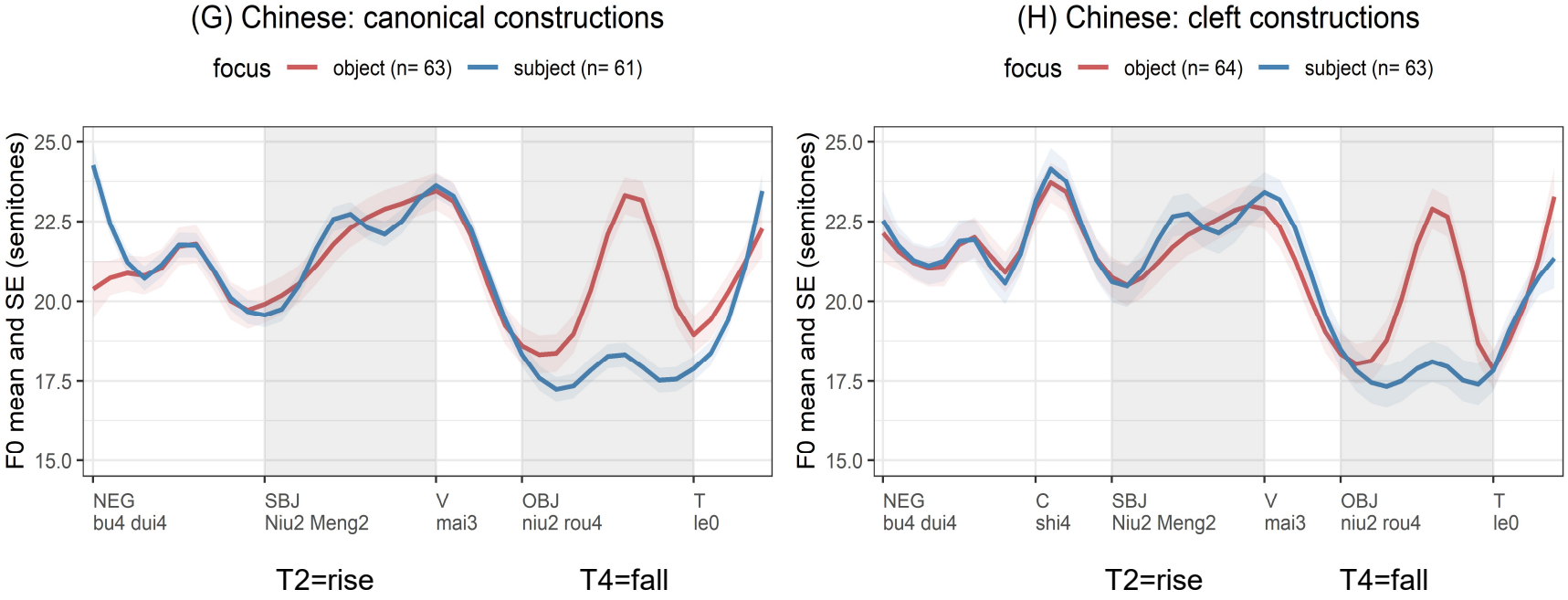
Aggregated results: French

- subject is rising, when the focus falls on the object (red lines); when the subject is focused (blue lines): earlier local maximum; contrastive focus increases the frequency of initial rises (German and D'Imperio 2010).
- Postnuclear deaccenting only partial (Di Cristo & Jankowski (1999: 1567, Jun and Fougeron 2000: 230, Féry 2014)



Aggregated results: non-plastic languages

- Subjects: focus~expansion of the pitch range of lexical tones, with a greater effect on F_0 maxima than F_0 minima (Xu 1999: 69, Greif 2012: 38); distinctness of tonal targets, resembling hyperarticulation effects (Chen and Gussenhoven 2008: 744)
- Objects: T2-T4 results in hat contour (Xu & Wang 2001: 331): reduced pitch range with object focus: postfocal tonal compression. Asymmetry between postnuclear and prenuclear compression similar to familiar languages (see Chen 2010: 520)



Major statistic findings

Fitted linear mixed-effects models on the (semitone transformed) F_0 measurements in each area of interest (subject and object) separately; dependent variable: F_0 mean of a time bin (20% of the syllable)

Subject measurements

All languages: **significant rate effect** of FOCUS (FOCUS × TIME), whose direction is language specific: it is positive with rising accents (English, German, Chinese/first syllable) and negative with falling accents (French). In either case, this effect means that the F_0 change in time is significantly more rapid when the subject is focused.

Various patterns respecting FOCUS × CONSTRUCTION.

