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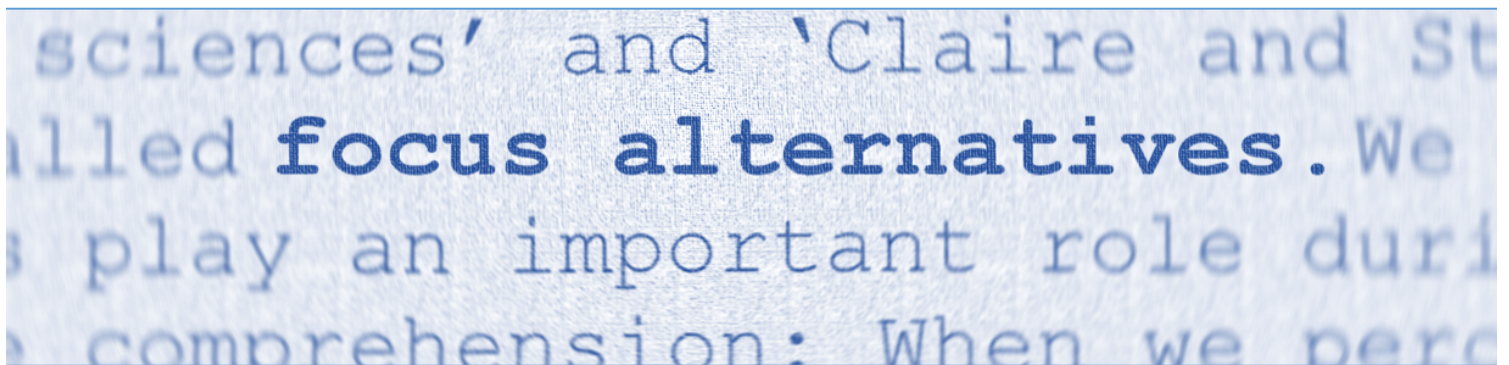


WORKSHOP

Focus Alternatives:

Theoretical and Empirical Perspectives

Conference Booklet



Keynote Talk:

Bettina Braun (University of Konstanz)

The workshop is hosted by the Department of German Language and Linguistics, Humboldt-Universität zu Berlin and supported by Katharina Spalek's project "Focus alternatives in the human mind: Retrieval, representation, and recall" which receives funding from the European Union's Horizon 2020 research and innovation programme under grant agreement No GAP-677742.

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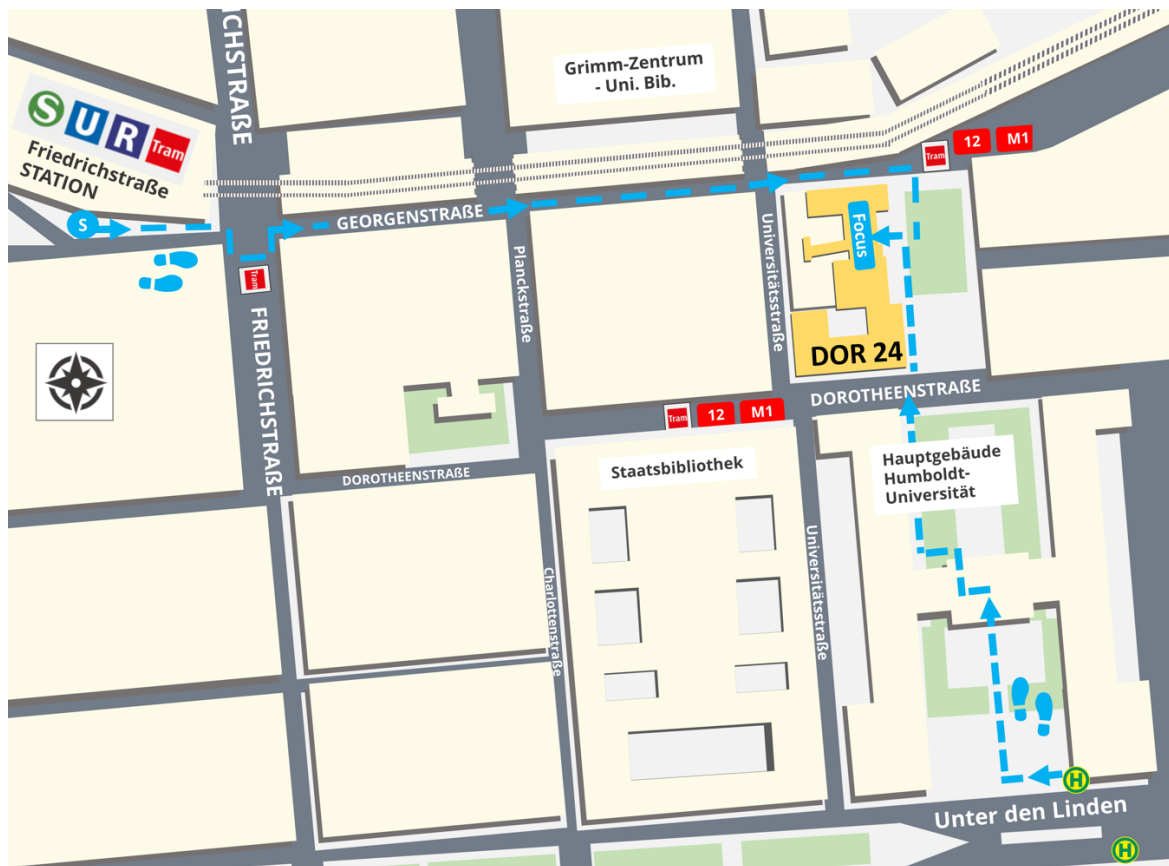
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Venue & Directions

Lecture building: Dorotheenstraße 24, 10117 Berlin (entrance via Hegelplatz)

Lecture hall: room 1.101 (house 1, 1st floor, talks)
room 1.102 (posters & coffee breaks & lunch)



The nearest stations are **Staatsoper** (bus lines: 100, 245 and 300) **S+U Friedrichstraße** (S-Bahn: S1, S2, S25, S26, S3, S5, S7, S9, U-Bahn: U6, tram: 12 and M1, bus: 147 and regional trains: RB1, RB14, RB21, RB22, RE1, RE2, RE7).

Programme

Thursday, February 27th

08:30 – 09:00 **Registration: room 1.102**

09:00 – 09:30 **Welcome and introductory discussion**

Katharina Spalek

09:30 – 10:30 **Keynote Talk: The role of pitch accent type and focus-sensitive particles on the activation of contrastive alternatives**

Bettina Braun

10:30 – 11:00 **Coffee break**

11:00 – 11:30 **Focus alternatives and the German particle ‘auch’**

Laura Dörre & Christine Dimroth

11:30 – 12:00 **Re-opening QUDs: Which alternatives play a role?**

Mira Grubic & Marta Wierzba

12:00 – 12:30 **‘Locus semantics’: Broadening alternative semantics beyond focus**

Mia Wiegand

12:30 – 14:00 **Catered lunch**

14:00 – 14:30 **Hungarian structural focus: Accessibility to focused elements and their alternatives in working memory and long term memory**

Tamás Káldi, Ágnes Szöllősi & Anna Babarczy

14:30 – 15:00 **Focus marking strategies in polar questions in Macedonian**

Izabela Jordanoska & Erlinde Meertens

15:00 – 15:30 Sentence-final particle and cleft exhaustivity – Towards an experimental investigation

Jun Chen, Daniel Hole & Diego Frassinelli

15:30 – 17:00 Postersession with coffee

1 Pre-verbal focus in Turkish: An eye-tracking during reading study

İpek Pınar Uzun, Seçkin Arslan & Özgür Aydın

2 Focus markers, focus alternatives and attachment

Katy Carlson & David Potter

3 Grammatical constraints on focus alternatives? The case of phi-features in Czech

Radim Lacina & Matthew Husband

4 The interpretation of sentences with the focus particle ‘only’ in Italian-learning children

Chiara Boila, Tom Fritzsche, Jacopo Torregrossa & Barbara Hoehle

5 Children’s sensitivity to focus effects: Hebrew ‘rak’ (only) vs. ‘tamid’ (always)

Oshrat Moshe-Zaviv, Sharon Aromon-Lotem & Yael Greenberg

6 Inclusive ‘only’ in German

Laura Dörre & Andreas Trotzke

7 Widening and exhaustifying alternative propositions in multiple wh-exclamatives

Natalia Zevakhina & Ilmira Bainazarova

8 Focus and topic propositions in *why* questions, an experimental study on Italian

Francesco Beltrame

9 The effects of focalization on Italian doubly quantified sentence

Riccardo Pulicani

10 More than the intervention effect in Korean *why* constructions

Myung Hye Yoo

11 Two kinds of broad focus in polar questions

Beste Kamali

19:30

Workshop Dinner

Picoteo – Restaurant and Tapas-Bar

Erkelenzdamm 47, 10999 Berlin

Friday, February 28th

09:00 – 09:30 Processing restrictive particles with different sets of alternatives

Britta Stolterfoht & Daniel Hole

09:30 – 10:00 Focus and split readings with negative indefinites

Dominique Blok

10:00 – 10:30

Coffee break

~~10:30 – 11:30~~ **Keynote Talk: Focus syncretisms and (un)alternatives – A cross linguistic perspective**

~~*Daniel Büring*~~

10:30 – 11:30 Focus alternatives in the human mind: Retrieval, recognition, and recall - Projekt aims, methodology and findings up to now

Katharina Spalek

11:30 – 12:00 Summary and conclusions

Katharina Spalek

12:00 – 13:30

Catered lunch

Keynote Talk

The role of pitch accent type and focus-sensitive particles on the activation of contrastive alternatives

Bettina Braun

Department of Linguistics, University of Konstanz, Germany

In the information-structure literature, focus is generally defined as a constituent that corresponds to the open proposition in the context. In the semantic literature, narrow focus is defined in terms of the presence of alternatives that are relevant for interpretation (e.g., Krifka, 2008). This semantic definition is close to what many researchers associate with the notion of "contrast". In fact, the relation between the categories focus and contrast is not entirely clear (e.g., Repp, 2010). The first part of the paper tests whether participants activate referents that are produced with a contrastive pitch accent (nuclear L+H* as compared to H+L* or prenuclear L+H*). The second part compares the effects of pitch accent to effects of lexical items that presuppose the presence of alternatives (e.g., Büring & Hartmann, 2001). The third goal is to investigate the processing of words that are prosodically marked as contrastive topics, i.e. the ability of prenuclear accents to evoke alternatives (Büring, 1997).

References

- Büring, D. (1997). *The Meaning of Topic and Focus: The 59th Street Bridge Accent*. London: Routledge.
- Büring, D., & Hartmann, K. (2001). The syntax and semantics of focus-sensitive particles in German. *Natural Language & Linguistic Theory*, 19, 221-281.
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- Repp, Sophie. (2010). Defining 'contrast' as an information-structural notion in grammar. *Lingua*, 120(6), 1333-1345.

Talks

Focus alternatives and the German particle *auch*

Laura Dörre & Christina Dimroth
University Münster

Introduction. In a corpus study based on three spoken language corpora, we investigated occurrences of the German particle *auch*. We were mainly interested in two functions of *auch* and their involvement of contextually given alternatives, namely that of the unstressed (see 1), and stressed additive particle (see 2).

(1) Paul hat **auch** [einen Saft]_F getrunken.
Paul has also a juice drank
'Paul drank a glass of juice (and also something else).'

(2) [Paul] hat [**AUCH**]_F einen Saft getrunken.
'Paul drank a glass of juice (and also someone else did so).'

In (1), *auch* precedes its associated constituent that coincides with the focus of the relevant utterance (marked by _F). The associated constituent encodes the variable material in the proposition of the *auch*-clause compared with some other proposition *q* in the context (Reis & Rosengren 1997). By scoping over this constituent, *auch* opens alternatives (e.g., {a glass of water, a coffee, a coke, ...}) to which the associated/focused constituent is added.

In (2), stressed *auch* follows its associated constituent. Like its counterpart in (1) it opens alternatives to this constituent (e.g., {Peter, Hans, ...}), to which the associated constituent is added. In contrast to (1), however, it is not the associated constituent but the particle that carries the focus accent. As a consequence, alternatives to the particle itself are activated and excluded (e.g., {not, only}). Here, we are interested in the alternatives to which the associated constituent is added.

(1) and (2) differ regarding their information structure and are not necessarily mutually exchangeable. While (1) can function as an answer to an underlying *wh*-question, (2) can function as an answer to an underlying polar question. Stressed *auch* in (2) signals that a given property holds for an additional topic (Dimroth et al. 2010, see Reis & Rosengren 1997 for the utterance meaning *likewise*) and that a contrastive reading is avoided (see Schmitz et al. 2018). In line with characteristic properties of discourse topics, we assume a restricted set of alternatives in a given context and therefore hypothesize that there are more easily identifiable alternatives in the case of stressed *auch*. So far, there are no studies investigating the involvement of alternatives in the case of unstressed *auch* compared to stressed *auch*.

There is a third interesting function of *auch*, which is often hard to distinguish from the unstressed additive particle, namely that of the modal particle (see 3).

(3) Paul ist nicht mehr durstig, aber er hat **auch** einen Saft getrunken.
Paul is not more thirsty but he has also a juice drank
'Paul is not thirsty anymore, but this is not surprising, since he drank a glass of juice.'

In (3), *auch* does not associate with a constituent. As a modal particle, it scopes over the whole proposition *p* (Paul drank a glass of juice). Its function as a modal particle is to signal that there is no contrast between *q* (Paul is not thirsty anymore), and *p*, or that *q* is not surprising in the light of *p* (see Thurmair 1989, Schmitz et al. 2018). Crucially, we assume that alternatives are not involved when *auch* functions as a modal particle.

Methods and Results. We searched three corpora based on different transcripts of spoken language. Corpus 1 comprised data of a coffee party with four speakers (FOLK corpus, IDS, data base of spoken language [DGD]), corpus 2 of an oral examination with three speakers (FOLK corpus, IDS, data base of spoken language [DGD]), and corpus 3 of an experimental setting with an oral picture description task (see Dimroth & Starren 2017). Since the modal particle is often hard to distinguish from the additive particle, we only classified whether *auch* was stressed or unstressed. In a next step (see below), we then distinguished between unstressed *auch* as an additive particle and as a modal particle.

In corpus 1, we found 148 occurrences of *auch*: 83 were unstressed, and 51 were stressed (12 were not classifiable; 2 were analyzed as a conjunction). In corpus 2, we found 89 occurrences of *auch*: 72 were unstressed, and 12 were stressed (5 were not classifiable). In corpus 3, we found 71 occurrences of *auch*: 19 were unstressed, and 51 were stressed (1 was not classifiable). A first result thus indicates

that there are fundamental differences between different discourse types and their typical ways of organizing the flow of information.

For each occurrence of the particle, we then classified the involvement of alternatives as either being explicitly mentioned (*[Phraseologismen] werden fest gespeichert im Gehirn und auch reproduziert*; alternative: ‘gespeichert’), as being reconstructable (*[bei der Modifikation] verändert sich auch die Bedeutung*; alternative: ‘die Form’), or as being absent/not easily inferable (*ich glaub ich hab mich da auch verhaspelt*).

In the following, we report the results of the collapsed data over all three corpora. Of the 174 occurrences of unstressed *auch*, 74 involved explicitly mentioned alternatives (43%), 41 reconstructable alternatives (24%), and 59 no alternatives (34%) (see Figure 1). Of the 114 occurrences of stressed *auch*, 83 involved explicitly mentioned alternatives (73%), 24 reconstructable alternatives (21%), and 7 no alternatives (6%) (see Figure 2). For unstressed as well as for stressed *auch*, the three categories differed significantly from each other ($X^2 = 9.41$, $DF = 2$, $p < .01$, and $X^2 = 83.74$, $DF = 2$, $p < .001$, respectively). Crucially, however, reconstructable ($X^2 = 4.45$, $DF = 1$, $p < .05$) and no alternatives ($X^2 = 40.97$, $DF = 1$, $p < .001$) occurred more frequently in the case of unstressed *auch* compared to stressed *auch*.

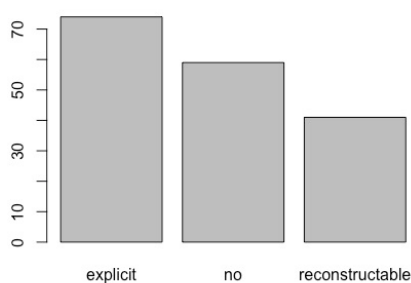


Figure 1. Unstressed *auch* and alternatives (raw data).

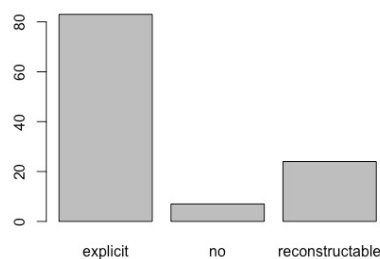


Figure 2. Stressed *auch* and alternatives (raw data)

In a last step, we tried to disentangle the difference between unstressed *auch* functioning as an additive particle and as a modal particle. We based this distinction on three criteria: First, the particle can not be replaced by stressed *auch*. Second, there is no scalar reading involved. Third, the particle is used to avoid a contrast between *p* and a context *q*. For all occurrences of unstressed *auch* that we, based on these criteria, classified as a modal particle, it was the case that no alternatives were present (neither explicitly mentioned, nor reconstructable).

Discussion. In this corpus study, we were interested in the question whether the involvement of alternatives differs between the stressed and unstressed particle *auch* in German. The results indicate that explicitly mentioned alternatives are most common in the case of both variants of *auch*. However, as predicted, it is more common in the case of the stressed additive particle: While the associated constituent of stressed *auch* is preferably related to more easily identifiable alternatives, unstressed *auch* seems to be less restricted in that sense. This is an interesting result that has not been reported so far. Besides other factors, the presence or absence of alternatives can help to distinguish between the unstressed additive particle *auch* and the modal particle *auch*.

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Re-opening QUDs: which alternatives play a role?

