Particles ex-situ in Emphatic *Wh*-Questions

Josef Bayer, University of Konstanz

1. Background and goals Focus particles (FP) as well as discourse particles (DiP) are kinds of operators and therefore take propositional scope. For FPs, there is an ongoing debate about apparent exceptions that emerge from examples like *John eats only vegetables* where *only vegetables* is by all syntactic criteria a constituent while the FP does not prima facie have propositional scope. Something must happen for the FP to attain scope. LF-movement was a popular rescuing device. For DiPs, a similar problem can be noticed. In German, DiPs are known to appear in clause medial position, and according to the most plausible analysis they take at least scope over the minimal proposition ('complete functional complex') VP/vP. Unlike adverbs, they cannot appear in the left or in the right clausal periphery, s. Thurmair (1989). A challenging exception is that there are *wh*-questions in which the DiP forms a constituent with the *wh*-phrase and moves along with it to SpecCP. Thus, the DiP participates in exceptional constituency and appears ex-situ. The first goal of this talk is to give a reason for the exceptional word order and to explain how the DiP obtains propositional scope nevertheless. The second goal is of a more general nature. We develop a theory by which there is parametric variation for particle constructions. Closer inspection reveals that this variation is already established in the grammar of more familiar operator-related areas such as *wh* and negation.

2. DiPs in *wh*-questions In *wh*-questions, DiPs normally remain in clause medial position.

(1) An wen könnte er sich **denn** / **nur** / **schon** / **wohl** gewandt haben?
at who could he REF DENN NUR SCHON WOHL turned have
"Who could he have turned to?"

where it takes scope at least over vP as in (DiP (*er sich gewandt haben könnte*)). The DiP depends on sentence mood, here interrogativity, and it contributes meaning that pertains to the speaker's assumptions about the common ground which he/she shares or believes to share with the addressee. Bayer & Obenauer (2011) propose a probe-goal agreement relation between the left-peripheral force system and the DiP. In the cases under consideration, agreement yields an interrogative enriched with information about the speaker's state of mind depending on the choice of the DiP.

Next to the standard case with the DiP in situ as in (1), one can find DiPs ex situ. Consider (2).

(2) An wen **denn** / **nur** / **schon** / **wohl** könnte er sich gewandt haben?
at who DENN NUR SCHON WOHL could he REF turned have

Given the V2-constraint that holds in German, the DiP must form a phrase with the *wh*-PP as it has been moved ex situ: [*an wen denn / nur /…*] *könnte er…* (1) and (2) differ in meaning. (2) is more emphatic and has an almost exclamatory flavor. We will argue that the DiP undergoes merger with the *wh*-phrase, and that the latter is attracted to its left. This movement yields the special effect of *emphatization*. Fronting of this kind has nothing to do with information structure and can be found in independent constructions as well as across languages; s. Cruschina (2012) and Trotzke (2017).

3. Cyclic movement Contrary to much writing, DiPs (as well as FPs) are neither adverbs nor are they adjoined, they are functional heads. Merger of DiP with vP creates a *Particle Phrase* (PrtP) with the potential of licensing a specifier. Merger of DiP with a *wh*-phrase also creates a PrtP albeit one in which the DiP lacks scope. We call it a *S(mall) PrtP*. The SPrtP attains propositional scope when it cycles through the specifier of PrtP and undergoes feature matching with the head of PrtP. The head of PrtP is normally empty but it can also be overt, s. Barbiers (2010; 2014). SPrtP moves from SpecPrtP on to SpecCP to check the *wh*-feature. See the derivation of (2) in (3).

(3) [$_{CP}$ [an wen denn] könnte er sich [$_{PrtP}$ [~~an wen denn~~] [$_{Prt'}$ (denn) [$_{vP}$ [~~an wen denn~~] gewandt haben]]]]?

Due to the presence of an over or covert Prt-head, the SPrtP freezes its scope in the medial position; due to the presence of *wh*, the SPrtP moves on and freezes the scope of *wh* in SpecCP.

4. Emphasis Why should an SPrtP like *an wen denn* exist in the first place? And why is *wh*-fronting obligatory? It must be noticed that **denn an wen* is out whereas both orders can be found with FPs: *Nur EINEN hat man erwischt* ("Only one was caught") vs. *EINEN nur hat man erwischt*; s. Bayer & Trotzke (2015). The reason is that DiPs lack focus association in the sense of semantic alternatives but may come with a feature for emphasis which is checked under emphatic fronting as seen in (4).

(4) [denn$_{u\text{Emp}}$ [an wen]] ⇒ [an wen]] [denn$_{u\text{Emp}}$ [~~an wen~~]]

In FPs, Emp-driven checking is optionally superimposed. There is evidence that emphasis is interpretable only in the highest left periphery. In English, ''aggressively non-D-linked'' *wh*-phrases, which are arguably emphatic, must not remain in situ. s. Pesetsky (1987) and den Dikken & Giannakidou (2002)

(5) a. Who the hell is in love with who?
b. *Who is in love with who the hell?

Similarly, German and Bangla CP-complements with emphatic fronting to SpecCP have to undergo topicalization to the left periphery of the matrix clause, s. Bayer & Dasgupta (2016). And in fact SPrtPs in situ are deviant.

(5) a. ?*Wann hast du dort [wen denn] getroffen? (multiple question)
when have you there who DENN met
b. *Du hast dort [wen denn] getroffen? (*wh* in-situ)
you have there who DENN met

This suggests that the output in (4) does not by itself lead to an interpretable result of emphatic fronting, and that the SPrtP seen in (3) needs to make yet another move.

(6) [$_{\text{EmpP}}$ [an wen denn] [$_{\text{Emp'}}$ Emp [$_{\text{CP}}$ [~~an wen denn~~] könnte er sich [$_{\text{PrtP}}$ [~~an wen denn~~] [$_{\text{Prt'}}$ (denn) [$_{\text{vP}}$ [~~an wen denn~~] gewandt haben]]]]]]?

5. Theoretical consequence "Special interrogatives" (Obenauer, 2006) rest to a large extent on specific syntactic form. DiPs contribute in a predictable way to the formation of special subtypes of *wh*-interrogatives. The exceptional word order seen in SPrtPs gives rise to emphatic interpretation. This result is obtained without extra assumptions (unlike in 'particle theories' according to which particles are adverbial adjuncts). The syntactic assumptions of the present account look entirely familiar. Since particles – DiPs as well as FP – are functional heads, there is an immediate parallel with the C-head in interrogatives and the Neg-head in negative sentences. SPrtPs are hardly more exotic than *wh*-phrases or negative quantifiers. Both are featurally complex syntactic constituents that need to undergo decomposition in the course of a derivation. SPrtPs do not differ in substance. They enter the derivation and cycle through functional projections until all their features (argumental, DiP, *wh*, Emp) are licensed. The parallel with *wh*-phrases cannot be overlooked. In the same way as there are languages without small *wh*-phrases or negative quantifiers (normally strictly head-final languages), there are languages without SPrtPs. DiPs may occur, for instance, exclusively in sentence-final position. Japanese *yo* seems to be of this kind; s. Endo (2010), Saito & Haraguchi (2012). SPrtPs and their behavior follow from the architecture of a grammar with *wh*-phrases, negative quantifiers etc. With the building blocks identified here, the present account of special interrogatives has predictive power for parametric variation in syntactic/semantic typology.

Selected References Barbiers, S. 2010. Focus particle doubling. In *Structure Preserved*, J.-W. Zwart & M. de Vries (eds). Amsterdam; Bayer, J. & H.-G. Obenauer. 2011. Discourse particles, clause structure, and question types. *The Linguistic Review* 28; Bayer, J. & A. Trotzke (2015. The derivation and interpretation of left-peripheral discourse particles. In Discourse-Oriented Syntax, J. Bayer, R. Hinterhölzl & A. Trotzke (eds). Amsterdam; Cruschina, S. 2012. *Discourse-related Features and Functional Projections* Oxford; Obenauer, H.-G. 2006. Special interrogatives: Left periphery, *wh*-doubling, and (apparently) optional elements. In *Romance Languages and Linguistic Theory*, J. Doetjes & P. Gonzáles (eds).. Amsterdam; Saito, M. & T. Haraguchi. 2012. Deriving the Cartography of the Japanese Right Periphery: The Case of Sentence-Final Discourse Particles. *Iberia* 4.2; Trotzke, A. 2017. *The Grammar of Emphasis*. Boston/Berlin.

Polar Questions vs. Kya Questions in Hindi/Urdu

María Biezma, Miriam Butt & Farhat Jabeen (Universität Konstanz)

Hindi/Urdu is an SOV language that uses prosody to mark a sentence as a polar question (PolQ):

(1) a. ɑnu=ne uma=ko kɪtab d-i L-H% [PolQ]
A.F=Erg U.F=Dat book.F.Sg.Nom give-Perf.F.Sg L-H%
'Did Anu give a/the book to Uma?'

b. ɑnu=ne uma=ko kɪtab d-i L-L% [Declarative]
A.F=Erg U.F=Dat book.F.Sg.Nom give-Perf.F.Sg L-L%
'Anu gave a/the book to Uma.'