Object measurements

All languages: **significant rate effect** of FOCUS (FOCUS × TIME), which is negative in English, German, and Chinese (first syllable), since the baseline of object focus is a rise in these languages, while the same syllables in the postfocal domain (subject focus) are rather flat or slightly falling. No evidence that CONSTRUCTION (canonical vs. cleft) plays a role.

summary

Focus prominence

Accentual prominence of the focus is found in all languages in our sample.

Postnuclear tonal leveling

The postnuclear domain is leveled out in all languages of our sample, either by **deaccenting** (English, German), or by **compressing** the available tonal events (edge tones in French and lexical tones in Chinese).

contextual felicity

Do ‘plastic’ languages (English, German) and ‘non-plastic’ languages (French, Chinese) use cleft constructions under same/different contextual conditions?

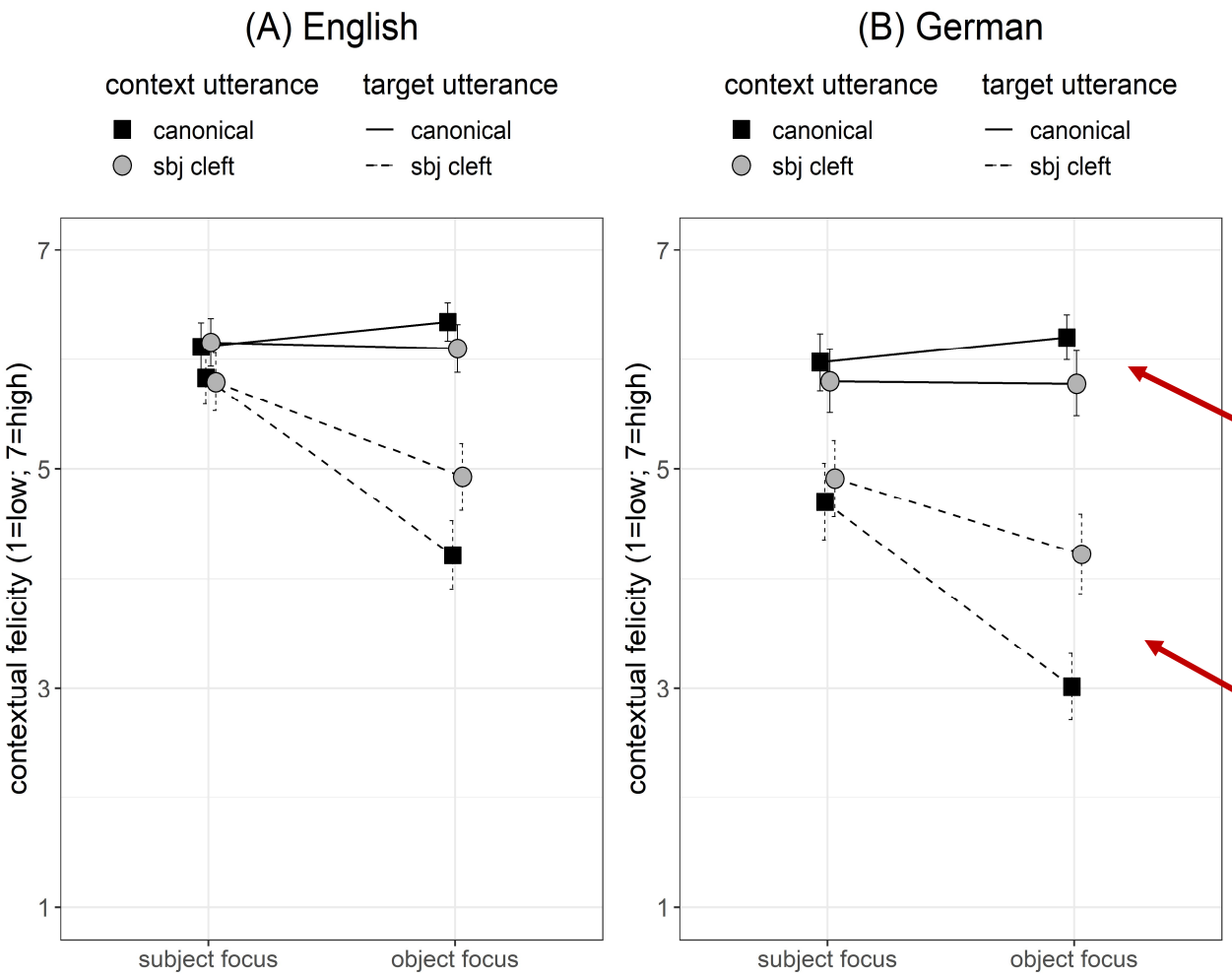
The results of the study on speech production do not predict any cross-linguistic difference.