Mira Grubic & Marta Wierzba
University of Potsdam

INTRODUCTION: This paper defends a QUD account for additive particles, under which they indicate that a previously (partially) answered question under discussion is ‘re-opened’ in order to add a further true answer, e.g. (1) (e.g. Beaver & Clark 2008, Jasinskaja & Zeevat, 2009).

(1) (Who came?) JOHN came... (Who came?) ...and MARY came, too.

We present the results of an ongoing investigation of the German additives *auch* (‘also’, ‘too’) and *noch* (‘still’, ‘in addition’) concerning the kinds of QUDs their host sentences address.

BACKGROUND: Eckardt (2007) proposed that *noch* can be used to re-open a QUD if the previous answers are positive. The domain of alternatives of the new QUD is a subset of that of the previous QUD, involving those alternatives not mentioned in the previous answer (2).

(2) (Who of {A,B,C} came?) A came... (Who of {B,C} came?) B came *noch*

Umbach (2012) proposed instead that *noch* and (unstressed) *auch* both re-open a QUD with an extended domain, i.e. with entirely different focus alternatives.

(3) (Who of {A,B} came?) A came... (Who of {C,D} came?) C came *auch/noch*

She proposes that the main difference between *auch* and *noch* is that the latter involves ordered alternatives (ordered by (expected) time of mentioning). Finally, Grubic (2018) adopts Umbach’s account for *auch* in (3) but proposes that *noch* re-opens a QUD with respect to a new (topic) situation (4). The alternatives involved may or may not be the same.

(4) (Who of {A,B} came in S1?) A came ... (Who of {A,C} came in S2?) C came *noch*.

In this paper, we investigate the predictions of the latter account with respect to examples where the topic situation is overtly shifted, using a temporal adverbial.

DATA: *Auch* (‘also’/‘too’) is the standard additive particle in German, whereas *noch* (‘still’, ‘in addition’) is a discourse particle which can lead to similar readings, see e.g. (5) (Umbach 2012).

(5) (Otto had a beer.) Dann hat er **auch** / **noch** einen SCHNAPS getrunken.
 then has he AUCH NOCH a schnaps drunk.
 “Then he had a schnaps in addition.”

Nevertheless, *noch* and *auch* behave differently. First, in the same context as in (5), *noch* is degraded in simple sentences such as (6), without *dann* (‘then’/‘otherwise’) or *sonst* (‘otherwise’).

(6) (Otto had a beer.) Er hat **auch** / # **noch** einen SCHNAPS getrunken.
 he has AUCH NOCH a schnaps drunk.
 “He had a schnaps in addition.”

Second, with *noch*, the new QUD can be answered in the same way as the previous QUD (7).

(7) (Otto had a beer.) Dann hat er **NOCH** / # **AUCH** ein Bier getrunken.
 then has he NOCH AUCH a beer drunk
 “Then he had another beer.”

Third, in questions, *noch* is the typical way to re-open a question, e.g. (8a), whereas the use of *auch* suggests that the questioner knows that there is a second answer (8b) (Umbach 2012).

(8) a. Was ist **noch** passiert? b. ^(?)Was ist **auch** passiert?
 what is NOCH happened what is AUCH happened.
 “What else happened?” “What happened, too?”

Under Grubic (2018)’s account, these observations can be explained as follows: (i) without *dann*, the sentence is most readily interpreted as being about the same topic situation, rendering *noch* infelicitous (6). (ii) (7) is possible with *noch* but not with *auch* because only *noch* allows for the same alternatives to become available again (see (4) above). (iii) Because *auch* indicates that a previous QUD is re-opened with respect to previously unconsidered alternatives, the *auch*

question in (8) suggests that the answerer forgot a relevant alternative in her previous answer.

EXPERIMENT: Grubic (2018) reports the following intuition: When there is a temporal adverbial, indicating that the topic situation is shifted, *noch* is felicitous without accommodation, whereas *auch* is felicitous if a proposition about the same topic situation is accommodated: e.g. in (9), “He visited his parents the year after” (cf. Kim 2012 for an accommodation experiment on *also*).

(9) In 2014, Max visited his parents for Christmas.

Das Jahr danach hat er **noch/auch** die Eltern seiner FREUNDIN besucht.

the year after has he NOCH/AUCH the parents of his girlfriend visited

“The next year, he visited the parents of his girlfriend (too).”

NOCH → He visited his parents in 2014 & his girlfriend’s parents in 2015

AUCH → He visited his parents in 2014 & **his and his girlfriend’s parents in 2015.**

We conducted a pilot experiment testing such sentences and found that, as expected, a presupposition (e.g. in (9): that he visited his parents in 2015) was accommodated with *auch*. Contrary to Grubic (2018)’s predictions, however, the participants mostly interpreted the *noch* sentences like the *auch* sentences, but gave them much lower felicity ratings.

We hypothesize that a reason for these results was that the example sentences were set up in a way that the proposition to be accommodated was very likely, given our world knowledge (e.g. for (9) ‘people usually visit their parents on Christmas’). This was done deliberately in order to enhance accommodation of the presupposition of *auch*, but may have interfered with the interpretability of the *noch* sentences. In our current experiment, we therefore manipulate the plausibility that the eventuality is repeated, i.e. we conduct a 2x3 experiment with the factors TRIGGER (*auch/noch*) and REPETITION (+/-/baseline) (see (10) for a baseline example).

(10) (Last Saturday, Daniel cleaned the kitchen, the bedroom and the living room.)

Diesen Samstag hat er *auch/noch* die anderen zwei Räume geputzt

This Saturday has he also/still the other two rooms cleaned

‘This Saturday, he (also) cleaned the other two rooms’

NOCH → This Saturday, he cleaned the other two rooms

AUCH → This Saturday, he cleaned the other two rooms **& the kitchen, the bedroom, and the living room.**

If Grubic (2018)’s intuition is correct, we expect a significant interaction between TRIGGER and REPETITION, with *noch* being the most felicitous choice in the -REPETITION cases.

SUMMARY We investigate the following hypothesis: *auch* re-open a previous QUD with respect to new, previously unconsidered alternatives, while *noch* re-opens a previous QUD with respect to a new topic situation. We present the results of an ongoing experiment testing the interpretation of *auch* and *noch* in sentences with an overt topic situation shift (via a temporal adverbial).

Selected references: DIMROTH, C. (2002). Topic, assertions and additive words: how L2 learners get from information structure to target language syntax. *Linguistics* 40, 891–923
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‘Locus Semantics’: Broadening Alternative Semantics Beyond Focus

Mia Wiegand, Cornell University

I am working on a large project detailing the availability of semantic alternatives both with and without an overt focus structure. In particular, I am studying the behavior of a variety of exclusive operators across various languages. Exclusive operators like *only* have been assumed 1) to always associate with focus, and 2) to quantify over propositions. I argue that most focus-sensitive operators should more accurately be characterized as alternative-sensitive. Focus sensitivity is thus a sub-type of a broader phenomenon of alternative semantics, even in the context of exclusive operators. For ease of discussion, I will refer to the broader notion of which focus is a sub-type as the ‘locus’ of an alternative set.

Much of my data comes from English *just* and its wide range of uses. However, there are exclusive operators with similarly interesting patterns across many languages and language families. Hebrew *stam* (Orenstein 2015), Serbian agreeing *sam-o/a* (Despić & Wiegand 2018), German *gerade*, Dutch *net* (van der Klis 2018), and Ch’ol *jach* (Little & Wiegand 2018), among many others, all exhibit both traditional exclusivity and quantification without focus.

However, *just* is a particularly elucidative item to demonstrate the phenomenon of exclusive quantification without focus, simply due to its extreme variability. A number of uses of *just* have been identified in the literature. To name a few, Lee (1991) provides a preliminary descriptive typology of its uses; Beltrama (2016) analyzes the so-called ‘emphatic’ use of *just* as a metalinguistic operator; van der Klis (2018) gives the beginnings of a compositional analysis to derive immediate anteriority from the restriction of *just* in the ‘hot news perfect’ (McCawley 1971); Wiegand (2018) identifies a use called ‘unexplanatory’ *just* and analyzes it as quantification over covert causes, among several others. I argue that these can all be captured as instantiations of exclusivity. However, this requires allowing exclusives to have variable types and allowing association with alternatives not generated through focus. I stress that the current project does not abandon theories of focus—rather, focus is now one way among several by which alternatives can be generated for exclusive quantification. The data I am concerned with for *just* include the following:

- (1) The lamp **just** broke! (All by itself!) (*Unexplanatory*)
- (2) Bob is **just** a [philosopher]_F (not a linguist). (*Focus-Evaluative*)
- (3) Carl **just** has [two]_F degrees. (*Focus-Entailment*)
- (4) Ana has **just** gone to get her car. (*Temporal*)
- (5) There’s a spider **just** above your head. (*Spacial*)
- (6) That spider is **just** gigantic! (*Emphatic*)

Additionally, I take seriously the concerns raised in Zimmermann 2017 about the failure to generate the correct truth conditions when *only* is taken to be an intensional operator. He astutely points out that by allowing operators like *only* to quantify over intensional propositions, we indirectly cause sentences like ‘Only Mary is one of John and mary and exactly as tall as either one.’ to come out true when they should be false. He also notes that quantification over individuals is not subject to this problem. I argue that a structured proposition approach allows us to retain some of the key insights of Rooth 1992 while avoiding the pitfalls identified in Zimmermann 2017. However, I still provide a single semantics which allows any element to be the locus of the alternatives.

This is shown below in (7), where $\langle A, B \rangle$ is the standard structured proposition of a focus and background. As shown below, A and B are not type-restricted; however, there remains a constraint that B be a function that can take A as an argument.

$$(7) \quad \llbracket \text{EXCL} \rrbracket = \lambda A_\alpha \lambda B_{\langle \alpha, t \rangle} \forall A' [B(A') \rightarrow A' \subseteq A]$$

When this semantic entry is being used by a purely focus-sensitive operator like *only*, the result is that *only* takes the element under focus as its first argument, and the background question as its second argument.

$$(8) \quad \text{Only } [Ana]_F \text{ swam} \Rightarrow [\text{only}](Ana)(\lambda x. \text{swim}(x)) \Rightarrow \forall x [\text{swim}(x) \rightarrow x \subseteq Ana]$$

$$(9) \quad Ana \text{ only } [\text{swam}]_F \Rightarrow [\text{only}](\lambda x. \text{swim}(x))(\lambda g. g(Ana)) \Rightarrow \forall g [g(Ana) \rightarrow g \subseteq \lambda x. \text{swim}(x)]$$

For (8), the \subseteq relation operates on mereological sums, so the only case where the quantification can be true is when $x = Ana$. (This allows for quantification when the locus of the alternatives is a complex term like ‘Ana and Bob’, which will entail both ‘Ana’ and ‘Bob’ individually.) And for (9), we get the truth conditions that if Ana does some activity g , then that activity must be entailed by the swimming. In these cases, because only is actually associating with focus, focus is what fills in the arguments for *only*. However, with exclusives that are more flexible, like *just*, these arguments are filled in through other means.

One technicality in this analysis is that the entailment relation ‘ \subseteq ’ is not sufficient to account for the varieties of exclusive quantification. I follow Beaver & Clark 2008, Coppock & Beaver 2011 and Wiegand 2018 in arguing that the ordering on the alternative set needs to be filled in contextually. In some cases, it will indeed be entailment, as in (7); however, in other cases it will be an evaluative scale, which we can represent as ‘ \leq ’. Furthermore, because of the formalization in (7), we will need to ensure that \leq is defined over all potential types that exclusives can take as first argument (i.e., over all kinds of loci). I argue that in cases where \leq is not entailment, we have the constraint that $A' \leq A$ if and only if $B(A') \leq B(A)$, which itself will appeal to an ordering source to determine contextual ranking between worlds.

Once we have this formal mechanism, I argue that *just* is able to quantify over existential entailments of its overt prejacent. For example, to derive the unexplanatory interpretation of *just*, we need to have available a minimal cause. I argue, contrary to Wiegand 2018, that such a minimal cause is not covertly present in the semantics; rather, it is only present in a pragmatically enriched semantics. The reason it is allowable to enrich with quantification with locus on a minimal cause in (1) is because the existence of an event entails that something caused it. Furthermore, it is the entailment itself that constitutes the true prejacent of the exclusive. So, for (1), we get the following quantification.

$$(10) \quad \exists e.break(e) \wedge th(e, l) \wedge \forall e'.CAUSE(e, e') \rightarrow e' \subseteq e_{min}$$

Likewise, for the temporal quantification in (4), the existence of a tensed event entails an event time (and an utterance time), over which *just* can then quantify. As is clearly evident, many of the uses of *just* that can be analyzed as a quantificational denial do not make use of focus in any sense resembling either Rooth 1992 or syntactic focus constructions. However, I argue that it is a desirable goal to include these kinds of quantifications within the realm of alternative semantics. With that goal in mind, it will be necessary to analyze focus itself as an instantiation of a larger phenomenon of quantification over a pragmatic or semantic locus.

Overall, this presentation will give an overview of the historical reasons for including association with focus in the semantic entry of exclusive operators, the recent theoretical issues brought up by Zimmermann (2017), and some empirical facts about exclusive operators and their behavior. I will then propose a wider notion of alternative semantics for exclusive quantification, which involves a type-neutral semantic entry and the allowance of pragmatic enrichment for quantification.

ABBREVIATED REFERENCES

- * Beaver & Clark 2008. *Sense and Sensitivity: How Focus Determines Meaning*. * Beltrama 2016. Exploring metalinguistic intensification: The case of Extreme Degree Modifiers. *Proceedings of NELS 46*. * Coppock & Beaver 2011. Mere-ology. *Alternatives in Semantics*. * Despić & Wiegand 2018. Linking agreement and anticausality: Semantic effects of agreement on exclusives in Serbian. *In: Proceedings of FASL 27*. * Lee 1991. Categories in the description of *just*. *Lingua*, **83**(1). * Little & Wiegand 2018. A compositional morphosemantic analysis of exclusivity in Ch'ol. *Proceedings of the Linguistic Society of America*, **3**(1). * McCawley 1971. Tense and time reference in English. *Studies in linguistic semantics*. * Orenstein 2015. A family of exclusives in Hebrew. *ESSLLI 2015 Student Session*. * Rooth 1992. A theory of focus interpretation. *Natural Language Semantics*, **1**(1). * van der Klis 2018. Deriving anteriority in the *perfect of recent past*. *Linguistics in the Netherlands*. * Wiegand 2018. Exclusive morphosemantics: *Just* and covert quantification. *In: et al, Wm. G. Bennet (ed), Proceedings of WCCFL 35*. * Zimmermann 2017. Quantification over alternative intensions. *Semantics and Pragmatics*, **10**(8).

Hungarian structural focus: accessibility to focused elements and their alternatives in Working Memory and Long Term Memory

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The present work investigates the memory accessibility of linguistically focused elements and their representation in Working Memory (WM) and in Long-Term Memory (LTM) in the case of the Hungarian pre-verbal focus construction (preVf).

Our work is rooted in two strands of psycholinguistic investigation of focus: one concentrates on the representation of the focused element itself, while another strand investigates whether focus activates a set of alternatives, and how these alternatives are represented in the mind. Regarding the first strand, it has been shown that the focused element is more readily accessible in WM (e.g. Birch & Garnsey 1995, Almor & Eimas 2008) and the representation of the focused element is more fine-grained relative to non-focused elements, i.e., focusing triggers in-depth semantic processing as opposed to good-enough semantic processing leading to higher recognition rates of semantically associated probes in probe recognition tasks (e.g. Sturt et al. 2004, Sanford et al. 2006). With respect to LTM, results are scarce and contradictory. For example, Birch and Garnsey (1995) found a facilitatory effect of focus on recognition and naming for phonological information only, while Fraundorf et al. (2010) found an overall facilitatory effect of focus on recognition. Spalek et al. (2014), however, found no effect on the recall of the focused element in the case of German focus particles *nur* (only) and *sogar* (even). Regarding focus alternatives, the picture is also complicated in the case of both WM and LTM. For example, Birch and Garnsey (1995) found no advantage in WM, while enhanced accessibility was found for phonological alternatives and no advantage for semantically related alternatives in LTM. On the other hand, Spalek et al. (2014) showed a memory benefit of focus (i.e., the presence of a focus particle) for the alternatives, while Gotzner (2017) found an increased activation for alternatives both in WM and LTM. A further question regarding the set of alternatives is what constitutes this set. Two views are prevalent: according to the restrictive view (Wagner 2006), only semantically related and contrastive elements are activated, while the permissive view claims (based on Rooth 1992) that focus activates all contextually suitable elements. Psycholinguistic evidence supports the latter view (Gotzner 2017, Joerdens et al. 2019).

Regarding Hungarian preVf, no experimental data is available on any of the above matters. Thus, we carried out two probe recognition experiments testing the accessibility of focused elements and the representation of their alternatives in WM and LTM. In line with the findings outlined above, we hypothesized that the focused element is more readily accessible in WM than its non-focused counterpart. Additionally, we asked the exploratory question whether a similar advantage can be found in LTM. Regarding the representation of alternatives in WM, it was hypothesized that i) alternatives *are* generated and are more active based on Gotzner (2017), ii) not only semantically related but contextually related alternatives are also activated (Gotzner 2017 and Joerdens et al. 2019). With respect to alternatives in LTM, we reasoned that if alternatives are generated in WM, we should see an interference effect for alternatives manifest in their lower recognition rate. Otherwise, no effect should be seen.

The two experiments used the same stimulus set: participants were presented 5-sentence stories auditorily in which one sentence (target) contained a preVf (PreVf condition) or its neutral counterpart (Neutral condition). The stories were followed by sentences serving as probes in three conditions. The probe was either identical to the target (Same condition), or it was different (Different condition). In order to test the restrictive and permissive views of focus alternatives, two types of different probes were used: in the Semantically related condition the critical element in the target sentence was replaced with a semantically related element, while in the Contextually related condition it was replaced with a semantically unrelated but contextually suitable element. The experimental task was to decide whether the probe was identical to any of the sentences heard earlier. The experiments contained 36 critical story-probe pairs and 36 filler trials. In Experiment 1 we tested WM performance: the probes were presented immediately after the stories, while in Experiment 2, we were interested in LTM performance: probes were presented after a block of six stories and a 2-minute delay during which the participant played a visual game. In both experiments Reaction Time (RT) was measured as dependent variable in the Same

condition, since this is a reliable measure of the duration of processes that take place during recognition. Since the link between RT and a correct rejection is less clear, accuracy was measured in the Different conditions. 40 adult native Hungarian speakers participated in each experiment.