Non-*wh*-questions can also contain de-accented *Kya* (a final-falling contour with *kya* usually results in ungrammaticality). De-accented *kya* can appear in different positions:

(2) (kya) ɑnu=ne (kya) uma=ko (kya) kɪtab (*/✓ kya) d-i (kya)?
KYA A.F=Erg KYA U.F=Dat KYA book.F.Sg.Nom KYA give-Perf.F.Sg KYA
'Did Anu give a/the book to Uma?' (Paraphrases will be refined below)

De-accented *kya* is called *polar-kya*. In preverbal position polar *kya* is not possible unless the context allows for an interpretation in which alternatives to the verb are relevant or the verb is prosodically (contrastively) marked. The preverbal position is where we find the accented counterpart of polar-*kya* (3), interpreted as the plain *wh*-word 'what'. In this case the final contour is not the same as the one found in PolQs.

(3) ɑnu=ne uma=ko kya di-ya L-L%
A.F=Erg U.F=Dat what give-Perf.M.Sg L-L%
'What did Anu give to Uma?

The contribution of *kya* has mostly been argued to be information-structural, e.g. [1] claimed that material to the left of polar *kya* is given and not available for questioning: in (4) it is not at-issue whether Anu is the agent, but B's response signals an interpretation in which it is asked whether it is Anu who gave the book to Uma, which is incoherent and results in infelicity.

(4) A. ɑnu=ne kya uma=ko tofa di-ya?
Anu.F=Erg KYA Uma.F=Dat present.M.Sg.Nom give-Perf.M.Sg
'Did Anu give a/the present to Uma?'

B. #nɑhĩ, asɪm=ne di-ya ('No, Asim did')

The proposal in a nutshell: We argue that *kya* is a focus-sensitive operator. We present new data showing that *kya* associates with focused elements in the question utterance and constrains the set of possible answers. In this sense, the distribution of *kya*-questions (KQs) is more constrained contextually than plain polar questions (PolQs). We provide a semantics for utterances with *kya* that explains intuitions for (4), and explains (without further complications/stipulations in the semantics) why (i) KQs are very well suited to express surprise/disbelief about part of a previous claim (5); (ii) non-serious invitations cannot be conveyed with KQs (the *kya*-less version in (6) would be used when the speaker is not serious about the offer), and (iii) why rhetorical questions (RhQs) with *kya* prefer to place it at the end, (7). This data has not been discussed in the literature. (We further argue that our proposal can lead to a unified account of polar *kya* and *wh-kya* but we do not elaborate this point in the abstract for space reasons).

(5) A: When John came to visit, he brought a toy for Amra.
B: jon=ne amra=ko kya kʰilona di-ya ? (magar) wo 17=ki hai
John=Erg Amra=Dat kya toy.M.Sg.Nom give-Perf.M.Sg (but) she 17 is
'John gave **a toy** to Amra?! She is 17!'

(6) A doesn't feel like offering coffee to their visitor and wishes s/he declines the offer:
A: (#kya) ap coffee lẽ-ge?
kya you.Hon coffee.F.Sg take-Fut
'Will you have coffee?'

(7) Context: A is telling B how to behave in a situation. B says (with typical RhQs prosody):
B: (?kya) tum (?kya) meri ammã ho (kya)?
kya you kya my mother.F.Sg be.Pres kya
'Are you my mother?'

Focus association and the space of possible answers in KQs: (8) shows that KQs are different from PolQs (we offer now paraphrases that better reflect the interpretation).

(8) *I know that John gave something to Amra …*

a.✓… jon=ne amra=ko kya kʰilona di-ya? [KQ]
John=Erg Amra=Dat KYA toy.M.Sg.Nom give-Perf.M.Sg
'Was it a toy that John gave to Amra?'

b. #… jon=ne kya amra=ko kʰɪlona di-ya? [KQ]
John=Erg KYA Amra=Dat toy.M.Sg.Nom give-Perf.M.Sg
'Was it to Amra that John gave a toy?'

The parallel *kya*-less utterance would be a PolQ ('Did John give a toy to Amra?') and acceptable in this context. The KQ data above shows that the placement of *kya* affects the question interpretation (i.e. its possible answers) and conveys by default that the element on the right is at-issue (explaining the infelicity of (8b)). However, the word oder in (8b) can be used to express the question in (8a) if 'toy' is prominent prosodically. Similarly, if 'John' is prosodically prominent in both KQs in (8) they can be uttered (in a different scenario) to ask whether it was John who gave the toy to Amra. In addition, KQs exclude the empty-set answer: (9) is infelicitous because the speaker states that 'nothing' is a likely answer, but this answer is incompatible with the KQ (the KQ in (9) conventionally conveys that something was given to John by Amra):

(9) I don't think John gave anything to Amra…
… jon=ne amra=ko (#kya) kʰilona di-ya?
John=Erg Amra=Dat kya toy.M.Sg.Nom give-Perf.M.Sg
'Did John give a toy to Amra?'

Analysis: The discussion above leads to the conclusion that *kya* associates with focus, and with default prosodic marking the element immediately to the right of *kya* is taken to be focused. When an element is made prominent prosodically, *kya* associates with it. In (10) we provide the semantics of KQs (exemplified in (11)) based on [2]'s proposal for PolQs, which bridges (Hamblin) semantics and discourse using the Q(uestion)U(nder)D(iscussion) discourse model.

(10) Where m_{F} is the focused element, $[\![[_{[Q]}[\_\_kya\ \ m_{\text{F}}\ \_\_]]]\!]^c = [\![[\_\_m\ \_\_]]\!]^c$
defined only if **(a)** $[\![[\_\_m\ \_\_]]\!]^c \subseteq \text{QUD}(\text{M}_{kya})$; **(b)** $|\ [\![[\_\_m\ \_\_]]\!]^c \cup \text{QUD}(\text{M}_{kya})\ | > 1$;
(c) $\text{QUD}(\text{M}_{kya}) \subseteq [\![[\_\_m_{\text{F}}\ \_\_]]\!]^f$

(11) $[\![(8a)]\!]^c = [\![\text{John gave a toy to Amra}]\!]^c = \{\text{John gave a toy to Amra}\}$
defined only if **(a)** $\{\text{John gave a toy to Amra}\} \subseteq \text{QUD}(\text{M}_{kya})$;
(b) $|\{\text{John gave a toy to Amra}\} \cup \text{QUD}(\text{M}_{kya})| > 1$;
(c) $\text{QUD}(\text{M}_{kya}) \subseteq \{\text{John gave a toy to Amra; John gave a book to Amra}\ldots\}$

A PolQ in [2]'s analysis excludes (c). PolQs state that the content proposition is a possible answer, (a), and inquire whether the content proposition holds (its semantics is merely the singleton set), and (b) require that other alternatives are available in discourse (i.e. the QUD in [3]'s sense contains more alternatives). According to (10), KQs further conventionally impose that the possible answers be a subset of the focus alternatives of the utterance. (11) signals that the question is necessarily about what was given to Amra (explaining also (4)) and excludes the empty-set answer: i.e. (11) (c) imposes that the set of possible answers entails that John gave something to Amra. By lacking (c) PolQs leave participants more room to maneuver and to accommodate answers to the QUD like 'nothing'. **Enriched meanings:** This proposal explains (i) that (6) cannot be used when the speaker wants to leave open that 'nothing' is a possibility (as in non-serious invitations); (ii) sentence final *kya* (without prominence marked in other constituents) cannot associate with elements to the right and associates by default with the entire proposition on its left (the entire proposition is at issue). This is crucial to obtain a rhetorical interpretation in which the entire proposition is pretended to be at issue.

Selected references: [1]Bhatt & Dayal. 2014. Polar questions and disjunction: clues from hindi-urdu polar kyaa [2]Biezma & Rawlins. 2012. Responding to alternative and polar questions. [3] Roberts. 1996. Information structure in discourse.

On question tags and confirmation requests

Elena Castroviejo (Ikerbasque & UPV/EHU)

Goals and claims: This paper aims to elaborate on the notions of request for confirmation as expressed by two different question tags in Catalan, namely OI? and EH?. Building on Malamud and Stephenson's (2015) account of Reverse Polarity Tags (Tom's here, *isn't he?*) and Same Polarity Tags (Tom's here, *is he?*), the behavior and distribution of OI? and EH? is derived. Even if they seem comparable in certain contexts (notably, in subjective statements), I will provide arguments that show they ask for confirmation on the basis of two different sentence anchors. OI? double-checks the truth of *p*, while EH? double-checks the truth of *p* as experienced by the addressee.

Data: There are reasons that would suggest that OI? and EH? should make the same discourse contribution. First, as shown by Cuenca and Castellà (1995); Rigau and Prieto (2005), OI? and EH? are interchangeable when they precede the complementizer in a pure confirmational interrogative, (1) (as opposed to occurring sentence final). Second, they both prompt an affirmative answer. Third, they are also both compatible as modifiers of optatives and exclamatives, (2).

(1) Oi/eh que acabaràs la feina?
OI/EH that finish.FUT.2SG the work
Intended: You'll finish your work, right?