Factorial design

Procedure: judging the contextual felicity of a target utterance in a context on a scale between **1** (does not fit to the context), and **7** (maximally fits to the context)

		subject	object
canonical		A: *They auctioned off many things today. Peter sold the bicycle*.	A: *They auctioned off many things today. John sold the car*.
		B_1: *No. it's* $[John]_F$ *that sold the bicycle.*	B_1: *No. it's John that sold* [*the bicycle*]$_F$.
		B_2: *No.* $[John]_F$ *sold the bicycle.*	B_2: *No. John sold* [*the bicycle*]$_F$.
cleft construction		A: *They auctioned off many things today. It's Peter that sold the car*.	A: *They auctioned off many things today. It's John that sold the car*.
		B_1: *No. it's* $[John]_F$ *that sold the bicycle*.	B_1: *No. it's John that sold* [*the bicycle*]$_F$.
		B_2: *No.* $[John]_F$ *sold the bicycle*.	B_2: *No. John sold* [*the bicycle*]$_F$.

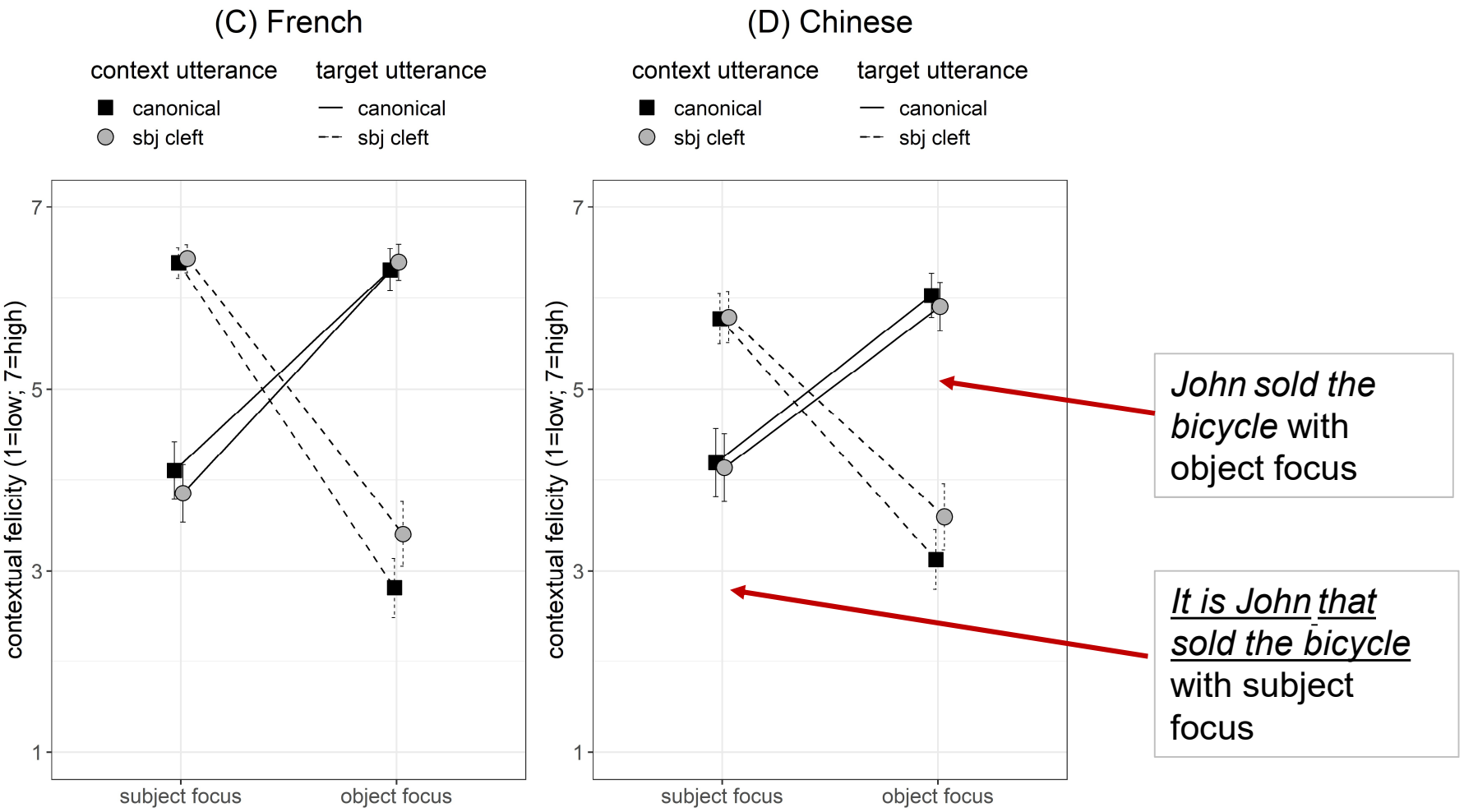
Results: plastic languages



John sold the bicycle fits to any context

It is John that sold the bicycle
Sbj > Obj focus
Aligned > Non-aligned with the context