Results of Experiment 1 testing WM performance showed faster RTs in the Same condition for preVf sentences than for neutral sentences ($\chi^2(1) = 9.388, p = .002$) suggesting that the focused element is more accessible in WM than its non-focused counterpart. These results replicate findings in the international literature suggesting that the focused element is more accessible in WM. Regarding the Different condition, a higher recognition rate was found for unrelated probes ($\chi^2(1) = 30.827, p < .001$) than for related ones. Additionally, recognition rates were higher for preVf sentences than for neutral sentences ($\chi^2(1) = 3.499, p_{one-tailed} = .030$). However, no interaction of probe-type and sentence-type was found. These results demonstrate that preVf increases the activation of focus alternatives. Furthermore, the lack of interaction lends support to the permissive view on focus alternatives: the set of alternatives is generated based on contextual factors, rather than purely semantic ones.

Results of Experiment 2 testing LTM performance showed no difference in RTs between the two sentence types in the Same condition suggesting that the advantage of the focused element observed in WM disappears in LTM. These results are in line with the finding that unlike form or structure, the propositional content of a sentence is retained for longer periods (Anderson et al 2001). In the Different condition, we found a reversed pattern compared to Experiment 1: although the recognition of semantically unrelated probes was again better than that of semantically related ones ($\chi^2(1) = 15.266, p < .001$), recognition rates for preVf sentences were lower in both the Semantically and Contextually related conditions ($\chi^2(1) = 6.794, p < .001$). No interaction between sentence type and probe type was found ($p > .05$). The results reflect a semantic interference effect: the highly activated focus alternatives in WM interfere in LTM resulting in a lower memory performance for these items.

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Focus marking strategies in polar questions in Macedonian

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Issue: In (Standard) Macedonian (Eastern South Slavic), at least four types of polar questions can be distinguished: 'Intonation Questions' as in (1a), in which the canonical word order of SVO is preserved and interrogativity is only marked by intonation - in (1a) the main accent can fall either on the noun *Pepsi* or on the verb *ima* 'have' - questions with the neutral question particle *dali* as in (1b) and questions with the particle *li*, where *li* can either follow a fronted XP as in (1c) or a fronted verb, as in (1d).

| | | | | |
|------|-------------------|----------|----------|--------|
| (1a) | Ima | Pepsi? | | IntQ |
| | have.3SG | Pepsi | | |
| | 'Is there Pepsi?' | | | |
| (1b) | Dali | ima | Pepsi? | DaliQ |
| | Q | have.3SG | Pepsi | |
| | 'Is there Pepsi?' | | | |
| (1c) | Pepsi | li | ima? | XP-LiQ |
| | Pepsi | LI | have.3SG | |
| | 'Is there PEPSI?' | | | |
| (1d) | Ima | li | Pepsi? | V-LiQ |
| | have.3SG | LI | Pepsi | |
| | 'IS there Pepsi?' | | | |

(Rudin et al. 1999 :579)

The particle *li* has been analyzed as a focus marker in questions (Rudin et al. 1999, among others). This paper is concerned with the semantic-pragmatic conditions for *li*, especially considering intonation and word order also play a role in focus marking in Macedonian. Although several suggestions as to its usage have been proposed in the literature (e.g. *li*-questions are rhetorical, rejective, or add a 'perhaps'-feeling (Englund 1977, Rudin et al. 1999)), these have not been systematically or empirically explored thus far.

Methods: We tested the pragmatic contribution of *li* in two rating studies. The first deals with *li* after XPs and the second with *li* after verbs. We present the results of Experiment 1 in this abstract and are currently waiting for the results of Experiment 2. For both surveys each trial consisted of a context followed by a question. In both experiments two factors were manipulated, namely the form of the target question and the context type. **Experiment 1:** For this study we formulated two hypotheses, i) XP-LiQs signal that the constituent that *li* is attached to is *unique* (i.e., only one proposition among the set of propositions denoted by the question (à la Hamblin 1976) can be true) and ii) XP-LiQs signal that the speaker is *surprised* about the constituent that *li* is attached to (in this study surprise is coded as a polarity mismatch in *epistemic* and *evidential* bias (Sudo 2013)). 27 experimental items were distributed in 7 lists with a Latin Square Design, together with 8 fillers that served as controls and 2 practice items. 49 native speakers of Macedonian participated online via *soscisurvey.de* (Leiner 2014). Participants were asked to rate a question's naturalness in a specific context on a 1(min)-5(max) scale. The Question types came in three conditions: XP-LiQ, DaliQ and CleftQ.¹ The Context type also came in three conditions: Unique+Surprise (U+S), Non-Unique+Surprise (NU+S) and Neutral (N).

Experiment 2: The hypotheses formulated for the second experiment are: i) V-LiQs signal *contrastive focus* and pattern with questions with only a focal accent on the verb and no particle ii) V-LiQs signal that the speaker is *surprised* about the constituent that *li* is attached to and has

1 CleftQs are not be discussed in this abstract for length reasons.

the feeling of *verum* focus. Participants are asked to rate a question's naturalness in a specific context on a 1(min)-7(max) scale. The Question types came in three conditions: DaliQ, V-AccentQ and V-LiQ. The Context type also came in three conditions: Neutral, Contrastive, Bias-conflict.

Two audio files played as practice items to show that CAPITALS indicate a focal accent.

Results: The relevant average ratings of Experiment 1 are plotted in Figure 1. The responses were analyzed with a mixed ANOVA, using the RStats package, which revealed significant effects of Question Type, Context Type, and the combination of those two. We followed up with pairwise comparisons, concentrating on our hypotheses. For uniqueness, no effects were found, that is, there were no significant differences between the rating of XP-LiQs and DaliQs in U+S and NU+S contexts. For surprise, a significant contrast emerged: XP-LiQs were rated higher in U+S than in N ($p < .001$), and XP-LiQs were rated higher in NU+S than in N ($p < .01$). Furthermore, the rating of DaliQs, was stable across the board (mean: 3.45).

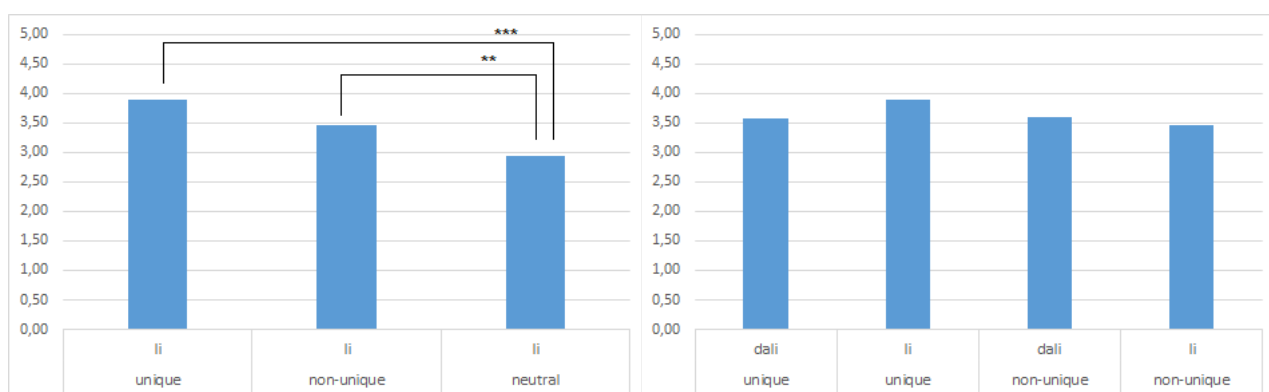


Figure 1: relevant results

Discussion: From the results of Experiment 1 we conclude that surprise licenses *li*, at least after XPs. We predict that the same holds for *li* after verbs, i.e., VLi-Qs have a *verum* interpretation. We argue that this is not inherent to the meaning of the particle *li*, but rather a result of its function, that we propose to be indicating the shape of the QUD. We follow Biezma (2009) and take the location of focus marking to constrain the shape of the immediate QUD. Focus on the subject, for example, signals that the immediate QUD questions the subject, as illustrated in (2).

(2) Did ALFRED play cards? → QUD = Who played cards?

Narrow focus in a question is especially compatible with certain contexts, among which, surprise, as Bianchi & Cruschina (2016) have found. We propose that this surprise effect is exactly what *li* conveys, which accounts for our both empirical data and previous suggestions and can be easily integrated in existing syntactic accounts.

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Sentence-final Particle and Cleft Exhaustivity—An Experimental Investigation

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Mandarin Chinese features two minimally contrasting focus-marking construction types, as in (1):

- 1) a. Jiaoshou shi [zai shitang]_{Foc} chifan. b. Jiaoshou shi [zai shitang]_{Foc} chifan **de**.
 professor be LOC dining.hall have.meal professor be LOC dining.hall have.meal **DE**
 ‘It is [at the dining hall]_{Foc} that the professor has his meal.’

Both constructions instantiate a (non-overt) partitioning of the post-copula material into a focused part and a backgrounded part. We follow Hole’s (2011) diagnostics and label these two constructions as cleft sentences. In contrast to (1a) (hereafter bare clefts), (1b) involves a sentence-final particle (SFP) *de* (hereafter *de*-clefts). According to one proposal (Paul & Whitman 2008), bare clefts and *de*-clefts map nicely to information focus and identificational focus, respectively, in the sense of É. Kiss (1998). Specifically, *de* is characterized as an event-level exhaustifier (e.g. Hole 2011; Hole & Zimmermann 2013) that maximally addresses the current question under discussion (QUD) and triggers a truth-functional exhaustive inference. (1b) thus maximally addresses the QUD: *Where does the professor have his meal?* by identifying *dinning hall* as the place that exhaustifies the contextually-accessible alternatives that satisfy the property of *having meal*. An alternative analysis subsumes the SFP *de* under the independently motivated meaning as a speaker-oriented utterance modifier (e.g. Li 2006; Cheng 2008; Lin 2016). Hence, the locus of exhaustivity has to be found elsewhere. The two opposing analyses crucially come down to whether *de*-clefts and bare clefts differ w.r.t. the exhaustive inference: The *de*-as-exhaustifier analysis predicts that *de*-clefts’ exhaustivity is significantly stronger, whereas the utterance-modifier analysis predicts there is no significant distinction. The present work conducts an acceptability judgment task and a self-paced reading task to experimentally probe the strength of exhaustivity for bare clefts and *de*-clefts.

1. Acceptability judgment task: Procedures 36 participants (native speakers; on average 29-year-old; college educated; residence in China) are recruited to rate online Qualtrics sentences on a 1-7 Likert scale (ascending, completely unnatural to very natural). Target sentences have a PP-adjunct focus. Each individual rates 36 target sentences and 36 filler sentences (all stimuli items contextualized and randomized). Altogether four conditions are formed: 1. a *de*-cleft condition; 2. a bare cleft condition; 3. an *only*-exclusive condition (i.e. the exclusive *only*-operator associates with the focus) and 4. a plain focus construction as the control condition. All conditions are preceded by a content question and followed by a continuation sentences with a *ye* ‘too’ particle. (2) exemplifies a bare cleft PP-focus sentence:

- (2) [Context: Where does the professor have his meal?]
 Jiaoshou shi [zai shitang]_{pp} chifan. Jiaoshou **ye** [zai kafeidian]_{pp} chifan
 professor **be** LOC dining.hall have.meal. professor **too** LOC café have.meal.

It is at the dining hall that the professor has his meal. At the café too, the professor has his meal.

The additive *ye* ‘too’ continuation in our design follows the paradigm in É. Kiss (1998), the rationale being that additive *too* associates with another PP-focus (an alternative to the referent of the cleft focus) that addresses the QUD, violating the exhaustive interpretation in which other alternatives are excluded under the current discourse. This non-additivity of the exhaustive interpretation enables us to probe the strength of the exhaustive inference of a given construction: A stronger exhaustive inference correlates with a lower participant rating for the [target + *too*-continuation] combination. Second, we designed our test such that all target sentences across conditions be preceded by a content question as context, to make sure that the cleft

sentences receive the desired focus interpretation. Specifically, the presence of a prior content question enables us to rule out a continuous-topic reading of clefts as observed by den Dikken (2012) and rule out a corrective reading of clefts as observed by Liu & Xu (2019). Finally, target sentences are consistently anchored to a non-past, habitual reading to rule out interference from tense, and predicate choices are controlled to exclude one-time-only predicates (Huang 1982). **Results (Fig 1)** No significant effect is observed between the mean ratings of the *de* and bare cleft conditions ($\beta=0.198\pm 0.14$, $p=0.5145$) by an ordinal mixed model (Tukey α -adjustment) consisting of a random intercept for participant and item and a random by-participant slope for conditions. Compared against either of the two clefts, a significantly higher rating for the plain focus condition ($p<0.001$) and a significantly lower rating for the exclusive condition ($p<0.001$) are observed by the model.

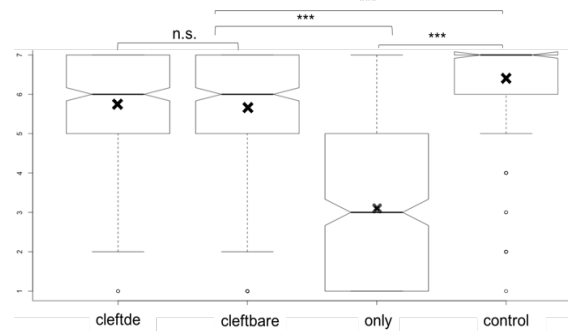


Figure 1: Ratings by condition (means are represented by crosses)

2. Self-paced reading task Procedures The task proceeds as a self-paced, sequential reading paradigm (programmed on Opensesame platform): Using a moving window display,

participants press button to reveal words one word-block a time. With a new word-block revealed, the previous word-block reverts to dashes. Each individual encounters 36 target sentences across four conditions, identical to the acceptability judgment. Reading times of the critical zone (sentence subject to PP focus) and the complete sentence are recorded, calculated by the time lag between two consecutive actions of pressing the button. A true-or-false comprehension task appears right after the final word-block of a target sentence.

Results (Fig. 2) We conducted a linear mixed effects model to compare the

mean reading time of the continuation sentence, where the exhaustive interpretation is violated, across the 4 conditions (the random structure is consistent with the first task). No significant effect is observed between the mean reading time of the *de* cleft and bare cleft conditions ($\beta=0.006\pm 0.056$), as well as between the plain focus condition and the two clefts. The reading time of the *only*-exclusive condition is significantly longer than the other three conditions ($p<0.001$).

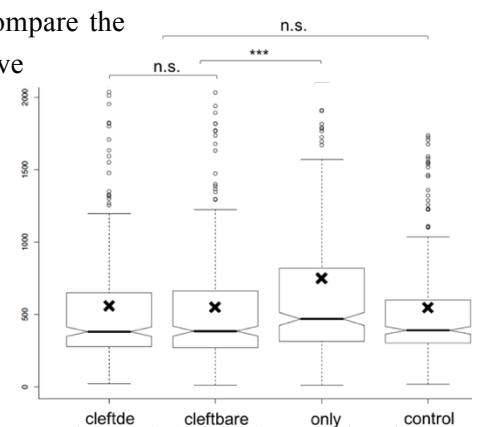


Figure 2: Reading time (ms) of the continuation sentence by condition (means are represented by crosses)

Discussions Both experiments converge to show that the presence or absence of the SFP *de* does *not* correlate with the strength of the exhaustive inference in Mandarin cleft construction types. This finding rejects the *de*-as-exhaustifier approach (e.g. Hole

2011) and is compatible with the utterance-modifier approach (e.g. Cheng 2008). Additionally, our results converge to results obtained from independent acceptability tasks on other languages (e.g. Beaver & Onea 2011; DeVeugh-Geiss et al. 2018). The results further invite the possibility that Mandarin cleft exhaustivity is pragmatic by nature (i.e. neo-Gricean scalar implicature (Horn 2014, DeVeugh-Geiss et al. 2018).

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Processing restrictive particles with different sets of alternatives

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Psycholinguistic evidence clearly indicates that perceivers' attention is immediately directed to focused material (e.g., Cutler & Fodor, 1979) and focal pitch accents are taken as indicators of new information (e.g., Birch & Clifton, 1995, 2000; Dahan, Tanenhaus, & Chambers, 2002). It could also be shown that syntactic processing, e.g., syntactic ambiguity resolution, can be affected by focus in spoken language (e.g., Carlson, 2001, 2002; Schafer, Carter, Clifton, & Frazier, 1996; Schafer, Carlson, Clifton, & Frazier, 2000) as well as in written language, manipulating focus structure by the use of focus particles (e.g.; Ni, Crain, & Shankweiler, 1996; Bader, 1998; Sedivy, 2002; Stolterfoht, Alter, Friederici & Steube, 2007). Recently, it has also been shown that focus alternatives are generated during online language comprehension (cf. Kim, Gunlogson, Tanenhaus, & Runner, 2015; Gotzner, Wartenburg, & Spalek, 2016; Spalek & Oganian, 2019). The studies could demonstrate that even alternatives of the same semantic category that were not mentioned in the prior discourse are activated during sentence comprehension.

In our study we were interested in the different readings exhibited by the German restrictive focus particles *nur* ('only') and *allein* ('alone') that involve different sets of alternatives. There is both a long tradition of research into, and renewed interest in, scalar-evaluative vs. plain exclusive uses of restrictive focus particles (Jacobs 1983, König, 1991; Coppock & Beaver 2014, Hole 2015). (1) illustrates a German case that must be read with a scalar-evaluative (not-at-issue) component, while (2) needn't. Five members count as little in (1), whereas the use of cash money in (2) does not.

- (1) Nur fünf Mitglieder sind gekommen. (2) Allein Bargeld genügt.
'Only five members showed up.' 'Cash money alone is sufficient.'