(2) Quin noi tan alt!, eh? / oi?
what boy so tall EH? OI?
Intended: What a tall boy! Huh?

More generally, they are both felicitous with subjective predicates, (3).

(3) La Maria és guapa, eh? / oi? 'Mary is pretty, EH? / OI?'

Other than that, Cuenca and Castellà also point out that their distribution is not totally parallel. They claim that EH? "manifests other pragmatic meanings". For instance, it is possible after an imperative. In fact, EH? has a wider range of uses. EH? can function as a "confirmational" in the sense of Heim et al. (2014), whereby the speaker wants to confirm whether the addressee knows that *p* rather than whether *p* is true. We consider such uses a different phenomenon, because it does not involve an addressee capable of resolving ?*p* at the moment of utterance. The focus here is exclusively on cases where the speaker (*A*) considers the addressee (*B*) an authority. The **novel empirical observations** presented here are the following. First, we observe a lack of parallelism between OI? and EH? in requests for confirmation of facts rather than opinions. Specifically, OI? is acceptable in both, while EH? prefers the latter, cp. (3), (4).

(4) La Terra no és plana, oi? / #eh? 'The Earth is not flat, OI? / #EH?'

Second, contexts that entail an experiential component make clear the two different contributions of OI? and EH?, (5).

(5) El terra està dur, 'The floor is hard, '

a. OI?: B can know the truth of p by external inspection, inference, etc.
b. EH?: B must know the truth of p by having fallen on the floor.

Third, in the case of vague predicates, OI? can be used to inquire whether the subject meets the standard of P-ness or whether the subject informs us about the standard of P-ness (Barker, 2002; Malamud and Stephenson, 2015). By contrast, EH? only has the former reading.

(6) En Pau és llest, 'Pau is smart,'

a. OI? / EH?: ?*p* = Does Pau meet the standard of smartness?
b. OI? / #EH?: ?*p* = Does Pau inform us about the standard of smartness?

Background: The difference between OI? and EH? does not concern the degree of commitment of the speaker toward *p* (as is the case for rising and falling tag interrogatives, as analyzed by Farkas and Roelofsen 2017). Malamud and Stephenson's (2015) "conversational scoreboard", which builds on Farkas and Bruce (2010), is fine-grained enough to represent discourse effects of reverse- and same-polarity tags ([RPT], [SPT]), beyond degrees of certainty.

So does Krifka's (2017) program, but he does not discuss judge relativization. Malamud and Stephenson's model includes a Table, where the at issue proposition is considered, the set of commitments relative to A and B (CS_A and CS_B), the common ground (CG), and the projected CG (CG*) and projected set of commitments (CS_A* and CS_B*). Such projected sets represent the expected next stage in the conversation. Malamud and Stephenson aim to account for the differences between (7-a) and (7-b).

(7) a. He's attractive, isn't he? [RPT] b. He's attractive, is he? [SPT]

For RPT they propose that p is placed in CS_A* as well as in CG*, and $\{p\}$ is put on the Table. This way, A expresses her opinion and solicits B's. As to SPT, p is placed in CS_B* rather than in CS_A*, and p is not added to CG*. This represents that A attributes B the capacity to utter p in a next stage of the conversation.

Analysis: This paper proposes that in both OI? and EH?, A makes a guess as to B's beliefs. OI? shows the same behavior as SPT. The Catalan counterpart of RPT would be NO? rather than EH?. In both OI? and EH?, what is at issue is B's judgment, and so p is placed in CS_B*, but they exhibit relevant differences. For one, OI?/SPT are possible in objective statements, where the truth of p is not relative to B. I propose that, in EH?, what is on the Table (i.e. the question A wants B to address) is not $?p$, but $?p$ relative to B. Since A is not interested in confirming that B agrees with her, she may use EH? even if she does not think p is true. A does not want to double-check B's opinion so as to form her own judgment. Instead A wants to confirm her suspicion that B is in a position to utter p, which, as illustrated in (5-b), requires that the "acquaintance principle" (AP) (Wollheim, 1980; Ninan, 2014) be met. That is, the judgment of truth is based on first-hand experience. In the case of taste predicates, knowing whether o is tasty involves having tasted o. But this extends beyond taste. The distribution of EH? concerns, more generally, predicates that entail an experiential component, cf. (8).

(8) T'has tallat els cabells, 'You got a haircut, '

a. OI?: A wants to double-check with B whether p is true.

b. EH?: A wants to double-check with B whether p is true, which requires AP.

(4) is infelicitous with EH?, because it is difficult to create a context in which B will know whether p is true on the basis of first-hand experience. By contrast, we correctly expect that OI? and EH? are both felicitous in subjective statements, (3), but with slightly different meanings. OI?, but not EH?, can request for confirmation concerning p to form her own opinion. By uttering EH?, A targets B's opinion, so as to make it a public belief.

As to vague predicates, (6) shows that EH? cannot be used in Barker's (2002) metalinguistic sense, i.e. if we already know Pau's degree of smartness and want to establish where the standard is. EH? is treating the vague predicate as a taste predicate (in fact, compatible with embeddability under *find*). A wants to retrieve B's opinion (i.e. double-check whether he *finds* Pau smart), but not the information on how to learn about the standard, which implies a somewhat uncertain A requesting B to clarify the limits of the predicate's positive extension. (9) could be explained along the same lines for the case of a blue-green sofa.

(9) El sofà és verd, oi? / #eh? 'The sofa is green, OI? / #EH?'

Conclusions: This abstract has presented data that refines conversational scoreboards by adding material for a more complete typology of the possibilities for inquiring about taste. This research can also help us understand how vagueness cross-cuts with subjectivity.

References: Barker, C. (2002). The dynamics of vagueness. L&P, 25(1). Cuenca, M. J. and Castellà, J. M. (1995). Una caracterització cognitiva de les preguntes confirmatòries. Caplletra, 18. Farkas, D. F. and Bruce, K. B. (2010). On reacting to assertions and polar questions. J.Semantics, 27(1). Farkas, D. F. and Roelofsen, F. (2017). Division of labor in the interpretation of declaratives and interrogatives. J.Semantics, 34(2). Heim, J. et al.(2014). How to do things with particles. In Proceedings of the CLA . Krifka, M. (2017). Negated polarity questions as denegations of assertions. In Lee, C., Kiefer, F., and Krifka, M., editors, *Contrastiveness in Information Structure, Alternatives and Scalar Implicatures*, pages 359–398. Springer. Malamud, S. A. and Stephenson, T. (2015). Three ways to avoid commitments: Declarative force modifiers in the conversational scoreboard. J.Semantics, 32(2). Ninan, D. (2014). Taste predicates and the acquaintance inference. *Semantics and Linguistic Theory*. Rigau, G. and Prieto, P. (2005). A typological approach to Catalan interrogative sentences headed by 'que'. Probus, 16. Wollheim, R. (1980).*Art and its Objects*. OUP.

Alessandra Giorgi (University Ca' Foscari, Venice) & Chiara Dal Farra (University Ca' Foscari, Venice)

Towards an integrated model of adversative questions: the case of Italian *ma* (but)

Aim of the work

In this work we consider the class of special questions (Obenauer 2004, 2006, Obenauer & Poletto 2000, Hinterhölzl & Munaro 2015) introduced by the adversative particle *ma* (but) in Italian. Our aim is to provide a theoretical account for this kind of constructions integrating their various components: **syntax**, **prosody** and **gestures**. Our working hypothesis is that the appropriate interpretation and the pragmatic properties of these sentences can be fully captured only by means of an analysis of all these components as relevant at the sensorimotor interface.

Main observations

Let's first consider counter-expectational yes-no questions (see also Vicente, 2010):

(1) Ma non mangiavi solo frutta?
But not eat-imp-2s only fruit? 'But weren't you eating only fruit?'

This sentence is appropriate in the following scenario: I know that you are on a diet and decided to eat only fruit. One day I see you eating a big hamburger. I am surprised and utter (1).