Results: non-plastic languages



John sold the bicycle with object focus

It is John that sold the bicycle with subject focus

Statistical findings

(on the differences, cleft construction minus canonical construction)

	factor	β	SE	t	p (<)	log-lik. test χ^2	p
English	intercept						
	FOCUS(subject)	1.8	0.2	6.9	.001		
	ALIGNMENT(align)	0.9	0.2	3.8	.001		
	FOCUS × ALIGNMENT	-1.1	0.3	-3.4	.01	33.4	.001
German	intercept						
	FOCUS(subject)	1.9	0.2	6.4	1.914		
	ALIGNMENT(align)	1.6	0.2	5.4	1.632		
	FOCUS × ALIGNMENT	-1.2	0.3	-4.1	-1.25	46.5	.001
French	intercept						
	FOCUS(subject)	5.8	0.4	13.1	0.001	57.8	.001
Chinese	INTERCEPT						
	FOCUS(subject)	4.4	0.559	8.1	0.001	33.4	.001

summary

- in all languages, we obtain a significant positive main effect of FOCUS, indicating that cleft constructions with a subject pivot reach a better fit (compared to the canonical constructions) if the subject is focused.
- In German and English, there is additionally a negative interaction effect FOCUS(subject) × ALIGNMENT, which means that the effect of FOCUS is modulated by ALIGNMENT, such that the advantage of canonical constructions is reduced when the last utterance in the context is a cleft construction.

conclusions

conclusions: canonical sentences

Canonical sentences

In English/German, canonical constructions are judged as equally felicitous in subject and object focus contexts. In French/Chinese, canonical constructions are judged to be less felicitous in subject focus contexts.

- English and German: vgl: optionality of cleft constructions (É. Kiss 1998: 268).
- French and Chinese: vgl: constraint against focus on preverbal subjects, Lambrecht 2001: 492, Hamlaoui 2007; experimental studies show that focused subjects are mostly clefted in speech production, Destruel 2013: 162, Destruel 2016: 310); SVO to topic-comment articulation and specificity effects of SVO in Chinese (Huang et al. 2009: 200).

conclusions: cleft constructions

Cleft constructions

Across languages: the felicity of subject clefts increases if the pivot is focused.

In English/German, but not in French/Chinese, the contextual felicity of cleft constructions with a focus in the cleft clause increases when the context motivates the use of the cleft construction (in our manipulation by structural parallelism in correction).

conclusions: constructions

Bleaching?

- Previous studies have shown that the cleft constructions in French/Chinese occur in a wider array of contexts than cleft constructions in English/German (French: Skopeteas & Fanselow 2010, Destruel and De Veaugh-Geiss 2018, Lambrecht 2001; Karssenberg and Lahousse 2018) and Chinese (Paul and Whitman 2008: 426; Von Prince 2012: 342). These comparisons could lead to the conclusion that cleft constructions are **semantically bleached** in French/Chinese and not so in English/German, such that they appear in a wider array of contexts in the latter type of languages than in the former.
- However, our findings identify a type of context in which the array of contexts of English/German clefts are not a proper subset of the array of contexts of French/Chinese clefts. A **view from prosody** accounts for the wider distribution of clefts in subject focus contexts: if the subject cleft is the only means to focus a subject, as it is in French and Chinese, then it follows that this will appear in any context in which the subject is expected to be accented

conclusions: typology

- These results corroborate the view that languages without pitch accent flexibility show significant prosodic effects of focus; see Vander Klok et al. (2018) on reflexes of different types of focus in French, Greif (2012) and Ouyang and Kaiser (2015) for the impact of corrective focus in Chinese as well as Yan and Calhoun (2019) for effects of prosodic prominence in Chinese on interpretation (invoking alternatives).
- Prosodic events that we obtained by phonetic analyses have distinct semantic-pragmatic import. While focus is marked with the presence or absence of distinct accentual events in English and German, focus in French and Chinese has an effect on rendering salience to tonal contrasts that are motivated otherwise (edge tones of prosodic domains in French that are not restricted to focus expressions or the tonal targets that are associated with lexical distinctions in Chinese). The cross-linguistic differences: it seems that the possibility of determining the discourse function of a prosodic domain is easier with events of the pitch accent type than with further phonetic reflexes of focus.

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