Early research (Jacobs 1983) has likewise pointed out that the scope of focus particles may be sentential (1), or confined to PPs (3) or even DPs (which arguably have unpronounced propositional structure in them; see the example in (4)).

- (3) With only/a mere three members we can solve the issue.
(4) [The piano is really light.] Only/A mere two people can lift the piano.

Additional complexity comes into play if interacting scales with 'already' or 'still' are included as in examples (5) and (6).

- (5a) Allein Bettruhe kann hier noch helfen. 'Only bedrest will [still] help at this point.'
(5b) Allein Bettruhe kann hier schon helfen. 'Bedrest alone will already help at this point.'
(6a) Nur Bettruhe kann hier noch helfen. 'Only bedrest will [still] help at this point.'
(6b) Nur Bettruhe kann hier schon helfen. 'Only bedrest can already help at this point.'

(5a) and (6a) exemplify the *top-end reading*, which excludes all milder alternatives to the focused constituent (nothing else than staying in bed will help; slowing down, taking more frequent breaks etc. is not enough). Here, *noch* ('still') triggers sentential scope of *allein* and *nur*. In contrast, (5b) and (6b) illustrate the *bottom-end reading*, which excludes the necessity of taking more severe measures (taking medicine, undergoing surgery). *Schon* ('already') triggers DP-internal scope of *allein* in (5b). If (5b) is altered so as to include *nur*, a scalar-evaluative reading seems to be strongly preferred in interaction with the scalar context; cf. (6b).

With an acceptability rating study, we tested whether the alternative sets of both readings are active (to the same amount) in sentence comprehension or whether there is a preference for one of the two readings. We predicted a preference for the top-end reading, as it is this reading in which *nur* and *allein* take scope at the sentential level, and not DP-internally, as in the examples (5b) and (6b).

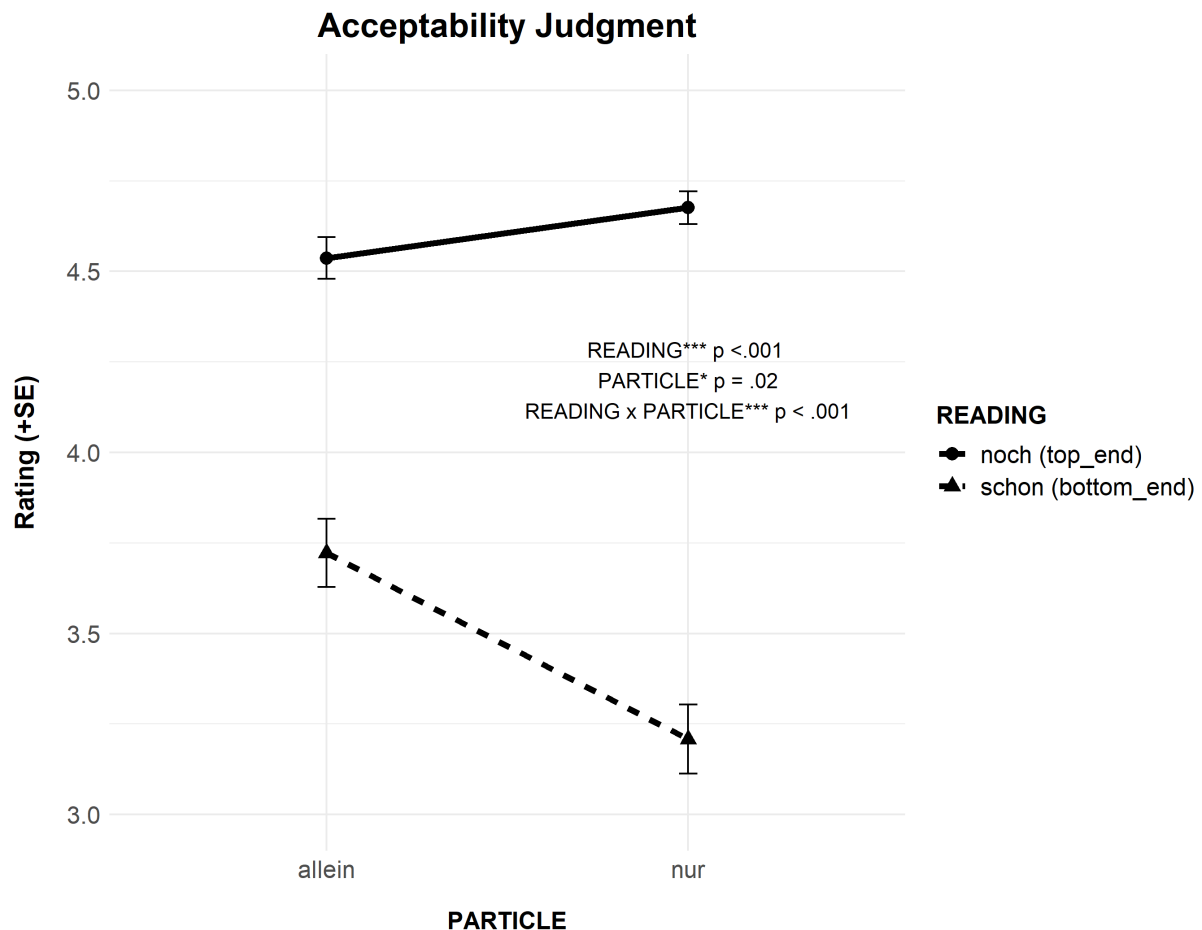


Figure 1. Mean ratings for the four conditions (2 (particle: *allein* vs. *nur*) x 2 (reading: *noch* (top-end) vs. *schon* (bottom-end)) Design)

This prediction was confirmed by our data (see Figure 1): The acceptability ratings (Likert scale 5-1) of 36 participants showed a main effect of *reading* (*noch* vs. *schon*) with significantly higher ratings for the sentences with a top-end reading (*noch*) compared to the bottom-end reading (*schon*). Furthermore, the data revealed a main effect of *particle* (*allein* vs. *nur*) and an interaction of the two factors *reading* and *particle*, with significantly lower ratings for *nur* (compared to *allein*), but only in the bottom-end reading like in (6b). It seems that the scalar-evaluative (not-at-issue) reading of *nur*, which introduces an additional meaning component, is more strongly dispreferred in comparison to *allein*, which allows for a non-scalar reading. We are currently running a reading time study (self-paced reading) to gain more insights in the temporal dynamics of the observed preferences during online sentence comprehension. In our presentation, we will discuss the data of these two experiments in the light of different semantic analyses of restrictive focus particles.

Focus and Split Scope Readings with Negative Indefinites

Dominique Blok (Universität Potsdam)

Split scope Split scope is a phenomenon in certain Germanic languages where a quantified DP seems to take scope partly under and partly over some other operator (Jacobs, 1980; de Swart, 2000; Penka & Zeijlstra, 2005; Abels & Martí, 2010; Penka, 2011; Iatridou & Sichel, 2011). In the German example in (1), it seems like *kein*; ‘no’, has been split up into a negative part and an existential part, parallel to the surface order of the English translation.

- (1) Petronella { darf / muss / kann / will } keinen Kaufmann heiraten.
 Petronella { may / must / can / wants } no merchant marry.
 ‘Petronella is not { allowed / required / etc. } to marry a merchant.’

Aim The aim of this paper is twofold: 1) to present new crosslinguistic data on negative indefinites that show a correlation between focus-sensitivity and the ability to give rise to split scope readings; and 2) to present an account that captures these data.

Focus-sensitivity Koble & Zimmermann (2012) use (2) to show that *kein* in German is focus-sensitive (FS): it associates with the focused *im Keller*; ‘in the basement’, rather than with *Fahrrad*; ‘bicycle’, as attested by the fact that *Fahrrad* sets up a discourse referent that the pronoun *es*; ‘it’, refers back to.

- (2) Wer kein Fahrrad [im KELLer]_F hat, hat es auf dem Balkon.
 Who no bicycle in the basement has, has it on the balcony.
 ‘If you don’t have a bicycle in the basement, you have it on the balcony.’

The Swedish negative indefinite *ingen* is not FS. (3-a) is infelicitous because *ingen* is unable to target the focused *in the basement*. Instead, it can only negate *bicycle*. As a result, *it* has nothing to refer back to. When we remove *it*, as in (3-b), the sentence improves considerably.

- (3) a. #Den som ingen cykel [i KA`LLAREN]_F har, har den på balkongen.
 Every that INGEN bicycle in basement has, has it on balcony.
 b. Den som ingen cykel [i KA`LLAREN]_F har, har en bil.

Every that INGEN bicycle in basement has, has a car.

My data show that Dutch, Icelandic, and Frisian pattern with German. Danish, Norwegian, and English pattern with Swedish.

Split scope As (1) illustrates, German *kein* reliably gives rise to split scope readings as soon as it occurs under a modal (except non-restructuring modals, Abels & Martí, 2010). This is not so for Danish *ingen*, as shown in (4), where the construction is infelicitous and split readings do not arise under any modal.

- (4) #Mary { må / skal / kan / vil } læse ingen bøger.
 Mary { may / must / can / wants } read no books.

Negative indefinites in Dutch, Frisian, and Icelandic also readily yield split readings. English, Norwegian, and Swedish pattern with Danish. This correlates exactly with focus-sensitivity, as shown in the table below.

| | | Focus-sensitive? | Split scope? |
|-----------|---------------|------------------|--------------|
| Dutch | <i>geen</i> | yes | yes |
| Frisian | <i>gjin</i> | yes | yes |
| German | <i>kein</i> | yes | yes |
| Icelandic | <i>enginn</i> | yes | yes |
| Danish | <i>ingen</i> | no | no |
| English | <i>no</i> | no | no |
| Norwegian | <i>ingen</i> | no | no |
| Swedish | <i>ingen</i> | no | no |

English *no* has been claimed to create split readings (Potts, 2000; Alrenga & Kennedy, 2013). However, as pointed out by Iatridou & Sichel (2011), English sentences like (5-a) are often considered marginal and lacking in split readings. The ‘overtly’ split constructions with *not* and *any*, in (5-b), are clearly preferred. The contrast between (5-a) and (1), where the same modals are used, shows that *no* lacks the general scope-splitting ability of *kein*. To account for this fact, I have categorised *no* as an expression that does not yield split readings.

- (5) a. ??Mary {may/must/can/wants to} read no books.
 b. Mary { may / must / can } not read any books / does not want to read any books.

Analysis Following the observed correlation, I propose a focus-based analysis of split scope. The central idea is that focus-sensitive expressions have the ability to take sentence-scope without their DP-complement. I formalise my analysis in the framework of Beaver & Clark (2008). The lexical entry for *kein* and its kin (*geen*, *gjin*, *enginn*) is given below.

$$(6) \quad \text{kein} = \lambda p : [\exists p' : p' \in CQ_S \wedge p'] . \neg p$$

CQ is the Current Question under Discussion. ‘ $p . p'$ ’ indicates that p is presupposed and p' is asserted. Thus, *kein* asserts that its prejacent is false and presupposes that some other proposition in the *CQ* is true. *Kein* is of type $\langle st, st \rangle$ and cannot be interpreted *in situ*. I propose that there are two ways to solve this: 1) applying the Geach rule to yield expressions of type $\langle \langle e, st \rangle, st \rangle, \langle \langle e, st \rangle, st \rangle \rangle$ (Coppock & Beaver, 2013), which results in the surface scope reading; 2) moving *kein* to a node of type *st*. When *kein* moves over a modal by itself, we get split readings. The structure and meaning of (1) are given below (\exists represents a covert existential quantifier or Partee’s (1986) *A* type shift).

$$(7) \quad [\text{keinen} [\text{Petronella will} [[\text{keinen} [\exists \text{KAUFmann}_F]] \text{heiraten}]]]$$

$$(8) \quad (1) = \exists p' [p' \in CQ \wedge p'] . \neg (P [\exists x [\text{merchant}(x) \wedge \text{marry}(x)(\text{Petronella})])]$$

(1) asserts that it is not the case that in all accessible worlds (according to Petronella’s desires), there is a merchant that Petronella marries. This is the split reading. It presupposes that some other proposition in the *CQ* is true. With focus on *merchant*, this correctly yields the presupposition that there is some non-merchant Petronella wants to marry. Without stress on *merchant*, the focus projects to the whole sentence and we get the vacuous presupposition that some other proposition is true. Crucially, Danish *ingen* and its kin are expressions of type $\langle \langle e, t \rangle, \langle \langle e, t \rangle, t \rangle \rangle$. Therefore, *ingen* is not of the right type to move over a modal without its DP complement and cannot create split readings.

Conclusion I have presented new crosslinguistic data that show that focus-sensitivity correlates with the ability to create split scope readings. To capture this, I have proposed an account of split scope where scope splitting expressions are focus-sensitive. In the full paper, I extend this theory to split readings with other focus-sensitive expressions like *at most* and *only*.

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Posters

Pre-verbal focus in Turkish: An eye-tracking during reading study

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In most languages, focused constituents are marked in a number of ways including syntactic canonicity and prosody. Being a flexible word-order language, Turkish uses both the syntactic and prosodic information to mark focused elements, as it allows for pre-verbal scrambling (İşsever, 2003). The canonical position for neutral focus in Turkish is taken to be the immediate preverbal position (see Kural, 1992; Taylan, 1984, among others). However, Göksel and Özsoy (2003) propose a ‘focus field’ (rather than a particular constituent position) which covers the entire preverbal area including the verb, which allows for percolation of prosodic features. To encapsulate, both the accounts suggest that focus occurs preverbally in Turkish, however, the immediate pre-verbal focus account assumes a canonical focus position while the focus field account presumes a flexible position shaped by sentence stress. Past research has evidenced that prosodic and articulatory processes are imposed during silent reading (see e.g., Ashby & Clifton, 2005; Fodor, 1998; Rayner & Pollatsek, 1989), and that inner speech aids sentence comprehension (e.g., Slowiaczek & Clifton, 1980, Rayner & Pollatsek, 1989; Carver, 1990). Building upon these studies and the above-mentioned focus accounts in Turkish, we aim to unveil the moment-by-moment incremental processing of preverbal focus in Turkish using an eye-movements monitoring experiment during naturalistic reading.

We administered an eye-tracking during reading experiment to a group of 21 young adult participants who spoke Turkish as their native language. Our linguistic stimuli consisted of 24 sentence pairs, constructed as dialogues, with two conditions where the position of the focused element is manipulated: Preverbal (Pre-V, see 1) and Immediate Preverbal (iPreV, see 2).

- (1) A: Dükkan**da** kim kadını gördü?
store.LOC who woman.ACC see.PST
B: Dükkan**da** ÇOCUK kadını gördü
store.LOC [child]FOC woman.ACC see.PST
‘A: Who saw the woman at the store? B: The child saw the woman at the store.’
- (2) A: Çocuk dükkan**da** kimi gördü?
child store.LOC who.ACC see.PST
B: Çocuk dükkan**da** KADINI gördü
child store.LOC [woman.ACC]FOC see.PST
‘A: Who did the child see at the store? B: The child saw the woman at the store.’

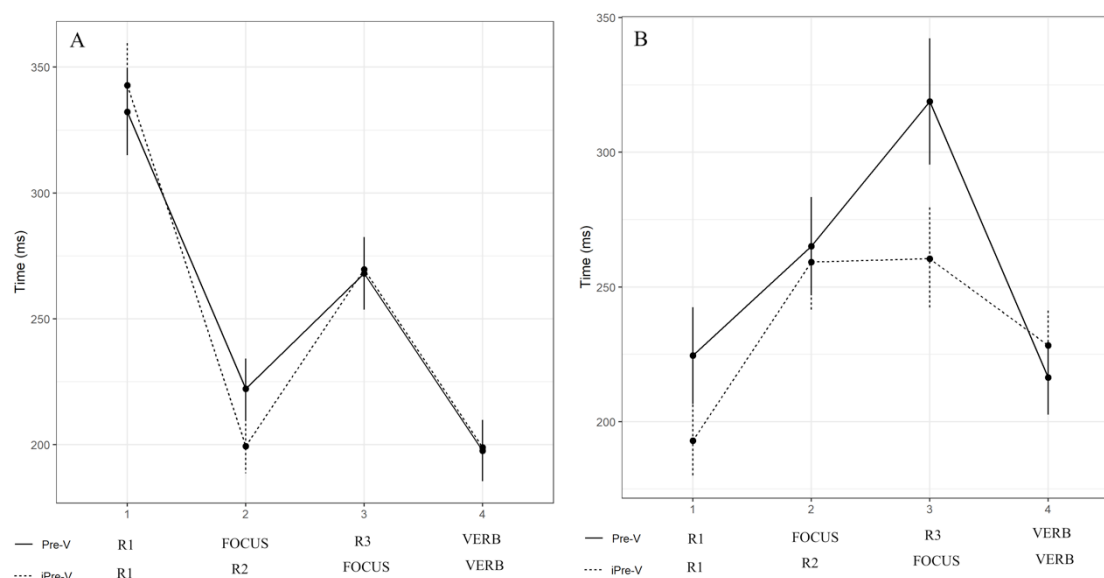
We manipulated the question in the first sentence of these dialogues so as to be able evoke different focus positions in our participants’ reading patterns. This is based on the idea that the position of *who*-pronouns, (i.e. either immediately preverbal object or preverbal subject) elicits an inherent focus position in the answer response. The participants were asked to read the dialogs silently while their eye-movements were monitored with a SMI eye-tracker (SensoMotoric Instruments GmbH), and to respond to an end-of-trial acceptability judgement task which overtly required the participants’ judgement on whether the answer response was appropriate.

Our results have shown that the participants found answer responses to be acceptable in 99% of the time (SD = 8) in the iPre-V condition while they did so in only 84% of the time (SD = 36) in the Pre-V condition. This difference in conditions was statistically significant, as verified by a generalized mixed-effects regression model ($\beta = 4.30$, $SE = 0.55$, $z = 7.77$, $p < .001$; 95% CIs = [3.33, 5.55]). With regard to first and second pass fixation durations in the eye-movements data, we compared focused and non-focused readings at the immediate preverbal region (i.e. R3, see Figure 1) when this region received an inherent focused element (iPreV) and when not (PreV). Outputs from a set of linear mixed-effects regression models have shown no significant effects of condition for first pass fixation durations ($\beta = -0.01$, $SE = 0.03$, $t = -0.479$, $p > .05$; 95% CIs = [17.77, 21.81]). However, for second pass fixation durations, condition differences were reliably significant ($\beta = 0.39$, $SE = 0.15$, $t = 2.56$, $p < .05$; 95% CIs

= [39.13, 43.79]), evidencing that when the focused element was placed elsewhere but not the immediate preverbal region, the participants had longer second pass fixation durations than when the inherent focus was positioned immediately preverbally, due to increased amount of regressions for re-reading.