Here we capitalize on Giorgi's (2016, 2017) syntactic analysis, extending her proposal to the prosodic and gestural components as well. Notice that sentences such as (1), discussed in Giorgi (2016, 2017), would be infelicitous, and even ungrammatical, if not accompanied by the correct intonation. Furthermore, normally, sentences can be introduced by an adversative particle in contexts such the following ones:

(2) Maria è ricca, ma non è felice
Maria is rich, but she is not happy

If *Maria è ricca* (Maria is rich) is not realized, the clause *ma non è felice* (but she is not happy) cannot stay by itself and the sentence is out. Hence, the grammaticality of (1) is unexpected. Moreover, the imperfect is an anaphoric verbal form, as amply discussed in the literature on the topic, so that if a temporal reference is not provided in the previous context (either in the same sentence or in the discourse), the sentence is ungrammatical:

(3) *(Ieri alle tre) Mario mangiava un panino
(Yesterday at three) Mario eat-impf a sandwich
'(Yesterday at three) Mario was eating a sandwich'

This is not the case in (1). The sentence in (1) is grammatical only because it is associated to the following typical intonation, with the highest pitch in correspondence with the main accent of *mangiavi* (eat-impf-2s), as shown in Fig.1 provided by Praat:

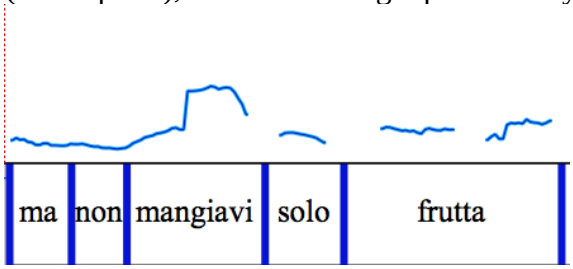
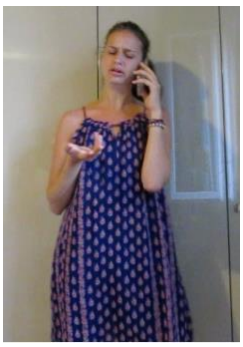


Fig.1

We also observe that these sentences are obligatorily accompanied by different gestures. Here we consider the gesture Palm Up Open Hand (PUOH, Kendon 2004), which can be seen in Fig. 2. In fact, this is the most characteristic, in that its movement culminates in correspondence with the highest pitch. We conducted an experiment (reference omitted) on 15 speakers, who were introduced to specific contexts and asked to produce several counter-expectational questions previously presented in a written form. The experiment consisted of four different situations, among which one simulating a phone conversation, and we observed that in this case subjects moved the non-occupied hand exactly in the same way (as can be seen in Fig. 3).

Fig.2 

Fig.3 

We have detected that the gesture culmination corresponds with the pitch realization, even in the absence of a physical addressee. This correspondence shows that these two components go together and are realized at the same point at the sensorimotor interface.

The theoretical account

We adopt Giorgi's (2017) syntactic representation, where *ma* is analyzed as a discourse head:

(4) [DISCOURSE … [DIS ma [non mangiavi solo frutta?]]
but weren't you eating only fruit?

We argue that the discourse head provides the relevant instructions, which are *read off* at the interface as pitch and gesture. Further support comes from the analysis of the two other kinds of surprise questions illustrated below.

Extending the analysis

We extend this analysis, integrating syntax, prosody and gesture, to other two kinds of surprise questions/exclamations. Consider the following scenario: I enter a room and find Maria kneeling in front of her wardrobe. I'm surprised, because of her position, and say:

(5) Ma cosa stai facendo?
But what are you doing?

This sentence is syntactically different from (1), in that a) it is an open question, b) there is a non-imperfect (progressive) indicative, c) there is no negation. Nevertheless, it is introduced by *ma* and does not simply convey a request of information, but also the speaker's surprise. Gesture and prosody also differ from (1), but again they *go together* and characteristically differ from the *normal* cases.

Consider finally the following scenario: I enter a room and find Maria kneeling in front of her wardrobe, the floor is dirty and I think that she will ruin her trousers and want her to stop kneeling. I might utter:

(6) Ma cosa fai?!
But what are you doing!

The intonation of this sentence is closer to an exclamative than to a question (see Delfitto & Fiorin 2014, Portner & Zanuttini 2003), in that it is (almost) an order to stop doing what she is doing and not a request of information. The sentence in (6) is similar to surprise-disapproval questions in Obenauer (2006). Again, this sentence is also associated to a typical gesture pattern.

We will conclude with a proposal for the role of gesture from the interpretive point of view (see also Schlenker, to appear).

References (partial)

Delfitto, Fiorin (2014), Exclamatives: issues of syntax, logical form and interpretation. *Lingua* 152:1–20. **Giorgi** (2016), On the temporal intepretation of certain surprise questions, *SpringerPlus* 5:1390 DOI 10.1186/s40064-016-2951-5. **Giorgi** (2017), Ma non era rosso? (But wasn't it red?): On counter-expectational questions in Italian, *Proceedings of LSRL46*. **Hinterhölzl, Munaro** (2015), On the interpretation of modal particles in non-assertive speech acts in German and Bellunese in Bayer, Hinterhölzl, Trotzke, *Discourse-oriented Syntax*, John Benjamins pp. 1-70. **Kendon** (2004), *Gesture*, CUP. **Obenauer**, (2006), Special Interrogatives, Left-Periphery, Wh-Doubling and (Apparently) Optional Elements. **Obenauer** (2004), Nonstandard wh-questions and alternative checkers in Pagotto. In H. Lohnstein & S. Trissler, eds., *Syntax and Semantics of the Left Periphery*, Mouton de Gruyter, 343-384. **Obenauer**, **Poletto** (2000), Rhetorical wh-phrases in the left periphery of the sentence, *Working papers in Linguistics*, University of Venice, 10. **Portner, Zanuttini** (2003), Exclamative clauses: at the syntax–semantic interface. *Language* 79(1):39–81. **Schlenker**, to appear, gesture projection and cosupposition, *Linguistics and Philosophy*. **Vicente** (2010), On the syntax of adversative coordination. *Nat Lang Linguist Theory* 28(2):381–415.

Questioning and time

Andreas Haida (Jerusalem) & Tue Trinh (Milwaukee)

Past tense anomalies This talk provides an account for a set of observations concerning past tense in questions, most of which, to the best of our knowledge, are novel. For our empirical investigation, we will use a certain kind of stative sentences, viz. statives that express analytic truths (henceforth "analytic statives"). We observe that, other than ordinary statives (Klein 1984), analytic statives cannot be interpreted relative to a reference time (i.e. they cannot be claims about just that time): the question in (1-Q) fixes a past reference time, viz. the time after the first stop of the bus; still, the past tense version of the last conjunct of the answer (1-A) gives rise to the "cessation implicature" that the present tense counterpart of the sentence is false (cf. Altshuler & Schwarzschild 2013; henceforth "A&S"). This leads to deviance, presumably because the cessation implicature contradicts the common knowledge that the difference between any two numbers is eternally the same (cf. Magri 2009).

(1) Q: Why are you so sure that exactly thirty-three seats were empty after the first stop?
A: Well, the bus has forty seats, seven passengers entered the bus at the first stop, and forty minus seven {is | #was} thirty-three.

We will also control for the "sequence of tense" (SOT) effects by looking at sentences in German, a language without SOT, as evidenced by (2).

(2) a. The students knew that two was a prime number
b. Die Studenten wussten, dass zwei eine Primzahl {ist | #war}
the students knew that two a prime number is was

Assuming that implicatures of **know**-complements are inherited by the matrix sentence (Chierchia 2004), the deviance of the past tense variant of (2b) is due to the inference that 2 was, but has ceased to be, a prime number, which contradicts common knowledge. Curiously, if the embedded clause is changed to a question, German appears to allow SOT.

(3) a. Most of the students knew which number was a prime number
b. Die meisten Studenten wussten, welche Zahl eine Primzahl {ist | war}
the most students knew which number a prime number is was

The past tense variant of (3b) has a consistent reading in which it does not imply any number to have been prime in the past and non-prime at the present. Imagine, for example, a math test context, where students have to tell which number of the pair $\langle 1, 2 \rangle$ is prime. After evaluating the results, the teacher can surely utter the past tense variant of (3b) felicitously. Moreover, we find the question induced non-cessation reading even under present tense attitude verbs: in the math test context, the question in (4), asked by one of the students to her classmate, does not imply cessation of the prime number property.

(4) Weißt du, welche Zahl eine Primzahl war? 'Do you know which number
know you which number a prime number was was a prime number?'

The above observation is complicated by two others. The first shows that it is not simply the case that embedded questions in German tolerate past tense: the past tense variant of (5b) is deviant, as it implies that two is no longer prime or no longer not prime.

(5) a. Most of the students knew whether two was a prime number
b. Die meisten Studenten wussten, ob zwei eine Primzahl {ist | #war}
the most students knew whether two a prime number is was

The second is that both questions, 'which number is prime' and 'whether 2 is prime,' can bear past tense in unembedded contexts: both (6a) and (6b) can be felicitously uttered in appropriate contexts (cf. Sauerland 2001, Sauerland & Yatsushiro 2014).

(6) a. Welche Zahl war (nochmal) eine Primzahl? b. War zwei (nochmal) eine Primzahl?
which no. was (again) a prime no. was two (again) a prime no.