In conclusion, this study suggests that Turkish speakers anticipate focused elements to occur in the immediate pre-verbal region. These findings support claims made in previous studies that preverbal position allows for a neutral focus reading (Göksel & Özsoy, 2003; Kural, 1992; Taylan, 1984). This conclusion was compatible with both online fixation durations and end-of-trial acceptance rates: Turkish readers favoured immediate preverbal region as the focus position as we observed greater reading disruptions when focused element was elicited in non-immediate preverbal regions. However, it is important to note that it is difficult to tease apart whether and to what extent these second pass time differences between the iPreV and Pre-V conditions occurred due to focus position manipulations or to pure syntactic canonicity effects. A future study would address this using spoken sentence stimuli.

Figure 1. First pass (A) and second pass (B) fixation durations per region of interest.



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Focus markers, focus alternatives, and attachment

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Focus has various effects on the interpretation of sentences (e.g., Rooth 1992, Kadmon 2001). This project explores the effect of focus on the resolution of syntactic attachment ambiguities. We find that different focus markers, including contrastive pitch accents and focus particles like *only*, similarly draw attachment into a focused phrase. But when both accents and *only* appear in the sentences, the position of *only* appears to draw attachment regardless of the position of lower accents. We suggest that the focus particle and an associated accent form a unit for the purposes of drawing attachment, though our studies also show that different focus alternatives are generated due to varying lower focus position.

Prior research on several attachment ambiguities has found that contrastive pitch accents on the head of a phrase draw attachment of a modifier into that phrase (e.g., Schafer et al. 1996; Lee & Watson 2011; Carlson & Tyler 2018). We call this the *focus attraction effect*. For example, in (1), accenting the verb *claimed* or the verb *lied* increases interpretations with the final adverbial attached into the VP headed by the accented verb:

(1) Kathie claimed that Alex had lied # on Friday.

On the Focus Attraction Hypothesis, first proposed by Schafer et al. (1996), ambiguously attached modifiers are drawn to focused material due to the greater importance of that focused material in the interpretation of the sentence (see also Frazier & Clifton 2005; Traxler & Frazier 2008). Contrastive pitch accents on either verb signal the position of focus and lead to ~5-10% differences in attachment percentages.

Recently, we have also found that the position of the focus sensitive operator *only* affects attachment. A written comprehension study with sentences like (2) found 20-30% increases in attachment of the final phrase to whichever VP was preceded by the focus particle:

(2) Kathie (only) claimed that Alex had (only) lied # in an email exchange with the manager.

We found it interesting that *only* had such a clear effect on attachment in sentences like (2), because in the absence of accents to clearly mark the position of focus, there should be considerable ambiguity about the ultimate information structure of the sentence. Our newest experiments demonstrate that participants are sensitive to this ambiguity and then explore how the interaction of *only* and pitch accents within the same sentences impacts the focus attraction effect.

In Experiment 1, a written completion study, we directly explored whether participants were sensitive to the ambiguity of focus alternatives in sentences with *only* preceding a VP, using sentences as in (3):

(3) a. Kathie only claimed that Alex had lied, she didn't _____.

b. Kathie claimed that Alex had only lied, he didn't _____.

The items, with the final adverbial removed to avoid the attachment ambiguity, included the focus particle before either the first or second VP. The prompt phrase used a gendered pronoun (*she/he*) matching whichever subject preceded *only*, to disambiguate the intended level of contrast, and then asked participants to provide a negated contrast to complete the prompt sentence. As expected, participants were indeed sensitive to the ambiguity in sentences like (3a). They provided three types of contrasts given *only* before VP1: contrasts to the verb alone (i.e., *she didn't [prove]_F it*); contrasts to the whole VP (i.e., *she didn't [know that he had cheated also]_F*); or contrasts to the embedded CP (i.e., *she didn't say [he stole the jewelry]_F*). Contrasts with *only* before VP2 appeared to vary less, but most of the lower verbs were intransitive so there were fewer constituents below *only* to contrast with. These results confirm the semantic prediction that *only* could associate with focus in various positions in its c-command domain, and that without explicit marking of focus, multiple sizes/shapes of focus alternatives would be possible (the two most common, at 45% each, were VP and CP contrasts).

In Experiment 2, an auditory comprehension study, we studied sentences like (4) with *only* before the first or second verb, and either no contrastive pitch accents (a-b) or accents on the same verb preceded by *only* (c-d).

(4) a. Kathie only claimed that Alex had lied ip on Friday.

- b. Kathie claimed that Alex had only lied ip on Friday.
- c. Kathie only CLAIMED that Alex had lied ip on Friday.
- d. Kathie claimed that Alex had only LIED ip on Friday.

The results showed a focus attraction effect driven by the position of the particle *only*; the ambiguously attached modifier was attracted to VP preceded by the particle ($p < 0.01$, 20% attachment difference). These results replicate those of an earlier written experiment in the auditory domain. Interestingly, the addition of pitch accents on whichever verb followed *only* had a quite small impact on interpretations ($p = 0.02$, ~5% higher high attachment). Given that the accent position should serve to clarify the information structure of the sentences, we expected that the presence and location of a pitch accent would further increase the focus attraction effect.

In Experiment 3, an auditory comprehension experiment, we tested sentences like (5) in order to further explore the interaction of focus particle and accent positions. Conditions (c-d) varied just accent placement, while conditions (a-b) used the same accent placements following high *only*.

- (5)
- a. Kathie only CLAIMED that Alex had lied ip on Friday.
 - b. Kathie only claimed that Alex had LIED ip on Friday.
 - c. Kathie CLAIMED that Alex had lied ip on Friday.
 - d. Kathie claimed that Alex had LIED ip on Friday.

The conditions without *only* were expected to show a small focus attraction effect based on accent position, and they did ($p = 0.03$, 4.5% attachment difference). But when *only* appeared before the first verb (a-b), the different accent positions under *only* no longer influenced attachment ($p > 0.97$, 0.9% attachment difference), and the position of the focus particle drew attachment instead, with high attachment rates comparable to the high accent no only condition. There are in principle several explanations for this result, including a preference for attachment to be drawn to the highest indicated focus position, or for the focus particle position to always draw attachment instead of accents. We suspect, though, that *only* plus an associated accent in its c-command domain count as a single focus unit that draws attachment.

Finally, we will discuss ongoing follow-up experiments, which involve placing accents higher than focus particles, multiple accent positions, and other conditions that are designed to tease apart the explanations for the finding that sentences with different focus structures and focus alternatives nevertheless have the same effect on attachment.

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Grammatical constraints on focus alternatives? The case of phi-features in Czech

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While contextual constraints on focus alternatives have long been recognized (Rooth, 1992), recent research has suggested that a level of grammatical restrictions is also present. Specifically gender-based restrictions have been claimed to have been found in some instances of clitic doubling in Romanian, using both intuitions and a judgment study (Onea & von Heusinger, 2009). We set out to test a similar construction in Czech.

Firstly, native judgment intuitions of one of the authors suggested that negating an alternative following a focused noun that is modified by a numeral with gender agreement is less acceptable when the alternative is of a different gender from the focused noun compared to when they are of the same gender. To examine these predications, we conducted three experiments with native speakers of Czech to see whether any effects of gender on focus alternatives could be found. The first two studies examined untimed (AJE, 24 participants) and speeded acceptability judgments (SAJE, 36 participants) with sentences such as these:

| | | <i>NumAgree</i> | <i>Gender</i> |
|----|---|-----------------|---------------|
| 1) | Ivana potkala jen jedn-u atletku, hokejistu ne. Ivana met only one-F athlete.F, hockey.player.M no. 'Ivana only met one athlete, not a/the hockey player.' | Agreement, | Mismatch |
| 2) | Ivana potkala jen tři atletky, hokejistu ne. Ivana met only three athletes.F, hockey.player.M no. 'Ivana met only three athletes, not a/the hockey player.' | No Agreement, | Mismatch |
| 3) | Ivana potkala jen jedn-oho atleta, hokejistu ne. Ivana met only one-M athlete.M, hockey.player.M no. 'Ivana only met one athlete, not a/the hockey player.' | Agreement, | Match |
| 4) | Ivana potkala jen tři atlety, hokejistu ne. Ivana met only three athletes.M, hockey player.M no. 'Ivana only met three athletes, not a/the hockey player.' | No Agreement, | Match |

We hypothesised that if the gender marking on the numeral, which is only present on the numerals *one* and *two* in Czech, restricted the focus alternatives to only those of the same gender, this ought to be reflected in lower acceptability judgments in cases of gender mismatch. However, the AJE study found no significant interaction between NumAgree and Gender (Table 1). The SAJE study also failed to find a significant interaction between NumAgree and Gender (Table 2). This ruled out the possibility that our participants were able to go through a process of “accommodating” the gender mismatched alternatives in untimed judgments. It did however find a main effect of Gender in that Matched items were less likely to be judged as acceptable. A post hoc analysis revealed that this was largely driven by feminine items that had lower average frequency.

Although the first two studies failed to find evidence for phi-feature constraints on focus alternatives, we hypothesized that gender could play a role in comprehender’s memory for focus alternatives. In order to test the hypothesis, we devised an experiment (PRE, 39 participants) using the probe recognition methodology based on Gotzner, Wartenburger, and Spalek (2016), which found competition between the focused element, the alternatives previously mentioned in the discourse, and unmentioned alternatives. In our experiment, stimuli were presented using the rapid serial visual presentation method (RSVP). We predicted that those unmentioned alternatives that share the grammatical gender of the focused noun would take comprehenders longer to reject than those of a different gender given the differing degree of feature overlap. In the experiment, conditions differed in probe words. These were either semantically related or unrelated to the focused noun and either of the same grammatical gender or different gender than the noun. Focus was induced by the exclusive particle *jen* (*only*). For example, when the focused word was *vesta* (*waistcoat.F*), the probe word was either semantically related or not, *svetr* or *vana* (*jumper.M* or *bath.F*), and either of the same gender or a different gender, *bunda* or *svetr* (*jacket.F* or *jumper.M*).

We found a main effect of semantic relatedness, but no interaction between the gender match and semantic relatedness (Table 3; Figure 1). These results replicated the findings of Gotzner et al. (2016)

in finding an inhibitory effect semantic relatedness. This is informative as, (1) we have shown the same pattern in Czech, a language where the comprehension of focus has not yet been studied, and (2) we obtained the same pattern of results as Gotzner et al. (2016) by using RSVP. However, all in all, it appears that semantically inert noun features such as gender do not play a role in the comprehension of focus.

Table 1: Untimed Acceptability Judgement Responses – Fixed Effects

| | Estimate | Standard error | df | t-value | p-value |
|---------------------------------|-----------|----------------|------------|---------|-----------|
| Intercept | 5.788528 | 0.188996 | 25.290102 | 30.628 | 2e-16 |
| Gender match | -0.016950 | 0.033702 | 99.335098 | -0.503 | 0.61612 |
| Numeral agreement | -0.083455 | 0.029837 | 725.623395 | -2.797 | 0.00529** |
| Gender match: numeral agreement | -0.017145 | 0.029703 | 719.442550 | -0.577 | 0.56397 |

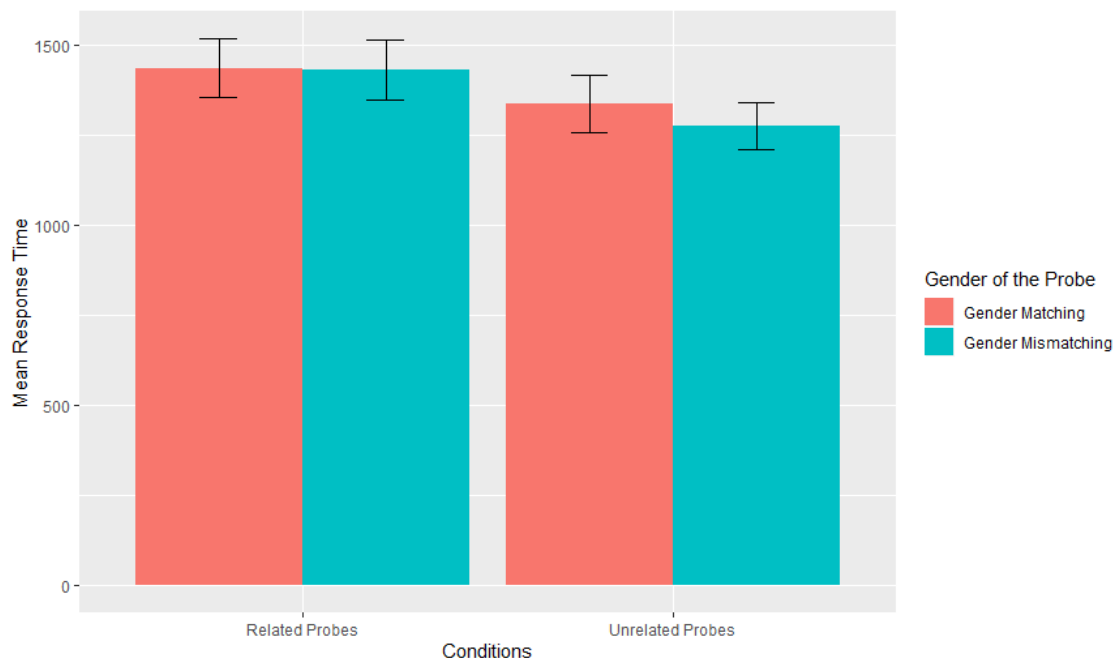
Table 2: Speeded Acceptability Judgement Responses – Fixed Effects

| | Estimate | Standard error | z-value | p-value |
|---------------------------------|-----------|----------------|---------|-------------|
| Intercept | 2.534210 | 0.220078 | 11.515 | 2e-16 |
| Gender match | -0.334224 | 0.092971 | -3.595 | 0.000324*** |
| Numeral agreement | -0.002052 | 0.091963 | 0.022 | 0.982200 |
| Gender match: numeral agreement | 0.035989 | 0.092591 | 0.389 | 0.697508 |

Table 3: Probe Recognition Response Times – Fixed Effects

| | Estimate | Standard error | df | t-value | p-value |
|------------------------------------|-----------|----------------|-----------|---------|-----------|
| Intercept | 7.120381 | 0.053264 | 37.111282 | 133.681 | 2e-16 |
| Gender match | 0.007687 | 0.012461 | 30.222956 | 0.617 | 0.54193 |
| Semantic relatedness | 0.034721 | 0.010439 | 35.175014 | 3.326 | 0.00207** |
| Gender match: semantic relatedness | -0.007368 | 0.011314 | 34.617664 | -0.651 | 0.51919 |

Figure 1: Probe Recognition Response Times



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The interpretation of sentences with the focus particle *only* in Italian-learning children

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Studies investigating preschool children's understanding of the focus particle *only* across different languages have found non adult-like performance (Crain, Ni, & Conway, 1994; Höhle, Fritzsche, & Müller, 2016; Müller, Höhle, & Schulz, 2015; Panzeri & Foppolo, 2016; Paterson, Liversedge, Rowland, & Filik, 2003). A number of accounts offer different explanations for this observation. One of the first, a syntactic account, has argued that children have difficulties with the scope restriction of 'only' when the particle occurs in the pre-subject sentence position (1) such that they associate 'only' to the verb phrase (Crain et al., 1994).

(1) *Only* the elephant has a kite.

A competing account proposes that children ignore the meaning of 'only' altogether because they are not yet able to build a stable representation of the set of alternatives (Paterson et al., 2003). A third account takes an information-structure approach and suggests that children's weaker performance in sentences with 'only' in pre-subject position is due to the stress-shift operation implicated in marking focus on the subject, instead of the default *in-situ* object position (Müller et al., 2015).

Two recent studies (Höhle et al., 2016; Panzeri & Foppolo, 2016) that both presented pre-subject *only* sentences report contradicting findings for Italian- and German-learning children. German children were tested with a sentence-picture verification task and showed better comprehension of pre-object *only* (2) compared to pre-subject *only* (1) sentences. In contrast, Italian children showed a reverse performance pattern in a reward paradigm. From a linguistic perspective these conflicting results are surprising. However, both studies employed different methodologies, so it remains to be seen whether the difference observed is due to a task effect or due to diverging acquisition paths in the two languages.

(2) The elephant has *only* a kite.

Höhle and colleagues (2016) explained their results with the aforementioned information structure account, whereas Panzeri and Foppolo (2016) followed the account of Paterson et al. (2003) arguing that children have difficulties with a stable representation of the set of alternatives. However, cross-linguistic differences are not expected between German and Italian canonical sentences. Typically, the main prosodic prominence in SVO languages is associated with the most embedded constituent (i.e. the object in sentence final position) which carries the sentence nuclear stress. In other words, the object constituent receives main prominence by 'default' rules of stress assignment (Chafe, 1976; Grice, 1975; von Stechow, 2004; Reinhart, 2004; Selkirk 1984). To investigate whether methodological differences had led children's interpretation to different results in Höhle et al. (2016) and Panzeri and Foppolo (2016) we decided to test Italian children with an adaptation of the sentence-picture verification task used in Höhle et al. (2016).

Furthermore, following Müller et al. (2015), we created a non-canonical condition in which 'solo' ('*only*') is associated with a (default) sentence final position occupied by the subject (rather than the object), due to topicalization of the object in sentence initial position, as in (3):

(3) Un aquilone ce l'ha *solo* l'elefante.

A kite_[obj] has only the elephant.