Tense semantics This talk provides an account for the set of facts just presented. The account starts from a number of assumptions about tense. Following A&S, we assume the "Temporal Profile of Statives" (TPS): For any tenseless stative clause ϕ and world w, if ϕ is true in w at moment m, then there is a moment m' preceding m at which ϕ is true in w and there is a moment m' following m at which ϕ is true in w (i.e. each convex interval $\{m : \phi$ is true in w at moment $m\}$ is open on both sides). The tense operators PAST and PRESENT denote functions $[\lambda C \lambda p \lambda t \lambda w . \exists t'(t' R\, t \wedge t' \in C \wedge p(t')(w) = 1)]$, where R is the precedence relation ($\prec$) in the case of PAST and the identity relation ($=$) in the case of PRESENT, and C a domain restriction representing the "reference time." (In syntax, tense is thus adjoined to a syntactic variable that is assigned the value C by the context.) It follows from these assumptions that for any C that includes the speech time s^*, $[\![\text{PRESENT}]\!](C)([\![\phi]\!])(s^*)$ will non-trivially entail $[\![\text{PAST}]\!](C)([\![\phi]\!])(s^*)$, and a past tense stative will license the cessation implicature that the present tense counterpart is false. We take the cessation implicature of past analytic statives to show that hyperintensional meanings allow for temporal specification and a notion of truth at a moment of time (i.e. they have the TPS). To account for the fact that the cessation implicature of past analytic statives cannot be cancelled by excluding the speech time s^* from C, making $[\![\text{PRESENT}]\!](C)([\![\phi]\!])(s^*)$ contradictory and thus a non-viable alternative to $[\![\text{PAST}]\!](C)([\![\phi]\!])(s^*)$, we add the condition that a domain restriction must be trivial if it is vacuous. Since tenseless analytic statives are eternally true or eternally false, the domain restriction of a past analytic stative is vacuous (i.e. it cannot alter its meaning), and must hence be trivial (i.e. include all moments, among them s^*).

Questions semantics We adopt the following rather standard assumptions about questions: (i) the semantic value of a question is the set of its possible answers (Hamblin 1958); (ii) to ask a question is to state a request, and to know a question is to know the true answers to it; (iii) a question q is parsed as $\text{QUEST}(q)$ as a matrix clause, and as $\text{ANS}(q)$ as the complement of **know**. The function of QUEST is to map a set of possible answers Q to the proposition that the speaker requests that the hearer identify the true elements of Q. (We are only concerned with the truth-conditional underpinning of question acts and not with the speech acts themselves.) The function of ANS is to map Q to the conjunction of all true members of Q (cf. Stenius 1967, Ross 1970, Karttunen 1977, Heim 1991, Krifka 2001).

Explanation of the data Let q be a question and Q the set of its possible answers. If all possible answers have the TPS, then $[\![\text{ANS}]\!](Q)$ will have the TPS, too, since the TPS is preserved under conjunction; $[\![\text{QUEST}]\!](Q)$, in contrast, will not have the TPS if we assume that the semantic 'request' predicate, just like its lexical counterpart, is not stative. This explains the contrast between (6b) and the past variant of (5b): the embedded question q of the latter is parsed as $\text{ANS}(q)$, which has the TPS and hence leads to a cessation implicature; the matrix question q in (6b) is parsed as $\text{QUEST}(q)$, which does not have the TPS; since q, by virtue of denoting a set of semantic objects, doesn't have the TPS either, (6b) doesn't trigger a cessation implicature. To explain the contrast between the past variant of (5b) and (3b), we note that the latter examples contain identification questions in which the **which**-phrase can quantify over members of a conceptual cover, which is a "method of identification" (Aloni 2001). Importantly, on one such method, viz. identification by ostension, the answer set of the identification question **which number was prime?** is a set of non-analytical statives: {the first number (of the number pair on the math test sheet) was prime, the second number was prime}; the result of applying $[\![\text{ANS}]\!]$ to this set (viz. one of the two propositions) has the TPS. This means that the **which**-questions in (3b), and also (4), do trigger a cessation implicature. However, this implicature doesn't lead to deviance given the identifiction-by-ostension reading of these questions, since it is non-analytical. (There is evidence for the cessation implicature: if the math test sheet is salient in the utterance situation, (3b) and (4) are infelicitous.)

Deriving the lack of verbal wh-words from LF legibility conditions

Aritz Irurtzun
CNRS-IKER

Preliminary observation: We can ask questions about different participants in an eventuality (*who, what, whom...*), or modifiers of different kind (*where, when, how...*) but we cannot directly ask questions on the nature of the eventuality itself. There is simply no interrogative pro-verb, so that we can ask questions such as (1), roughly meaning 'What type of eventuality happened such that it has John as external argument and Mary as internal argument?':

(1) **Whxyzed* John Mary?

The generalization that I will propose is the following one:

(2) *Generalization*: There are no verbal *wh*-words ranging over any eventuality type.

Crosslinguistic evidence: The ban on interrogative pro-verbs has seldom been discussed in linguistics. Hagège (2008) only classifies 28 languages as having the property of displaying interrogative pro-verbs (see also Idiatov & van der Auwera (2004)), but as I will argue, many of them are not pro-verbs questioning eventuality types, and if they are, they are syntactic and semantically very restricted (see below).

Proposal: I will propose that the lack of verbal *wh*-words cross-linguistically derives from a legibility constraint at the interface between the linguistic computation and the language-external Conceptual-Intentional systems. I will depart from the assumption that at LF sentences are Neo-Davidsonian descriptions of eventualities (*cf. i.a.* Parsons (1990); Hornstein (2002); Pietroski (2005)) whereby example (3a) would get the logical form representation in (3b):

(3) a. Brutus stabbed Cæsar.

b. ∃e [Agent(e, Brutus) & Stabbing(e) & Patient(e, Cæsar)]

My proposal is that the lack of verbal *wh*-words derives from a general constraint on the logic of predication: predication is logical assertion whereby a property is ascribed/attributed/applied to an object (*cf. i.a.* McGinn (2000); Burge (2007); Liebesman (2015)) and this is incompatible with querying that very same property (just like stating and questioning are different speech acts). In other words, predicates predicate and it is therefore that predication *qua* interrogation is incongruent. As a consequence, natural language allows for questions such as (4a) or (4b), but not for questions such as (4c):

(4) a. ∃e [Agent(e, ?) & Stabbing(e) & Patient(e, Cæsar)]
'Who stabbed Cæsar?'

b. ∃e [Theme(e, Cæsar) & Dying(e) & Location(e, ?)]
'Where did Cæsar die?'

c. *∃e [Agent(e, Brutus) & ?(e) & Patient(e, Cæsar)]

Furthermore, an LF along the lines in (4c) would be unwarranted, since a predicate like *?(e)* crucially devoids the eventuality of any nature (it is completely undetermined), and as a consequence the eventuality participants get no θ-role (given that θ-roles directly depend on the nature/structure of the eventuality at stake (*cf.* Pietroski (2005); Borer (2005); Ramchand (2008)) and unasignment of θ-roles violates the θ-criterion (Chomsky, 1981):

(5) *∃e [_____(e, Brutus) & ?(e) & Past(e) & _____(e, Cæsar)]

The logical form in (5) is critically underdetermined where _____*(e,Brutus/Cæsar)* may correspond to any theta role (agent, experiencer, possessor...). In a nutshell then, my proposal is that the universal lack of genuine verbal question-words ranging for eventuality types derives from the LF illegibility they would generate, since their semantics involves predicating and interrogating at the same time and a failure to assign θ-roles to eventuality participants.

Revisiting the cross-linguistic evidence: My hypothesis predicts the lack of *wh*-words that question the nature of an eventuality. However, note that it leaves room for verbal *wh*-words

to exist, provided that they are semantically 'loaded' (the type of eventuality they stand for is determinate and so are the (macro) θ-roles of their participants). I will argue that this is precisely the case in the very few languages that have interrogative pro-verbs ranging over eventualities. For instance, languages such as Caviñena (Guillaume, 2008), Mapudungun (Smeets, 2007), Evenki (Nedjalkov, 1997), Tyvan (Anderson & Harrison, 1999), Tinrin (Osumi, 1995), Erromangan (Crowley, 1998) or a set of Mongolic languages (Janhunen, 2003) have interrogative verbs that are restricted to intransitive uses. And others like Dyirbal (Dixon, 1972), Vitu (van den Berg & Bachet, 2006), Motuna (Onishi, 1994), Chuckchee (Dunn, 1999) or Nêlêmwa (Bril, 2002) have different verbs/verbal forms for intransitives and transitives. The interrogative verbs employed in different argument structures are morpho-syntactically different and therefore they can still assign determinate θ-roles to their participants. For instance, in Kavalan (Lin, 2012), the interrogative verb *quni* gets the *go where* reading in intransitive constructions (where the subject is a 'theme' (6)), and in (7) it gets the *do what* reading associated to an 'agent' subject but, crucially, there the verb is marked with the agent voice (AV) marker (a widespread pattern across the few languages displaying interrogative verbs with different thematic structures):

(6) quni=pa=isu?
go.where=FUT=2.SG.ABS
'Where are you going?'

(7) q<um>uni=isu tangi?
<AV>do.what=2.SG.ABS just.now
'What were you doing just now?'

That is, when a language allows a question such as (8a), its LF will not be of the type in (8b) (roughly: "What type of eventuality are you participating at such that you are experiencing it or undergoing it or initiating it, etc?") but the more precise (8c) ("what are you doing?"):

(8) a. *Whxyzing* you?
b. *∃e [_____(e, you) & ?(e)]
c. ∃e [Agent(e, you) & Action(e,?)]

Further predictions: This analysis makes a further prediction: the predication-*cum*-interrogation impossibility should be extendable to other analogous constructions whose semantic contribution is the introduction of a predicate of events. I will argue that this is in fact the case, as shown by the apparent cross-linguistic lack of interrogative adpositions or tense markers.