The elephant has only a kite

Crucially, by relying on Italian, we avoid a confound related to topicalization in German, i.e., that structures like (4) – corresponding to (3) above – can be interpreted in two ways: the object could be either a focus (and, as a result, the sentence final only-constituent a secondary focus) or a topic (and, as a result, the sentence final only-constituent a topic). In Italian sentences like (3), it is uncontroversial that the object constituent is a topic (given that clitic-left dislocation marks topichood unequivocally)

and as a consequence, the subject constituent is a focus (receiving stress by default rules of stress assignment because of its final position).

(4) Einen Drachen hat *nur* der Elefant.

We tested 24 four- and 24 six-year-old Italian children, as well as a young adult group of 24 Italian native speakers using the sentence-picture verification task with four different sentence conditions (Fig. 1): eight SVO sentences without focus particle, eight *soloSVO* sentences, eight *SVsoloO* sentences and eight *OVsoloS* sentences. Results (Fig. 2) reveal better performance in children's interpretation of pre-object 'solo' compared to pre-subject 'solo' canonical SVO sentences ($SVsoloO > soloSVO$, six-year-olds: $p < .001$, four-year-olds: $p < .01$) – which shows that stress-shift adds difficulty to the interpretation task, in line with Höhle et al. (2016). Comparing the canonical and non-canonical pre-subject 'solo' conditions we found no differences in participant's performance ($soloSVO = OVsoloS$, six-year-olds: $p = .976$). We interpret this effect as showing that both structures are marked: while the former are marked prosodically (because of stress-shift), the latter are marked syntactically (because of base generation of the object in the sentential left-periphery). When tested with the same method, German and Italian children display the same response pattern when interpreting sentences with pre-subject *only*. This highlights the role of extra-linguistic demands across different tasks.

Figure 1. Four examples of test items are represented in the four conditions: *soloSVO*, *SVsoloO* and *OVsoloS* and SVO. For illustrative purposes two expected yes- and no-responses are depicted with different target characters. The number of expected yes- and no-responses was, of course, identical across conditions.

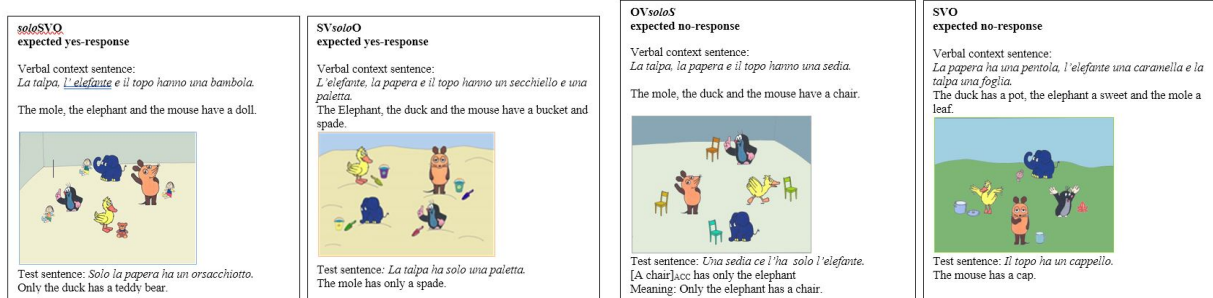
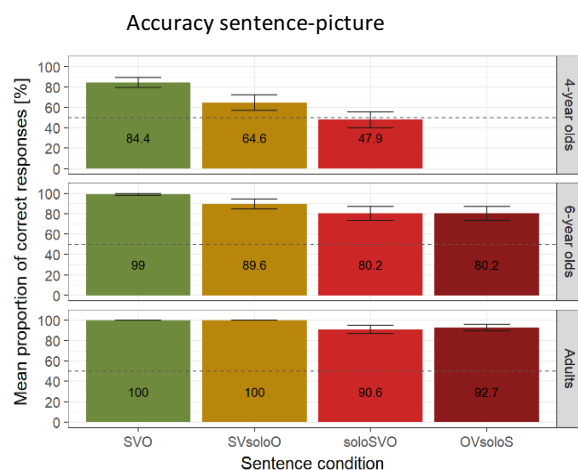


Figure 2. The mean percentage of participants' responses for the expected no-responses in the four sentence conditions: SVO, *soloSVO*, *SVsoloO*, *OVsoloS*. Error bars indicate two SE.



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Children's sensitivity to focus effect: *rak* (only) vs. *tamid* (always)

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Background: This study compares the performance of Hebrew speaking children with understanding focused induced truth conditional effects of Hebrew *rak* ('only') vs. *tamid* ('always'). The reason such a comparison is interesting is because *only* and *always* were argued in the theoretical literature to be both similar and different. In particular, with both focus particles we end up with universal quantification, i.e. exclusion of all focus alternatives distinct (or, in some versions, stronger), than the prejacent [1], where different location of prosodically marked focus changes the excluded alternatives [5], [6]. For example, in a context of mom giving both an apple and a banana to the boy and an apple to the girl, sentence (1) is true whereas sentence (2) is false, no matter whether we use *only* or *always*:

(1) Mom *only/always* gives a banana to the [BOY]_F

(2) Mom *only/always* gives a [BANANA]_F to the boy

Only and *always*, then, have been often considered to be both focus sensitive particles, denoting a similar relation between the 'ordinary semantic value' of their prejacent and the 'focus semantic value', i.e. the set of alternatives induced by focus [5], [6]. On the other hand, as part of their non-monolithic paradigm of focus sensitivity, [1] suggest that *only* and *always* have different degrees of association with focus. In particular they argue that while *only* has 'conventionalized' focus sensitivity, i.e. has focus sensitivity as part of its lexical semantics, *always* actually associates indirectly with focus, through its context dependency, i.e. as just a default strategy to determine which material will be plugged into the restriction of the quantifier and which to its scope, and thus has 'free' association with focus.

Previous online processing studies [8], [9], [10], as well as non-online ones [3], [4] compared *only* to e.g. *also* or *even*, which have different operations but claimed to have similar degrees of association with focus [1], or to bare focus, with the assumed presence of a covert *only*-like operator [7], namely *exh* [8], [11]. However, to the best of our knowledge, comparing *only* to *always* – i.e. two overt particles which have similar semantic operations but different argued type of association with focus - has not been done so far.

Goal: Comparing the focus-related truth conditional effects of the Hebrew *only* '*rak*' relative to the Hebrew *always* '*tamid*' may thus supply experimental support for or against [1] theory, which until now was supported using more theoretical argumentation (e.g. felicity and interpretational differences).

Method: 122 Hebrew-speaking children (2nd grade, 4th grade and 7th grade) and 20 adults participated. Using the truth-value judgment task [2], participants were presented with slides containing three pictures showing a character performing a daily activity with one of two possible objects upon one of two other characters, in order to evoke alternatives, and two short clips of hand puppets each uttering a sentence with two objects, with *rak* ('only') or with *tamid* ('always'). The sentences were supposed to be judged against the pictures and the correct one to be chosen. The *only* experiment and the *always* experiment each included two condition: (A) a syntactic condition, where the particle was located in a pre-object final position with one object in its syntactic scope, e.g. *Mom gives a banana only/always to the [BOY]_F* vs. *Mom gives an apple only/always to the [BOY]_F*, so the focused associate was determined by syntactic cues (as well as by prosodic ones). (B) a prosodic condition, where the particle was located in a preverbal position with two objects in its syntactic scope, and the focused associate was only marked prosodically, e.g. *Mom only/always gives a [BANANA]_F to the boy* vs. *Mom only/always gives a banana to the [BOY]_F*.

Results: In the syntactic condition, interpreting sentences in an adult-like manner was significantly better with pre-object *only* than with pre-object *always* for children in 2nd grade ($M=78\%$, $SD=19$; $M=70\%$, $SD=21$, respectively) and 4th grade ($M=87\%$, $SD=17$; $M=76\%$, $SD=19$, respectively). Children in 7th grade performed as well as the adults with both focus particles. In the prosodic condition, interpreting sentences in an adult-like manner was better with pre-verbal *only* than with pre-verbal *tamid* *always* for children in 4th grade ($M=55\%$, $SD=13$; $M=49\%$, $SD=14$, respectively) and 7th grade

($M=79\%$, $SD=18$; $M=71\%$, $SD=22$). A one-tailed binomial test revealed that the number of children who performed above chance level was higher with *only* than *always* in the prosodic condition in 4th grade and 7th grade and in the syntactic condition in 4th grade. Individual level analyses yield similar results.

Discussion: Our findings first indicate that children showed more sensitivity to focus effects with *only* than *always* in both the syntactic and prosodic conditions. We take this finding to support a non-monolithic approach of different degrees of association with focus, as in [1]. In particular, following [1] we hypothesize that in sentences with *only*, one immediately looks for focused element to determine truth conditions, because sensitivity to focus is part of the lexical semantics of *only*. Once focus is identified, relying on syntactic and/or prosodic cues, no flexibility remains and there is only one possibility to interpret the sentence. This assumption is supported by on-line processing findings indicating that encountering *only* leads to anticipating focus and triggering a set of alternatives [8], [9], [10]. By contrast, we hypothesize that in sentences with *always* there are in principle several strategies one can use to determine how to partition the sentence into restriction and scope, and when an element is focused, speakers can use focus a default way to narrow down this set of possible partitions (where the focused element is plugged into the scope and non-focused material into the restriction, due to its assumed contextual saliency). We suggest that this difference between having a fixed predetermined strategy to identify the truth condition of a sentence (with *only*), as opposed to having a set of strategies which needs to be narrowed down (with *always*), correlates with lower vs. higher degree of uncertainty regarding the interpretation respectively, which may lead to less vs. more processing load, respectively and thus to a lower vs. higher difficulty to match the sentence with the pictures, respectively. That there is a correlation between higher uncertainty regarding interpretation and greater processing load has received independent on-line processing support in previous studies (e.g. [11]).

Our findings also indicate that when the identification of focus is determined by prosodic cues, it was more difficult than with syntactic cues. We hypothesize that this is because in the latter there were two possible associates, whereas in the former only one. In sentences with pre-verbal *always*, then, there were two levels of flexibility, crucially leading to enhanced processing load: first, different strategies to determine the truth condition and second (once focus is used as a default strategy to determine truth conditions), two possible associates, whereas in sentences with *only*, there is only one level of flexibility in this condition (namely determining the associate).

Further potential applications: As pointed out above, previous experimental studies compared *only* to (a) overt particles like *also* / *even*, with very different operations but the same argued degree of association with focus, or to (b) a covert operator with a similar operation, (*exh*), but NOT to (c) an overt particle with similar operation but a different degree of association with focus, namely *always*, as we did here. If our conclusions are on the right track, comparing *only* to *always* in a more fine-grained on-line processing experiment can raise interesting questions and options for future research. For example, [10] showed that the presence of *only* in a sentence caused participants to expect mention of one of the relevant alternatives. If this is because *only* conventionally associates with focus, would the results with *always* differ? Another potential question concerns interference effects of *only* (*also* and *even*), relative to bare focus in activation and selection of alternatives, reported in [8], [9], which were attributed to the conventionalized association of these particles with focus. Examining the behavior of *always* in parallel experiments may shed light on whether such hypotheses are correct, and more generally on the relationship between processing of focus particles and processing of focus alternatives.

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Inclusive ‘only’ in German

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Introduction. In this paper, we investigate a so far unexplored reading of the German focus particle *nur* (‘only’) and look at its occurrence in clauses introduced by *wenn* (meaning either conditional ‘if’ or, in our cases, temporal ‘when’; see Fabricius-Hansen & Sæbø 1983). In those occurrences, inserting *nur* adds a meaning component to the semantic interpretation that can be paraphrased as ‘-ever’. The sentence (1) expresses something like ‘whenever the situation *x* holds’, and thus *nur* in cases like (1) emphasizes the ‘inclusion’ rather than the exclusion of focus alternatives (here: situations where the speaker is able to go to the pool).

- (1) Wenn ich **nur** kann, gehe ich ins Schwimmbad.
when I PART can go I to-the swimming-pool
‘Whenever I am able to, I go to the swimming pool.’

Accordingly, German *nur* in (1) features a different interpretation than it usually has, as shown in (2), where it occurs sentence-initially. Here, *nur* does its usual job of excluding focus alternatives (in this case, situations where the speaker is able to go to the pool). Interestingly, this restrictive meaning component seems to be absent in sentences like (1).

- (2) **Nur** wenn ich kann, gehe ich ins Schwimmbad.
PART if/when I can go I to-the swimming-pool
‘Only if/when I am able to, I go to the swimming pool.’

We explored this novel observation by first conducting a relevant corpus study, addressing the question of how frequent the described pattern in (1) is, and in which forms it occurs in natural contexts. Furthermore, since accommodation and the presence of alternatives play an important role when it comes to focus particles like *only* (see Gotzner et al. 2016; Gotzner 2019), we were interested in the question of whether alternatives are present in the case of the target construction compared to similar constructions. Based on this corpus study, we carried out an online judgment experiment that tested to what extent the differences sketched above (exclusion vs. inclusion) are perceivable and detectable by experimental methods.

Corpus study. By means of the DWDS corpus (Klein & Geyken 2010), specifically the corpus of the German daily newspaper *Der Tagesspiegel*, we searched for occurrences of German *wenn*, followed by the particle *nur*, followed by a modal verb (92 hits) or a full verb (229 hits). We only analyzed sentences featuring indicative mood (206 sentences; 53 with modal verbs; 153 with full verbs) since we were not interested in the reading of *nur* as optative particle. We further classified all occurrences of *nur* (ONLY) and the verb (X), resulting in five patterns (frequency of occurrence in %): Pattern 1: NOT ONLY X (3%); Pattern 2: ONLY X (35%); Pattern 3: ONLY X ... NOT Y (5%); Pattern 4: SCALAR (18%); Pattern 5: TARGET (37%); not classifiable (1%). 96% of the modal verbs and 16% of the full verbs were classified as the TARGET pattern.

We further coded the presence of alternatives in the critical sentence or in the immediate surrounding context. We classified alternatives as either being (i) explicitly mentioned (‘*Aber so wie das ist wenn man nur denkt und es nicht gleicht tut, man vergisst es einfach.*’; alternative: ‘tut’), (ii) reconstructable (‘*Oft bin ich schon satt, wenn ich die Nahrung nur betrachte.*’; alternative: ‘esse’), (iii) or as not present (‘*So klingt der american dream: Du kannst alles, wenn du nur willst.*’). Each of the five categories differed with respect to the involvement of alternatives. While the majority of sentences of patterns 1 and 3 involved explicitly mentioned alternatives, the majority of cases of patterns 2 and 4 involved reconstructable alternatives. Crucially, for pattern 5, our TARGET, alternatives were coded as neither being explicitly mentioned nor reconstructable. Therefore, ‘inclusive *nur*’ differs remarkably from the otherwise very similar constructions concerning the presence of alternatives.

Online judgment experiment. We conducted an online judgment experiment where we presented participants with sentences like (1) and (2). We further included the same sentences where we either deleted the particle or where we substituted the particle by German *immer* (‘always’). We created 10 sentences of the form ‘*wenn ich kann, mache ich x*’ (‘if I am able to, I do x’). For each of the 10 sentences, we created 4 conditions: Condition 1 contained no particle (PLAIN); condition 2 contained the

exclusive *nur* preceding *wenn* (ONLY-EXCL); condition 3 contained the inclusive *nur* preceding *können* (ONLY-INCL); condition 4 contained *immer* (ALWAYS). 10 sentences similar to the test sentences were added as fillers. The 50 sentences were allocated to 5 lists by means of Latin square design.

On a six-point Likert scale with response options ranging from ‘very rarely’ to ‘very often’, 36 native speakers of German rated the frequency with which the action in question is performed. If *nur* highlights the inclusion of values in (1), resembling the temporal interpretation of *always*, ratings should not differ from the sentences containing *always*. If *nur* highlights the exclusion of alternatives in (2), ratings should differ from the other conditions.

The mean overall rating for the experimental sentences was 3.8 (SD 1.5). The ratings for the conditions PLAIN and ALWAYS were the highest ones (4.1), closely followed by the rating for the condition ONLY-INCL (3.9). The rating for the condition ONLY-EXCL was the lowest one (3.0; see

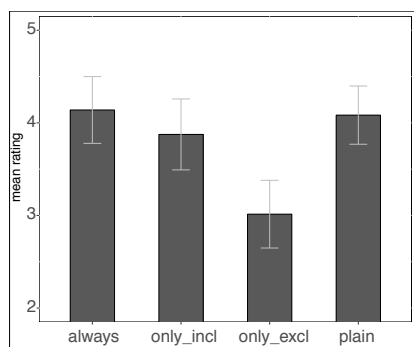


Figure). Linear models with CONDITION as fixed factor reveal that there was no significant difference between the conditions PLAIN and ALWAYS ($t = -0.25$), between the conditions ONLY-INCL and ALWAYS ($t = -1.03$), and between the conditions ONLY-INCL and PLAIN ($t = 0.91$). This indicates that the sentences in all three conditions lead to the same temporal interpretation. However, and crucially, there was a significant difference between the conditions PLAIN and ONLY-EXCL ($\beta = 1.07$, $SE = 0.22$, $t = 4.97$, $p < .001$), between ALWAYS and ONLY-EXCL ($\beta = -1.13$, $SE = 0.25$, $t = -4.59$, $p < .001$), and between ONLY-INCL and ONLY-EXCL ($\beta = -0.86$, $SE = 0.25$, $t = -3.49$, $p < .001$). This indicates

that the temporal interpretation of sentences containing the exclusive version of *nur* differs from the other three conditions in that the performance of the action in question was rated as occurring less frequently.

Discussion. The corpus study on inclusive *nur* suggests that the pattern exemplified in (1) above is frequent, that it has to be distinguished from four other similar patterns, and that the five patterns differ with respect to the presence of focus alternatives—inclusive *nur* being the only pattern where alternatives are neither explicitly mentioned nor reconstructable.

The judgment data confirmed our observation that there are different readings of the focus particle *nur* in German: one that is clearly exclusive and thus significantly differs from all other conditions in triggering a reading where the respective action *x* is interpreted as taking place more rarely/less often, while the other ‘inclusive’ *nur* patterns with the readings of both *immer* and with the plain utterance containing no modification. In those cases, the respective action *x* is interpreted as taking place more often. Accordingly, we have solid empirical evidence that there is indeed an inclusive reading of the focus particle ‘only’ in German.