References: Anderson, G. & K. Harrison. 1999. *Tyvan*. München: Lincom Europa. Borer, H. 2005. *Structuring Sense. Vol. II*. Oxford: OUP. Bril, I. 2002. *Le Nêlêmwa*. Paris: Peeters. Burge, T. 2007. Predication and Truth. *The Journal of Philosophy* 104:580–608. Chomsky, N. 1981. *Lectures on Government and Binding*. Dordrecht: Foris. Crowley, T. 1998. *An Erromangan (Sye) Grammar*. Honolulu: University of Hawaii Press. Dixon, R.M.W. 1972. *The Dyirbal Language of North Queensland*. Cambridge: CUP. Dunn, M. 1999. *A Grammar of Chukchi*. Camberra: ANU dissertation. Guillaume, A. 2008. *A Grammar of Caviñena*. Berlin: Mouton de Gruyter. Hagège, C. 2008. Towards a typology of interrogative verbs. *Linguistic Typology* 12:1–44. Hornstein, N. 2002. A grammatical argument for a Neo-Davidsonian semantics. In G. Preyer & G. Peters (eds.), *Logical Form and Language*, 345–264. Oxford: OUP. Idiatov, D. & J. van der Auwera. 2004. On interrogative pro-verbs. In *Proceedings of the Workshop on the Syntax, Semantics and Pragmatics of Questions*, 1723. Nancy. Janhunen, J. (ed.). 2003. *The Mongolic Languages*. Abingdon: Routledge. Liebesman, D. 2015. Predication as Ascription. *Mind* 124: 517–569. Lin, D.-Y. 2012. Interrogative verbs in Kavalan and Amis. *Oceanic Linguistics* 51:182–206. McGinn, C. 2000. *Logical Properties: Identity, Existence, Predication, Necessity, Truth*. Oxford: OUP. Nedjalkov, I. 1997. *Evenki*. London: Routledge. Onishi, M. 1994. *A Grammar of Motuna (Bougainville, Papua NG)*. Camberra: ANU dissertation. Osumi, M. 1995. *Tinrin Grammar*. Honolulu: University of Hawaii Press. Parsons, T. 1990. *Events in the Semantics of English*. Cambridge: MIT Press. Pietroski, P. 2005. *Events and Semantic Architecture*. Oxford: OUP. Ramchand, G. 2008. *Verb Meaning and the Lexicon: A First Phase Syntax*. Cambridge: CUP. Smeets, I. 2007. *A Grammar of Mapuche*. Berlin: Mouton de Gruyter. van den Berg, R. & P. Bachet. 2006. *Vitu Grammar Sketch*. Ukarumpa (EHP): SIL.

Why *'n* is not *denn* – Evidence from Special Questions

Andreas Pankau, FU Berlin, andreas.pankau@fu-berlin.de

1 Introduction German possesses a modal particle *denn* lit. 'then' that usually occurs in interrogative clauses (Bayer 2012; Thurmaier 1989; Helbig 1988; König 1977), as shown in (1).

(1) Was machst du denn da? 'What are you doing there?'

The sentence in (1) also has a corresponding version where *'n* appears instead of *denn*.

(2) Was machst'n du da? 'What are you doing there?'

'n is generally analyzed as a phonologically reduced version *denn* (e.g. Wegener 2002: 379). The only difference between *'n* and *denn* is that *'n* occurs in second position. The aim of this talk is to show that *'n* is not a reduced version of *denn* but a separate modal particle. The data I present come from the Berlin-Brandenburg dialect of German, which has both *denn* and *'n*. The arguments I develop center on the behavior of *denn* and *'n* in special questions, that is, interrogative clauses that are not requests for information (Obenauer 2004; 2006).

2 *denn* in Special Questions

It has already been observed in the literature that *denn* is fine in special questions. Meibauer (1994: 223) notes that *denn* can occur in rhetorical questions with negative declarative force.

(3) Wer hat denn Arbeit in Detroit? 'Nobody living in Detroit has a job.'

Bayer & Obenauer (2011: 467) observe that *denn* is also fine in can't-find-the-value-of-x questions (CfvQ), that is, questions where the speaker actually knows the answer but can't recall it. Consider a scenario where one person can't remember the name of the person he talked with yesterday. He starts describing himself the person (size, hair color, haircut, etc.) but he can't recall the name. In such a scenario, this person then can ask himself the following question.

(4) Wie hieß der denn? 'What was his name?'

Apart from these two, there are four more special questions that accept *denn*. First, there are rhetorical questions with what Obenauer (2004: 364) calls the "obvious-x" reading. Imagine you have a political discussion and someone says Obama was a president who fought for human rights and against climate change. You can then correct him by asking the question in (5).

(5) Wer hat denn das Drohnenprogramm ausgebaut und Fracking unterstützt?
'Who extended the use of drone strikes and supported fracking?'

The question in (5) is special because the answer is known to both the speaker and the hearer. Second, *denn* is fine in exclamatives, that is, in interrogative clauses where the speaker accepts the truth of the proposition but highlights the value of the variable bound by the wh-operator.

(6) Wie geil ist das denn! 'How cool is that!'

Third, *denn* is fine in exam questions, that is, questions where the speaker knows the answer and also expects the addressee to know the answer.

(7) Wann hat Cäsar denn den Rubikon überquert? 'When did Caesar cross the Rubikon?'

Fourth, *denn* is also found in whimperatives (Sadock 1970), that is, interrogative clauses that express a request of the speaker towards the addressee.

(8) Warum sind Sie denn nicht still? 'Why don't you be quiet.'

3 Three arguments against equating *'n* with *denn*

THE FIRST ARGUMENT against equating *'n* with *denn* comes from the observation that all the special question illustrated in section 2 accept *denn* but not *'n*.

(9) a. *Wer hat'n Arbeit in Detroit? [cf. 3]
b. *Wie hieß'n der? [cf. 4]
c. *Wer hat'n das Drohnenprogramm ausgebaut und Fracking unterstützt? [cf. 5]
d. *Wie geil is'n das? [cf. 6]
e. *Wann hat'n Cäsar den Rubikon überschritten? [cf. 7]
f. *Warum sind'n Sie nicht still? [cf. 8]

Importantly, the questions in (9) are only ungrammatical under the intended special-question interpretation; they are all fully grammatical as regular information-seeking questions.

THE SECOND ARGUMENT comes from one special question that licenses *'n* but not *denn*. Imagine that Peter asks Susan how big her apartment is. Susan then says:

(10) Wie groß wird meine Wohnung sein, vielleicht so 55-60 qm.
'The size of my apartment? I don't really know, maybe around 55-60 square meters.'

I will call such question *repetitive questions*. The addressee repeats the question and expresses his doubt towards the correctness of his answer. In repetitive questions, *'n* but not *denn* is fine.

(11) Wie groß wird(√'n) meine Wohnung (*denn) sein, vielleicht so 55-60 qm.

The THIRD ARGUMENT against taking *'n* to be a phonologically reduced version of *denn* comes from the observation that both can co-occur in surprise questions (Obenauer 2004). Surprise questions are questions where the speaker doesn't expect a certain situation and asks why the situation is the way it is. Imagine that Paul's girlfriend combs her hair as every morning, but this morning, she starts screaming and running around. After she calmed down, Paul asks:

(12) Was is'n denn los!? 'What is going on!?'

denn cannot be doubled, so (12) cannot be derived from a source with two *denn*s. In sum, if *'n* was only a phonologically reduced version of *denn*, the syntactic contrasts cannot be captured.

4 Analysis

The analysis I give for *denn* and *'n* rests on Truckenbrodt's (2004) analysis of interrogatives. Truckenbrodt adds to the imperative-epistemic approach (Åqvist 1965; Hintikka 1975) the concept of Common Ground. This means that a question is nothing more than the speaker's wish to share with the addressee some proposition, as shown in (13) (S = speaker, A = addressee).

(13) WANT (S, KNOW (S ∧ A, p))

Importantly, the meaning of questions does not include any part that specifies whether the speaker or the addressee already know whether the proposition holds. This allows Truckenbrodt to unify special and non-special questions: in the latter, the speaker in contrast to the addressee doesn't know whether the proposition holds. Given this perspective, the particles *denn* and *'n* are indicators for meaning components that are compatible with, but not entailed by, the general meaning of questions. As for *denn*, I follow Meibauer (1994: 223) that *denn* expresses something weaker than knowledge of the speaker that the hearer knows the answer. Rather, I suggest that *denn only* expresses an expectation of the speaker towards the hearer. Regarding *'n*, I analyze it as a marker that the speaker doesn't know whether the proposition holds

(14) a. question + *denn* = WANT (S, KNOW (S ∧ A, p)) ∧ EXPECT (S, KNOW (A, p))
b. question + *'n* = WANT (S, KNOW (S ∧ A, p)) ∧ ¬KNOW (S, p)

That *denn* is compatible with the special questions in section 2 follows because these questions convey that the speaker expects the addressee to know whether the proposition holds. As these questions also convey that the speaker also knows whether the proposition holds, *'n* is barred in these special questions. Turning to repetitive questions, *denn* is barred because the addressee is the one who originally asked the question, so he cannot be expected to know whether the proposition holds. Since the speaker isn't sure whether the proposition holds, *'n* is licensed. Lastly, surprise questions are fine with both *'n* and *denn* because the addressee can be expected to know the answer for his behavior whereas the speaker doesn't know it.

The analysis additionally captures that *'n* but not *denn* is near-obligatory in information-seeking questions in the Berlin-Brandenburg dialect: in such questions, the speaker necessarily doesn't know the answer, but the speaker cannot necessarily expect the addressee to know the answer.

Selected references **Bayer, Josef. 2012**. From Modal Particle to Interrogative Marker: A Study of German *denn*. In: Bruge, Laura et al. (eds.), *Functional Heads – The Cartography of Syntactic Structures, vol. 7*. 13-28. **Bayer, Josef & Hans-Georg Obenauer. 2011**. Discourse particles, clause structure, and question types. *The Linguistic Review* 28(4): 449-491. **Meibauer, Jörg. 1994**. *Modaler Kontrast und konzeptuelle Verschiebung*. Tübingen: Niemeyer. **Obenauer, Hans-Georg. 2004**. Non-standard wh-questions and alternative checkers in Pagotto. In: Horst Lohnstein & Susanne Trissler (eds.), *The Syntax and Semantics of the Left Periphery*. Mouton de Gruyter, 343-383. **Sadock, Jerry. 1970**. Whimperatives. In: Jerry Sadock & Anthony Vanek, Studies presented to Robert B. Lees by his students, 223-238. **Truckenbrodt, Hubert. 2004**. Zur Strukturbedeutung von Interrogativsätzen. *Linguistische Berichte* 199, 313-350. **Wegener, Heide. 2002**. The evolution of the German modal particle *denn*. In: Ilse Wischer & Gabriele Diewald, New Reflections on Grammaticalization, 379-394.

Wh-restrictor plurality and question pragmatics

Bernhard Schwarz, McGill University, bernhard.schwarz@mcgill.ca
Alexandra Simonenko, FWO/UGhent, alexandra.simonenko@ugent.be

1. Introduction. A conspicuous, yet seemingly unexplored, feature of wh-questions is that they often support an inference about the wh-restrictor: a *restrictor plurality* (RP) inference that the wh-restrictor applies to more than one entity. For example, (1) suggests that Group A contains more than one girl.

(1) Which [girl in Group A] complained?

Aligned with RP is the *restrictor non-uniqueness* effect (RN) exemplified by (2), the infelicity of wh-questions with uniquely denoting restrictors, i.e., restrictors that cannot hold of more than one individual.

(2) #Which [oldest member of the team] resigned?

This paper (i) proposes that RP/RN are not grammatically encoded, but follow from natural felicity conditions on the use of information seeking questions (including some previously invoked in the analysis of certain island effects; see [10]), and (ii) supports this view by identifying two types of correctly predicted exceptions to RN/RP, where a relevant felicity condition is independently observed to be suspended.

2. The pragmatics of restrictor non-uniqueness. In a H(amblin)/K(arttunen) semantics for questions, which is assumed here, a question of the form *[wh R(estrictor)] S(cope)*, has the denotation in (3) ([4],[7]), where the properties **R** and **S** are the denotations of *R* and *S*, respectively.

(3) Hamblin/Karttunen semantics
$\lambda w.\{\mathbf{S}(x)|\ \mathbf{R}(x)(w)\}$

Suppose felicity conditions are construed as constraining the permissible relations that the speaker's (= questioner's) epistemic state s and context set c ([11]) bear to possible sentence denotations, writing $s,c \succ X$ to indicate that the X is felicitous relative to s and c. The *answerability condition* in (4) (AC, cf. [10]), which naturally characterizes information seeking questions, constrains the felicity of a H/K denotation Q in terms of the felicity of the H/K answers of Q.

(4) Answerability condition (AC)
$s,c \succ Q$ only if $\exists p[\ \forall w[w \in c \rightarrow p \in Q(w)]\ \&\ s,c \succ p]$

(5) Informativity condition (IC)
$s,c \succ p$ only if $s \not\subseteq p\ \&\ s \cap p \neq \emptyset$

AC states that Q is felicitous only if there is a felicitous H/K answer that is in Q's extension in every world in c. The auxiliary *informativity condition* on H/K answers in (5) requires that a felicitous H/K answer not be settled (i.e., entailed to be true or entailed to be false) by the questioner's epistemic state s. Given (3) and (5), (4) can be shown to entail (6).

(6) consequence of AC and IC
$s,c \succ Q$ only if $\exists x[\ c \subseteq \mathbf{R}(x)\ \&\ s \not\subseteq \mathbf{S}(x)]$

So, a felicitous wh-question requires existence of an individual that common knowledge entails to have the restrictor property but that the speaker does not know to have the scope property. Now, in RN violating cases like (2), the content of the wh-restrictor guarantees (7) for any context set c. Suppose now (with, e.g., [5],[2]) that questions carry an *existence presupposition*. This requires the existence of an individual who has both **R** and **S**, as in (8).

(7) Restrictor uniqueness (RU)
$c \subseteq \{w: |\{x: \mathbf{R}(x)(w)\}| \leq 1\}$

(8) Existence presupposition (EP)
$s,c \succ Q$ only if $c \subseteq \{w: \exists x[\mathbf{R}(x)(w)\ \&\ \mathbf{S}(x)(w)]\}$

The conditions in (7), (6), and (8) are logically inconsistent. In conjunction with (8), (7) entails (9), but in conjunction with (6), (7) entails (10): the unique individual described by the restrictor must yield a H/K answer that is entailed by the context set c but not by the speaker's epistemic state s. Since $s \subseteq c$ by definition, (9) and (10) are inconsistent. We propose, then, that the RN effect arises from *necessary infelicity*, due to logically inconsistent requirements on the epistemic state s and context set c (cf. [8]).

(9) consequence of RU and EP
$s,c \succ Q$ only if $c \subseteq \{w: \mathbf{S}(\iota y.\mathbf{R}(y)(w))(w)\}$

(10) consequence of RU, AC, and IC
$s,c \succ Q$ only if $s \not\subseteq \{w: \mathbf{S}(\iota y.\mathbf{R}(y)(w))(w)\}$

3. Deriving restrictor plurality. The proposed account of RN effectively delivers (11) as a *derived* felicity condition. However, an account of the RP inferences illustrated in (1) – as accommodated presuppositions – would require the stronger derived felicity condition in (12).

(11) Restrictor non-uniqueness (RN)
s,c≻Q only if c $\not\subseteq$ {w: |{x: **R**(x)(w)}|≤1}

(12) Restrictor plurality (RP)
s,c≻Q only if c $\subseteq$ {w: |{x: **R**(x)(w)}|>1}

To strengthen RN to RP, we propose an additional felicity condition as an auxiliary premise, viz. the *restrictor homogeneity* condition in (13). Restrictor homogeneity obtains in virtue of the speaker and hearer agreeing on the restrictor's extension, thereby agreeing on the set of individuals that the question is about. This appears to be a natural condition on felicitous use of an information seeking question, and in fact one that might help explain the need for tacit domain restriction in many cases (cf. [9]).

(13) Restrictor homogeneity (RH)
s,c≻Q only if ∀w,w'∈c[**R**(w) = **R**(w')]

Now, if the restrictor's extension has more than one member in some context set world (RN) and the restrictor's extension is the same in all context set worlds (RH), then it follows that the restrictor's extension has more than one member in all context worlds, deriving RP as intended.

4. Predictions borne out. Questions of course have a broad range of uses in discourse ([6]), some of which arguably fail to respect all of the felicity conditions posited above. For any question use that can independently be established to not respect one of those felicity conditions, it is predicted that the relevant inferences are absent as well. This prediction is borne out for two different types of question uses, labelled here *quiz questions* and *rhetorical questions*, illustrated in (14) and (15).

(14) **quiz question**
Which [Japanese mathematician] died yesterday at age 81?

(15) **rhetorical question**
(So you think I'm not doing my share?) Which [member of the family] did all of the dishes?

As a quiz question, (14) surely does not require that the interlocutors agree on the members of any given set of Japanese mathematicians. Hence (14) is in violation of the homogeneity condition (RH), which therefore must be analyzed as suspendable under certain conditions. Similarly, the rhetorical question (15) suggests that the speaker considers herself the one and only family member who did the dishes. So (15) is in violation of the answerability condition (AC), which hence must be analyzed as suspendable as well. The suspension of AC or RH in such cases is predicted to preempt the derivation of the restrictor plurality effect. The correctness of this prediction is illustrated by the examples in (16) and (17).

(16) **quiz question**
Which [Japanese mathematician who won the Fields Medal in 1987] died yesterday at age 81?

(17) **rhetorical question**
(So you think I'm not doing my share? After all,) which [tired female member of the family] did all of the dishes last night?

Used in a quiz show setting, (16) clearly does not invite the inference that more than one Japanese mathematician won the Fields Medal in 1987. That is, the restrictor plurality inference is expectedly absent. Similarly, (17), asked rhetorically in a context where it is common knowledge the speaker is the sole tired female in the family and did the dishes. So here the restrictor non-uniqueness effect is expectedly not attested.