We suggest that the inclusive interpretation of *nur* can be analyzed by the domain-widening strategy of antiexhaustiveness as proposed by Chierchia (2006). Adopting this particular analysis of free choice items for the analysis of inclusive *nur* makes sense for many reasons. One of them is that the focus denoted by temporal *wenn* (‘when’) cannot refer to ‘never’ and must always contain at least one more focus alternative (cf. ‘Wenn ich nur kann, gehe ich ins Schwimmbad ... and that’s actually always except Sundays/and that’s actually never except Sundays/ #and that is never the case’). In other words, although natural occurrences of inclusive *nur* usually do not involve explicitly mentioned or reconstructable alternatives (see our corpus study), we thus see that inclusive *nur* (due to its domain widening) nevertheless requires focus alternatives as part of its denotation and truth conditions.

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Widening and exhaustifying alternative propositions in multiple wh-exclamatives

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Since the seminal paper by Zanuttini and Portner (2003), it has been widely acknowledged that the semantics of main clause wh-exclamatives (e.g., (1)) includes the operator *widening*. This operator widens a set of alternative propositions expressed by a wh-exclamative clause. To illustrate, assume that sentence (1) has the initial set of propositions such as {‘I ate a bonbon’, ‘I ate an apple pie’, ‘I ate an ice-cream’} and the widening operator adds a new proposition ‘I ate a chocolate cake’ which is remarkable to some extent and surprises the speaker.

Languages seem to divide into those which allow only for degree predicates in a wh-phrase within exclamatives (e.g., *tasty*) and those which do not impose such restrictions on wh-exclamatives. Languages such as Classical Greek, English, Korean, Hindi, Romance languages belong to the former type of wh-exclamatives, whereas languages such as Bulgarian, Dutch, Estonian, Georgian, German, Hebrew, Hungarian, Lithuanian, Russian, Turkish exhibit the latter type of wh-exclamatives, see Zevakhina (2016). To illustrate, Russian sentence (2) is grammatically correct, whereas its literal interpretation does not form a natural English sentence.

As for multiple wh-phrases, they have been extensively studied in interrogatives (e.g., *Who invited whom to the party?*) in various languages with respect to single-pair vs. pair-list readings, the order of wh-phrases, coordination of wh-phrases (for in Slavic languages see Rudin 1988, Kazenin 2002, Grebenyova 2004, Rojina 2011 among others). However, to the best of our knowledge, multiple wh-phrases in exclamatives (see (3)) have not been studied yet. Sentence (3) has two interpretations: single-pair and pair-list, and a single-pair interpretation seems to be preferred over a pair-list interpretation. However, from the theoretical point of view, at the first glance, it is not clear how we can derive these two interpretations within the set-propositional approach by Portner and Zanuttini (2003). Moreover, from the empirical point of view, it is not clear whether the intuition of the preference of a single-pair interpretation over a pair-list interpretation meets the reality and why.

The goal of the paper is to answer these two questions relying upon the data of Russian, which is a language that allows for multiple exclamatives with degree and non-degree wh-phrases.

From the theoretical point of view, it seems natural to assume that pair-list interpretations are derived via the widening operator. To illustrate, assume that in (3) the initial set of alternative propositions comprises {‘Peter invited Kate’, ‘Gregory invited Lucy’} and the widening operator adds ‘Bill invited Mary’, ‘Tom invited Susan’, ‘John invited Ann’ to the initial set. Then, the derivation of a single-pair interpretation seems to be similar to the derivation of an exhaustive inference in question-answer pairs, e.g., *Who came to the party? – Tom and Susan* (inference: Nobody else came to the party). To illustrate, pair-list interpretations for (3) are exhaustified and we get ‘Bill invited Mary’ with an inference: Nobody else invited anybody else.

From the empirical point of view, we conduct an experimental study aimed at discovering whether there is a preference for single-pair interpretations of wh-exclamatives over pair-list interpretations of them. The factors that might influence such a preference are as follows: the order of wh-phrases, coordination/lack of coordination of wh-phrases, argument/adjunct status of wh-phrases. All these parameters are also tested in wh-interrogatives.

We prepared the following data for the experiment: 32 stimuli sentences (16 exclamatives and 16 interrogatives), see (3) for an exclamative with two coordinated argument wh-phrases. Exclamatives are introduced with interjections. All the 32 verbs (one verb per sentence) are either transitive or intransitive: in case of transitive verbs, both arguments are wh-phrases; in case of intransitive verbs, one wh-phrase is an argument and another wh-phrase is an adjunct.

There are 40 fillers and they are either grammatical or non-grammatical (with an incorrect case assignment), see (4) for a non-grammatical filler (the grammatical version is to change Dative to Nominative). The experiment is designed so that participants have to evaluate, firstly, the grammaticality of sentences on a 5-point Likert scale (ranging from “1” as ill-formed to “5” as well-formed) and, secondly, both possible interpretations of the sentences: single-pair and pair-list. We plan to distribute all the stimuli and fillers between 2 experimental lists, with 15 participants allocated to 1 list (all in all, 30 people are supposed to take part in the experiment).

(1) *What a tasty dessert I ate yesterday!*

(2) *Ogo, kto k nam priexal!*
 INTERJ who to us come.PST

‘You won’t believe who has come to us!’ (literally: ‘Wow, who has come to us!’)¹

(3) *Ogo kto kogo priglasil na užin!*
 INTERJ who whom invite.PST to dinner

‘You won’t believe who invited whom to dinner!’ (literally: ‘Wow, who invited whom to dinner!’)

Single-pair interpretation: ‘Bill invited Mary’.

Pair-list interpretation: ‘Bill invited Mary, Tom invited Susan, John invited Ann’.

(4) **Malčik-u zabil gvozd’-Ø molotk-om.*
 boy-DAT.SG bang.in.PST nail-ACC hammer-INST

‘The boy bang in a nail with a hammer.’

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¹ Sentences such as *You won’t believe who has come to us!* or *Look, who has come to see you!* exemplify the use of non-degree exclamatives in an embedded context.

Focus and topic propositions in why questions, an experimental study on Italian

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The present study aimed to test through two different (pilot) experiments respectively: (1) if the presence of fronted focus in why-questions guides the hearer in the interpretation and (2) if either the falsity of the proposition expressed by an embedded clause or the I-to-C movement of subject block in why-questions the “long distance construal” (LDC) in which *why* is taken to modify the embedded clause. Why-questions present peculiar syntactic and semantic properties compared to other wh-questions. On the syntactic side, Rizzi (2001) proposes that the why operator originates in a left peripheral position (higher than focus), rather than being extracted from the sentence radical. On the semantic side, why-questions were first investigated by philosophers of science in order to find a well-formed definition of a scientific explanation. In particular, van Fraassen (1980) construes explanations as answers to why-questions. According to van Fraassen, a why-question Q can be identified with a triple (Pk, X, R), where Pk is the topic of the question, X, a set {P1, ..., ..., Pk, ... } of propositions, namely a contrast-class; and R is a relevance relation. Following van Fraassen (1980) definition, all pairs why-question-answer can be analysed having the canonical form expressed in (1).

(1) Q: “Why PK (instead of the rest of X)?” A: “PK (instead the rest of X) because of A”

On this view, the proposition expressed by the sentence radical is one element of the question denotation and the why-operator must be generated outside the sentence radical, consistently with the syntactic analyses mentioned above. Van Fraassen (1980) in addition to identify a why-question with a triple, gives an account of three presuppositions of a why-question: a. the presupposition that the topic is true, as highlighted also by Bromberger (1996); b. a contextually determined presupposition that stipulates that among the member of the question’s contrast-class, only the topic is true; c. is also a contextually-determined presupposition that at least one of the propositions that bear the question’s relevance relation to its topic is true. Shaheen (2010) reworked van Fraassen’s (1980) account in the framework of the partition semantics for questions and proposed that the contrast-class is determined by a contextually relevant question under discussion. In the present study, I followed Shaheen’s (2010) insights by referring to Alternative Semantics for Focus (Rooth 1992).

Materials and Methods

The first study aimed to test the hypothesis that hearers exploit the presence of a fronted focus to construe the contrast class. The experiment consisted in a forced-choice comprehension test, run through an online survey software. 72 participants were presented with 12 why-questions with fronted focus and asked to choose between two possible answers. Specifically, 12 stories (i.e., contexts) were presented one by one, each of them followed by an orally presented question with the Spec,FocP filled either with a direct object (henceforth DO) or a prepositional phrase (henceforth PP). Subjects were asked to choose the most satisfactory answer between two options, both contextually relevant: one was answering to a contrast with the DO and the other was answering to a contrast with the PP. All the why-questions had a null subject (see 2-a and 2-b), in order to avoid any other variable in interpreting the questions. All questions were previously recorded with the correct prosody contour by a female Italian native speaker.

(2) a [FP Force [IntP perchéWH [IntWH [FocP le chiavi [IP ha dato a Gianni]]]]?

b [FP Force [IntP perchéWH [IntWH [FocP a Gianni [IP ha dato le chiavi]]]]?

The second experiment consisted in a forced-choice comprehension test, run through an online survey software. 68 participants were presented with 12 why-questions with an embedded clause introduced by the Italian verb *dire*, in English “to say”. In specific, 12 stories (the contexts) were presented one by one, each of them followed by a written question. The subjects were asked to choose the most satisfactory answer between two options, both contextually relevant. All the why-questions were presented having either with a null subject or with an overt subject (see 3-a and 3-b). 24 experimental items were tested: 12 contexts were coupled with a question with a true embedded clause and the other

12 contexts were coupled with a question with a false embedded clause. All the 24 items were thus presented under two conditions, either with null subject or with overt subject. In (3) it is shown an example of a context followed by a question with an embedded clause expressing a false proposition. In this scenario, unlike those followed by questions with an embedded clause expressing a true proposition, the predictions are that the participants choose the answer congruent with the SDC regardless of the presence of the subject.

(3) Luca worked in a hotel until a few days ago but was fired after being caught smoking inside the hotel by his employer. However, he told his parents that he had been suspended for a few days. He didn't want to make them worry too much about his little stunt.

a Perché ha detto che è stato sospeso?

“Why did (he) say that (he) has been suspended?”

b Perché Mario ha detto che è stato sospeso?

“Why did Marius say that (he) has been suspended?”

- Because he didn't want to worry his parents.
- Because he smoked inside the hotel.

Results

In the first experiment, when a DO was in the focus position, participants significantly chose most of the times (79.63%) the answer satisfying the contrast with the DO, while the DO interpretation was preferred only 20.37% of the times when a PP is in focus position. In the second experiment why-questions with a false embedded clause were interpreted as SDC 92.89% of the times and as LDC only 7.11% of the times, while why questions with a true embedded clause were interpreted as SDC 63.73%, that is 29.16% less than why questions with a false embedded clause. Why questions with a true embedded proposition were interpreted as SDC 56.37% of the times and as LDC 43.63% of the time in the presence of a null subject. The situation slightly changes in the presence of an overt subject. In this case, questions were interpreted as SDC 71.08% of the times while as LDC 28.92% of the times.

Discussion and Conclusions

The results in the first experiment are in line with the starting hypothesis: the proposition expressed by the sentence radical is one element of the question denotation, thus the why-operator must be generated outside the sentence radical. In this way, the alternatives must be defined at a compositional level below the why-operator. It appears that FocP is located exactly below the why-operator. The results showed that the falsity of the embedded clause blocks the LDC in both conditions (either null subject or subject in a preverbal position in the matrix clause), confirming that in LDC, the embedded clause acts as van Fraassen's topic proposition, therefore it must be true. The overt subject in preverbal position in the matrix clause was expected to syntactically block the LDC since it indicates a lack of syntactic movement, but no significant difference was found between the two experimental conditions in why question with a true embedded clause. Further studies must be conducted in order to shed light on this issue.

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The effects of focalisation on Italian doubly quantified sentences

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Background: It is a well-known fact in the literature since Montague (1973) that doubly quantified sentences are ambiguous between the so-called surface scope and inverse scope readings. It is also quite notorious that information structural properties influence the way in which these sentences are interpreted (Krifka, 2008; Anderson, 2004; Neeleman & Van de Koot, 2010, a.o.). There is a strong consensus among scholars (Ioup, 1975; Sæbø 1997; Endriss, 2009; a.o.) about the fact that a topical QP will be interpreted as taking wide scope. When it comes to focus, however, the discussion about its effects on scope is still open. Some authors believe that focalisation of a QP will lead to a wide scope interpretation (Williams, 1988; Krifka, 2004). On the other hand, other scholars think that it leads to narrow scope (e.g. Diesing, 1992; Surány & Turi, 2017). In addition, Ertshick-Shir (1997) believes that only contrastiveness plays a role. In this work I experimentally tested what are the effects of different types of foci (building on Bianchi, Bocci & Cruschina, 2015) on inverse reading availability in Italian doubly quantified sentences.

The experiments: I ran two experiments consisting of a sentence-pair acceptability judgment task (see Szabolcsi, 2010 for methodology) to test the effects of focalisation on doubly quantified sentences. In the first experiment the quantifiers were in subject and object position. The subject of the sentence was an indefinite (i.e. a NP) while the direct object – undergoing focalisation - was the universal *ogni* (every) or *ciascuno* (each). Participants saw a short context (1.a) introducing the doubly quantified sentence (the 5 experimental conditions are displayed in 2.a-e) and a continuation sentence (3.a). I created one single list which included 10 fillers as controls, in a pseudo-randomised order. The continuation sentence was coherent with the doubly quantified sentence and with the context if and only if participants had had access to the inverse reading of the doubly quantified sentence:

(1.a) **Context** *Paolo has a large garden centre. At his garden centre it is possible to find a lot of different and beautiful varieties of tropical plants – among them, a lot of different types of bamboos – that are taken care of daily by his numerous employees. Paolo is now talking with his wife:*

2.a) Contrastive Focus (CF)

A: Alcuni bambù sono stati trapiantati
B: No, ti sbagli. Un operaio ha trapiantato OGNI BAMBÙ!
A: *Some bamboos have been transplanted*
B: *No, you're wrong. An employee has transplanted every bamboo*

2.b) Fronted (Left) Contrastive Focus (CFLD)

A: Un operaio ha trapiantato dei bambù.
B: No, ti sbagli! OGNI BAMBÙ, un operaio ha trapiantato.
A: *An employee has transplanted some bamboos.*
B: *No, you're wrong! Every bamboo, an employee has transplanted.*

(2.c) New Information Focus (NIF)

A: Che cosa è stato trapiantato?
B: Un operaio ha trapiantato OGNI BAMBÙ.
A: *What has been transplanted?*
B: *An employee has transplanted every bamboo.*

2.d) Mirative focus (MF)

A: Le malelingue dicono che in questo vivaio si lavora poco ma un operaio ha trapiantato OGNI BAMBÙ, pensa te!
A: *Slanderers keep saying that in this garden centre we do not work a lot, but an employee has transplanted every bamboo, imagine!*

(3.a) Continuation sentence

Infatti sono più di 10 gli operai al lavoro.
In fact, there are more than 10 employees at work.

In the second experiment the subject of the sentence was not quantified while the two quantifiers were complements of the verb (direct object and a PP):

(5.a) **Context** *The director of the big law firm in which I work is a good person. He personally takes care of buying gifts to the employees for Christmas.*

6.a) Corrective Focus (CF)

A: Il direttore ha consegnato un regalo ad alcuni avvocati.
B: No, ti sbagli! Il direttore ha consegnato un regalo AD OGNI AVVOCATO.

A: *The director has delivered a gift to some lawyers.*
B: *No, you're wrong! The director has delivered a gift TO EVERY LAWYER*

6.b) Fronted Corrective Focus

A: Il direttore ha consegnato un regalo ad alcuni avvocati.
B: No, ti sbagli! AD OGNI AVVOCATO, il direttore ha consegnato un regalo!

A: *The director has delivered a gift to some lawyers.*
B: *No, you are wrong! TO EVERY LAWYER the director has delivered a gift.*

(6.c)New Information Focus (NIF)

A: A chi ha consegnato dei regali il direttore?
 B: Il direttore ha consegnato un regalo AD OGNI AVVOCATO.

A: *To whom has delivered some gifts the director?*
 B: *The director has delivered a gift TO EVERY LAWYER.*

(6.d)Mirative Focus (MF)

A: Mi avevano detto che il direttore avesse un favorito, l'avvocato Franceschi, ma per Natale il direttore ha consegnato un regalo AD OGNI AVVOCATO, pensa te!

A: *I have been told that the director has his own favourite, namely the lawyer Mr. Franceschi, but for Christmas the director has delivered a gift TO EVERY LAWYER, imagine!*

(7.a) Continuation sentence

Infatti, all'avvocato Rossi ha regalato una cravatta, all'avvocato Bianchi una pipa, e all'avvocato Verdi un orologio.

In fact, to the lawyer Rossi he gave a tie, to lawyer Bianchi a pipe, and to lawyer Verdi a watch.

This second experiment also consisted of a single list which included 10 fillers as control in a pseudo randomised order. Participants were asked to evaluate the acceptability of the continuation sentence wrt. the previous doubly quantified sentence and context using a 5-points Likert scale (from -2, *totally unacceptable*, to +2, *completely acceptable*). 30 adult native speakers of Italian (*per experiment*) took part in the survey which was administered in laboratory through the online interface *SurveyMonkey*.

Results and Discussion

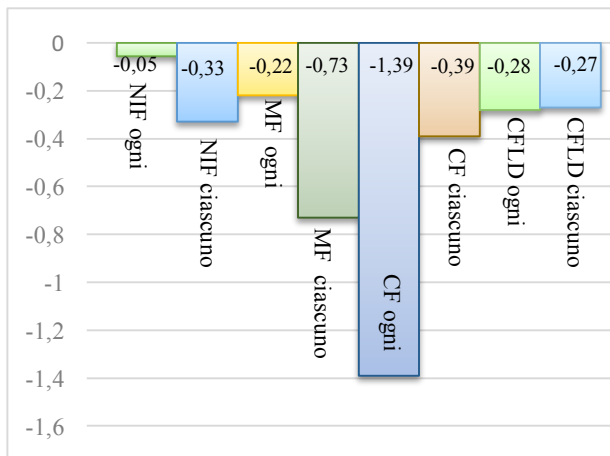


Figure 1- Results first experiment

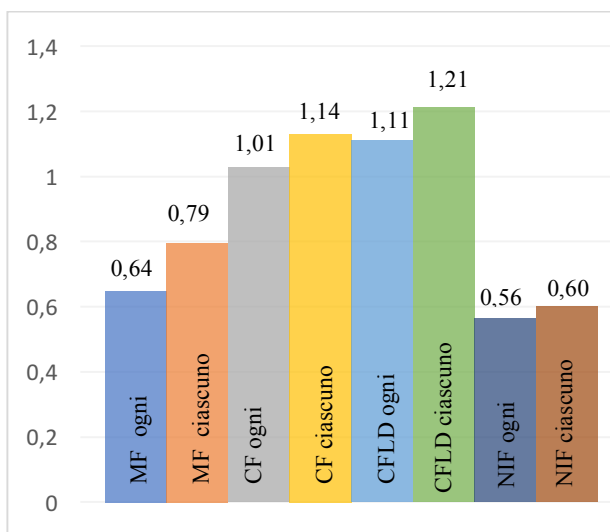


Figure 2 Results second experiment

The results from the first experiment (QPs in subject and object position) are displayed to the right. The graph shows mean values only. It is possible to observe how all the experimental conditions perform negatively. Contrastive focus with *ogni* is the worst (-1,39), while new information focus is the best with a mean value of -0,05. The second graph shows results for the second experiment.

First of all, we can observe that here all conditions performed positively and that *ciascuno* always perform better than *ognuno*. Corrective focus left dislocated elicited the best results (*ciascuno*: 1,21; *ognuno*:1,11). It follows corrective focus (*ciascuno*:1,14; *ognuno*1,01), mirative focus (*ciascuno*: 0,79; *ognuno*:0,64). New Information focus elicited slightly marginal results (*ciascuno*:0,60; *ognuno*: 0,56). The first experiment suggests that focalisation blocks wide scope of the direct object. This can be connected with the high syntactic position and the criterial status/topical status of the subject (Rizzi, 2007, Shlonsky, 2014) boosting narrow scope of the object. The second experiment tells us that focus actually boosts inverse reading – specifically if it is a left dislocated corrective and an *in-situ* corrective focus. This can be explained building on Bianchi (2019) who proposes that corrective focus in Italian always involve movement and that only one of the two available copies in the chain is spelled out. We could speculate that corrective focus is the best performing condition because it is the only one that produces an effect on the conversational dynamics by rejecting a proposition already introduced in the common ground and by inserting a new one with its set of (corrective) alternatives (see Bianchi 2013–building also on Van Leusen, 2004).

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More than the intervention effect in Korean *why* constructions

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Introduction: Korean has a restriction on the position of *wh*-phrase and a scope-bearing element (SBE) such as *amwuto* ‘anyone’, *man* ‘only’, and *to* ‘also’. The Intervention Effect occurs when a *wh*-phrase is c-commanded by SBE as in (1a). It has been discussed that SBE blocks the matrix scope *wh*-phrase at LF, which does not in the reversed order shown in (1b).

- (1) a. *Amwuto mwues-ul ilk-ci anh-ass-ni? b. Mwues-ul amwuto t₁ ilk-ci anh-ass-ni?
Anyone what-ACC read-CI not-Past-Q What-ACC anyone read-CI not-Past-Q
‘What did no one read?’

The previous literature has also shown that this Intervention Effect is weakened in Korean *why*-constructions as presented in (2) (Lee, 2002; Ko, 2005).

- (2) a. Amwuto way ku chayk-ul ilk-ci anh-ass-ni? b. Way amwuto ku chayk-ul ilk-ci anh-ass-ni?
Anyone why that book-ACC read-CI not-Past-Q Why Anyone that book-ACC read-CI not-Past-Q
‘Why did no one read that book?’
(Ko, 2005; 872)

Puzzle: It has not been discussed, however, that the Intervention Effect is sensitive to the position of *why* with other embedded elements and the availability of the embedded scope of *why* differ across types of SBEs.

- (3) a. *Amwuto [John-i way saimha-yess-ta-ko] malha-ci anh-ass-ni?
Anyone John-Nom why resign-Past-Dec-C say-CI not-Past-Q
*What is the reason x such that no one said that John resigned for x? (Matrix scope)
*What is the reason x such that no one said that for x, John resigned? (Embedded scope)
- b. Amwuto [way John-i saimha-yess-ta-ko] malha-ci anh-ass-ni?
Anyone why John-Nom resign-Past-Dec-C say-CI not-Past-Q
What is the reason x such that no one said that John resigned for x? (Matrix scope)
*What is the reason x such that no one said that for x, John resigned? (Embedded scope)
- (4) a. Mary-nun/-ka/-man/to [John-i way saimha-yess-ta-ko] malha-ass-ni?
Mary-TOP/NOM/only/also John-Nom why resign-Past-Dec-C say- Past-Q
*What is the reason x such that (only) Mary (also) said that John resigned for x? (Matrix scope)
What is the reason x such that (only) Mary (also) said that for x, John resigned? (Embedded scope)
- b. Mary-nun/-ka/-man/-to [way John-i saimha-yess-ta-ko] malha-ass-ni?
Mary-TOP/NOM/only/also why John-Nom resign-Past-Dec-C say- Past-Q
What is the reason x such that (only) Mary (also) said that John resigned for x? (Matrix scope)
What is the reason x such that (only) Mary (also) said that for x, John resigned? (Embedded scope)

(3) presents an SBE, *amwuto* ‘anyone’, while (4) presents other types of SBEs such as *-man* ‘only’, *-to* ‘also’ as well as non-intervenors such as a topic marker *-nun* and a nominative marker *-ka*. First, in terms of the position of *why*, the Intervention Effect occurs only when *why* is preceded by the embedded subject *John*, disallowing the matrix scope of *why* in (3a) and (4a), regardless of types of SBEs. *why*, however, cannot have the matrix scope even when there is no SBE as shown in (4a). This implies that there must be some other factors that do not allow the matrix scope of *why* when it is preceded by the embedded subject. The second puzzle is that *why* can have the embedded scope with all other SBEs except *amwuto* ‘anyone’ as illustrated in (4), regardless of the position of *why* with other embedded elements.

Analysis: First, let’s take a look at the position of *why* in relation to the embedded elements. *why* cannot take a matrix scope when it is preceded by the embedded elements in (3a) and (4a), while it can when *why* is followed by all other embedded elements as in (3b) and (4b), regardless of the types of SBEs and even without SBEs. I adopt the concept of post-focus reduction (Tomioka, 2009) and the presupposition of *why* to account for this phenomenon.

According to Tomioka (2009), if there is a focused phrase, it has a high-pitch accent and triggers the reduced pitch range of the rest of the following focused elements, so-called ‘post-focus reduction.’ Under this prosodic effect, any elements, including an intervenor, which follow the focused *wh*-phrase would be placed within the post-focus reduction domain. I further propose that the post-focus reduction

domain of *why* must consist of its presupposed proposition. *Why* has a peculiar property that the non-*why*-portion in a *why*-question corresponds to a presupposed proposition, without any replacement to a noun like *someone* or *something*. This pragmatic property of *why* leads to a strong favor of unified prosodic unit over the dispersion. For example, the non-*why*-portion *Mary came late* is presupposed for (5) to be felicitous.

(5) Why did Mary come late?

Thus, I assume that the full proposition that is presupposed need to be preceded by *why*, which is the domain of the post-focus reduction prosodically. Only when *why* precedes the whole focus-related embedded elements, it satisfies the post-focus reduction. When any element of the presupposed proposition precedes *why* and is not part of the domain of the post-focus reduction, on the other hand, it is prosodically and pragmatically degraded. This prosodic and pragmatic account of the scope of *why* explains the variance of the judgments on intervention effects across individual speakers.

The second puzzle observed earlier is the peculiarity of *amwuto* ‘anyone’. All other SBEs allow the embedded scope of *why* (even the constructions without SBEs), while *amwuto* ‘anyone’ does not. It can be attributed to the property of *anyone* as a negative polarity item. *amwuto* ‘anyone’ always co-occurs with negation as it is a NPI. The sentences in (6), in fact, provide a piece of evidence that it is negation that disallows the embedded scope of *why*. In order to tease apart the effect of *amwuto* ‘anyone’ and negation, we negated the sentences in (4a), which contain no SBE or other SBEs that are not NPIs as below:

- (6) *Mary-nun/-ka/-man/to [John-i way saimha-yess-ta-ko] malha-ci anh-ass-ni?
 Mary-TOP/NOM/only/also John-Nom why resign-Past-Dec-C say-CI not-Past-Q
 *What is the reason x such that (only) Mary (also) did not say that John resigned for x? (Matrix)
 *What is the reason x such that (only) Mary (also) did not say that for x, John resigned? (Embedded)

As they are negated, *why* no longer take the embedded scope, resulting in the same pattern with the sentence containing *amwuto* ‘anyone’ in (3a). Likewise, when the negation is added to (4b) where *why* precedes all other embedded elements, it disallows the embedded scope of *why*, either, all of which are the same pattern with the sentences containing *amwuto* ‘anyone’.

I argue that it is the focus semantic value of *why* that disallows the embedded scope when the negation occurs in sentences. Under Rooth (1992)’s alternative semantics, *why* can have a focus semantic value. Let me first formulate a question based on the affirmative (4) and the negative (6), respectively, as (7a) and (7b) to make the focused embedded clause be the target answer of the question. Assuming the embedded scope of *why*, what Mary told for (4), or what Mary did not tell for (6) must indicate the focused *why* phrase ‘the reason of John’s resignation’.

(7) a. What did Mary tell (about John’s resignation)? b. What did Mary not tell (about John’s resignation)?

The answer for affirmative (7a) would be what Mary told, which is the focused *why* phrase: Mary told about the reason for John’s resignation. The answer to the negative (7b), on the other hand, is unspecified, having many alternative answers about what Mary did not tell. It can be anything except what Mary told. In other words, the answer for (7b) must exclude what Mary told (about resignation), which corresponds to the focused *why* embedded clause. The focused phrase $[[\text{why}]_F \text{John is resigned}]_F$, however, is the intended target answer, resulting in a contradiction. Assuming *why* has a focus semantic value, its set of propositions is expected to be (8):

(8) $[[[\text{s}[\text{Why}]_F \text{John resigned}]]_F] = \{\text{resigned}(J, x) | x \in E\}$, where E is the domain of the reason for an event.

The focus semantic value for (8) is the set of propositions of the form ‘the reason x why John resigned.’ This set of properties rules out other possible information on resignation such as the place (where) or date (when) about John’s resignation as *why* receives the focus semantic value. This focus semantic value of *why* implies that what matters is the reason for John’s resignation. Under this analysis, (7a) is a proper question in that the embedded clause contains a proposition that focuses on the reason why John resigned. (7b), however, ask about the information on what Mary did not tell about the resignation, not what she told, or the focused embedded clause. This question seeks other alternatives rather than the focus content. In this view, we can explain why negation blocks the embedded scope of *why* even without intervenors. **Selected reference:** Rooth, M. 1992. A theory of focus interpretation. *Natural Language Semantics*, 75-116.

Two kinds of broad focus in polar questions

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Turkish polar questions are formed with a focus-sensitive clitic that attaches to the narrowly focused phrase (Kornfilt 1997). I show that in the absence of narrow focus, there are still two distinct morphosyntactic articulations possible that account for two distinct (broad focus) readings, attesting to a PQ meaning not noticed before. I argue that the readings are different due to the different sets of propositional alternatives that underlie the two options. A picture emerges exactly as predicted by Krifka's notion of monopolar questions, which I supplement by broad focus alternatives created via focus projection.

The clitic *-mI* in Turkish attaches to focused phrases and creates focused PQs which have a meaning comparable to a clefted PQ in English. The fact that the host of the clitic is focused is clearly seen in an alternative question (which features the clitic on both alternatives).

- (1) a. [Ali]_F *mi dün yemek yaptı?*
Ali MI yesterday dinner made
'Was it Ali who made dinner yesterday?'
- b. *Ali mi dün yemek yaptı, Markus mu/*bugün mü/*yapmadı mı?*
Ali MI yesterday dinner made Markus MI today not-do
'Was it Ali who made dinner yesterday, or Markus/*or today/*or not?'

This could mean that the only way of building broad focus PQs is attaching the clitic to the predicate. But this is not the case. There are exactly two ways: verb attachment and object attachment. These are both broad focus. Neither does verb attachment have focus semantics, nor does object attachment have object focus. They both work in an all-new context where these focus readings are blocked (contra Kamali 2015).

- (2) A: Good morning! I didn't know you were home.
B: Good morning. I came in after you were all asleep. Tell me . . .
Ali dün yemek yaptı mı?
Ali yesterday dinner made MI
'Did Ali make dinner yesterday?'-VA
B':#DID Ali make dinner yesterday? *True verum focus*

- (3) (Same context)
B: *Ali dün yemek mi yaptı?*
Ali yesterday dinner MI made
'Did Ali make dinner yesterday?'-OA
B':#Was it dinner that Ali made yesterday? *Object focus*

Apart from being licensed in all new contexts, the two attachment options differ dramatically. Among other examples, polite requests cannot be formulated with object attachment whereas guesses can only be formulated with them. A more formal difference is that negative concord is only possible in verb attachment.

- (4) A: Guess why the kitchen is a mess.
B: *Ali dün yemek mi yaptı?*
Ali yesterday dinner MI made

B':#Ali dün yemek yaptı mı?
 Ali yesterday dinner made MI
 'Did Ali make dinner yesterday?'-OA/#-VA

- (5) a. Hiçkimse yemek yaptı *(mı)?
 n-body dinner made MI
 b. *Hiçkimse yemek mi yaptı?
 n-body dinner MI made
 'Did anybody make dinner?'-VA/*OA

I propose that the difference lies in different focus alternatives that are triggered based on the two attachment sites. Namely, whereas verb attachment corresponds to the familiar bipolar PQ alternatives of {p, ¬p}, object attachment in broad focus corresponds to monopolar propositional alternatives like {p, q, r ...}. Alternative questions provide the clearest argument for this analysis. Verb attachment rejects clausal alternatives while allowing the polarity alternative. Object attachment is the other way around.

- (6) a. Ali yemek yap-tı mı, yap-ma-dı mı?
 Ali dinner make-past MI make-neg-past MI
 'Did Ali make dinner, or not?'
 b. *[Ali yemek yaptı] mı, [Hasan pizza sipariş etti] mi ?
 Ali dinner made MI Hasan pizza order do MI
 Intended: 'Did Ali make dinner yesterday, or did Hasan order pizza?'
- (7) a. [Ali yemek mi yaptı], [Hasan pizza mı sipariş edecek]?
 'Did Ali make dinner or will Hasan order pizza?'
 b. *Ali yemek mi yap-tı, yap-ma-dı mı?
 Intended: 'Did Ali make dinner, or not?'

Why does object attachment lead to clausal alternatives to begin with? I answer the question with focus projection. Notice that object attachment also corresponds to not only object focus, but crucially also VP focus, attesting to the incremental broadening of focused constituent signaled by a single locus of prominence expected of focus projection (cf. Selkirk 1995).

- (8) a. Ali [VP yemek mi yaptı], [VP ders mi çalıştı]?
 Ali dinner MI made schoolwork MI studied
 'Did Ali make dinner or study his lessons?'
 b. Ali [NP yemek] mi yaptı, [NP tatlı] mı?
 'Did Ali make dinner or dessert?'

In his analysis of focused PQs, Krifka proposes a model which allows propositional alternatives such as {p, q, r . . . } (2014). This can model alternatives like { John won the race, Mary won the race . . . } to underlie a PQ such as Did JOHN win the race? I show that object attachment questions exactly follow Krifka's so-called monopolar questions and fit predictions if we supplement the theory with focus projection, a welcome and unproblematic assumption.

Kamali, Beste. 2015. Information structure in Turkish yes/no questions. In Ankara Papers in Turkish and Turkic Linguistics: Proceedings of the 16th International Conference on Turkish Linguistics, ed. Deniz Zeyrek, Çiğdem Sağın Şimşek, Ufuk Ataş, and Jochen Rehbein, 27-39. Wiesbaden: Harrassowitz Verlag.
 Kornfilt, Jaklin. 1997. Turkish. London & New York: Routledge.
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 Selkirk, Elisabeth O. 1995. Sentence prosody: intonation, stress, & phrasing. In The handbook of phonological theory, ed. John A. Goldsmith, 550-569. Oxford: Blackwell.

Practical Information

W-Lan (WiFi)

There are two ways to get access to the wireless LAN of Humboldt-Universität zu Berlin.

Eduroam *Eduroam* is an infrastructure to provide internet connectivity of the participating federation. Users get verified by the account of their home institution. If you have a working *eduroam* account, your computer should automatically connect via the *eduroam* net of the Humboldt-Universität zu Berlin.

HU-Meeting In case you do not have access via *eduroam*, we provide you with access via the *HU-Meeting* network. You can get your access data at our registration desk.

Privacy advise:

Please use encrypted communication protocol, e.g. `https` or `imaps`, or a `vpn` connection because the data will be transmitted unencrypted over the WiFi network.

Start of usage:

Please connect your computer to the WiFi “HU-Meeting”.

The TCP/IP communication parameters are assigned automatically by DHCP.

Please start a web browser and try to open a web site. Your browser will be redirected to the login page (<https://nexus.cms.hu-berlin.de>). Please login with your account (i.e. `wlanuser123`) and password.

Lunch

Lunch will be catered by Café Seidenfaden on both conference days.

Café Seidenfaden
Dircksenstraße 47
10178 Berlin

Conference Dinner

The conference dinner will take place in the restaurant and tapas-bar **Picoteo** on Thursday 27 February 2020 at **19:30**. The restaurant is located near the station **U Kottbusser Tor** (U-Bahn).

Address: Picoteo – Restaurant and Tapas-Bar
Erkelenzdamm 47, 10999 Berlin