5. Conclusions. The proposed account of restrictor non-uniqueness and plurality (i) adds to the broadly Gricean program of understanding how speakers draw inferences on the basis of pragmatic premises, and (ii) adds to the growing inventory of observed correlations between necessary violations of felicity conditions and judgments of unacceptability (e.g. [3], [8], [1], [10]).

References. [1] Abrusán, Marta. 2014. Weak Island Semantics. Oxford University Press. [2] Abusch, Dorit. 2010. Presupposition triggering from alternatives. Journal of Semantics 27:37–80. [3] Fox, Danny, and Martin Hackl. 2006. The universal density of measurement. Linguistics and Philosophy 29:537–586. [4] Hamblin, Charles L. 1973. Questions in Montague English. Foundations of Language 10:41–53. [5] Horn, Laurence. 1972. On the semantic properties of logical operators in english. Doctoral Dissertation, UCLA. [6] Hudson, Richard A. 1975. The meaning of questions. Language 51:1–31. [7] Karttunen, Lauri. 1977. Syntax and semantics of questions. Linguistics and Philosophy 1:3–44. [8] Oshima, David Y. 2007. On Factive Islands: pragmatic anomaly vs. pragmatic infelicity. In New Frontiers in Artificial Intelligence, 147–161. Springer. [9] Pesetsky, David. 1987. Wh-in-situ: Movement and unselective binding. In The Representation of (In)definiteness, MIT Press. [10] Schwarz, Bernhard, and Alexandra Simonenko. 2016. Two pragmatic accounts of factive islands. In Proceedings of 46th annual meeting of the North East Linguistic Society (NELS 46). [11] Stalnaker, Robert. 1978. Assertion. In Syntax and semantics, ed. Peter Cole, volume 9, 78–95. Academic Press, New York.

Other submission: The same abstract is currently under review for a workshop on interrogatives at GLOW 28 (April 14, 2018)

Non-adult questions in child language: manipulating bias and Questions Under Discussion

Rebecca Woods (Huddersfield) and Tom Roeper (UMass Amherst)

Overview: Questions with doubled auxiliaries (QDA) are rare but present in spontaneous and elicited child language. We claim that they are not errors (Crain & Nakayama 1987, Guasti et al 1995 *i.a.*) but an option in child grammar used to ask biased questions. We show how Romero & Han's (2004) account for bias in negative polar questions can be adapted to account for QDAs.

Data: Many authors have noted the presence of QDAs like (1-2) in child English as late as 5;0:

(1) Can he can go? 4;8, Menyuk 1969

(2) Is the cat food can go there? 2;11, Theakston et al 2001

QDAs are easily elicited in children younger than 4;0 and can be found in adult English as in (3-4):

(3) What's the view [here…] Do we correct, do we don't correct? Adult British English, 2016

(4) Is you is or is you ain't my baby? US English, 1944

Doubling of verbal elements is not uncommon in other languages for affirmation (E. Portuguese, Martins 2007, focus (Gungbe, Aboh 2006) and other reasons. They are not speech errors due to (a) the age of the speakers, (b) their fluency, (c) QDA features compared with similar speech errors and (d) the semantico-pragmatic use to which QDAs are put. QDAs ask biased questions targeting a Question Under Discussion (QUD; Roberts 1996/2012) that is subordinate to the main QUD.

Case study: We collected all 3,068 questions produced by one child, Becky, between 2;0,27 and 2;11,15 (Theakston et al 2001). With a dialogue window of five lines, we coded all questions for structure and use in context, using the full transcript if the short dialogue was unclear. Becky produced 6 QDAs like (2), and 8 questions with doubling and a contracted auxiliary as in (5):

(5) What's is this? 2;1, Theakston et al 2001

Both structures are extremely infrequent, making up less than 1% of Becky's questions, but they are used differently. Utterances like (5) are produced between 2;1-2;5, with one last example at 2;9, but QDAs appear from 2;6 until the final recording at 2;11. Utterances like (5) are used exclusively as information seeking questions and 5/8 are used in out-of-the-blue, discourse-initial contexts. 8/9 of these examples contain a contracted form of *is* cliticised to *what* so we consider utterances like (5) to be speech errors. Becky's QDAs, in contrast, are never used as information-seeking questions; they query or check previously mentioned or assumed information (4/6) or contrast propositions (2/6). An example of a full dialogue containing one of these questions is in (6):

(6) *Context: Becky (CHI) and her mother (MOT) are playing at food shopping. MOT has said she might not want the items as CHI has been nibbling at them. MOT gives CHI money and says:*
   a. MOT: I'll take that home when I go home? […]
   b. CHI: why do you don't want it?
   c. MOT: I do want it.

In the context leading up to (6), Becky believes that her mother wants the item being "bought", but then interprets her mother's utterance in (6a) as a rejection of the item. She uses the QDA in (6b) to check the truth of the negated proposition she once believed ¬*you want this*, and to query the reasons for it. This is a biased question following Romero and Han (R&H, 2004) as it expresses a belief by Becky that a positive proposition contained within the question is true. She never uses QDAs in discourse-initial position. Note that she uses many other structures for these checking or contrastive purposes, including non-target structures with uninverted or no auxiliaries and target-like inversion of a single auxiliary. This suggests that auxiliary doubling is a structure generated by Becky's grammar that is just one option for expressing this kind of biased question.

A semi-formal schema for the QDA "Why do you don't want it?" follows:

Main QUD	Do you want it?

Initial belief	You want it.
Pragmatic inference	(I have gained evidence that) You do not want it.
Sub-QUD	Why don't you want it?

By formulating her question as "Why do you don't want it?", Becky not only directly asks the sub-QUD but also checks her new bias towards a negative answer to the main QUD. Likewise, a child of 4;0 who does not want to go outside asks his friend "do you don't want to go outside?" to check his bias towards the proposition ¬*you want to go outside*. Such sequences of entailed reasoning are far more complex, we argue, than has ever been attributed to a child under three, and its output is delivered to a level of consciousness via speech. However, it is a plausible analysis because of the consistency in the way(s) Becky uses QDAs and independent evidence that she is aware of discourse management: she is a prolific user of tag questions (81/3068 = 2.6%).

Why double? Doubling of full auxiliaries in questions like Becky's begins before the child has all the relevant knowledge of phrasal and clausal recursion (cf. De Villiers and Pyers 2002, *inter alia*), and hence cannot make use of adult strategies like cleft questions to check and contrast. QDAs develop as a monoclausal strategy based on the child's awareness of the information carried by auxiliaries: not only tense, but also discourse polarity, as evidenced in verum focus and insertion of dummy *do* for questions and emphasis. Klein (1998, 2006) and Duffield (2007, 2013) have provided similar evidence for an Assertion [ASR] feature separate from Tense [TNS] that are bundled together in adult English. We claim that children can separate these two features , leading to two separate and featurally distinct instantiations of the auxiliary on different heads. This analysis accounts for QDAs in which two different AUXs are used, such as (2), schematised below as (7):

(7) $[_{CP}\ [_{C[-ASR]}$ is$]\ [_{TP}\ [_{DP}$ the cat food$]\ [_{T'}[_{T[+TNS]}$ can$]\ [_{VP}$ go there$]]]]$

This proposed feature-splitting in child language allows for an analysis of QDAs as biased questions using a modified version of R&H's account, in which the adult speaker postulates a VERUM operator. The child achieves a very similar semantics to this by using two auxiliaries, one carrying [-ASR] to form a question and one carrying [TNS] to provide the certainty meaning contributed by VERUM. As in R&H, where the Q operator scopes over VERUM, the ASR feature scopes over TNS, which forms the proposition to be checked. This proposition is *not* asserted, because no assertion feature remains in TP; it is thus interpreted, like the propositions in adult biased questions, as a proposition that the speaker has an epistemic bias towards. The child overtly expresses this proposition in a QDA by leaving tense low, meaning that QDAs are also necessarily interpreted as confirming a contrastive option or checking because, unlike in adult-like questions with preposed negation but like adult cleft questions, a complete proposition remains in TP.

Why should the child express VERUM in questions via an overt auxiliary when this is not in the child's experience? There is a wealth of evidence, as alluded to above, from adults that auxiliaries can express VERUM, so we argue that the child may overextend the expression of VERUM by overt auxiliaries to use them in contexts like QDAs. We develop the idea that an explanation for R&H's claim that negative preposing signals VERUM in negative polar questions: a conceptual link between the two grows out of the way in which the child's acquisition path articulates an interaction between (a) high positions for polarity and illocutionary force and (b) the expression of full tensed propositions in the TP.

Conclusion: The acquisition path as syntax develops can pinpoint both operations and interfaces in UG in a unique manner. Questions with auxiliary doubling involve a syntactic split between Tense and Assertion, semantic recognition of a QUD, and pragmatic projection of a sub-QUD built on a pragmatic inference.

Selected references: Duffield, N. (2013) On polarity emphasis, *Lingua* 137. Klein, W. (2006) On finiteness. In van Geenhoven, ed. Roberts, C. (2012) Information structure in discourse. In J. Yoon and A. Kathol, eds. Romero, M. & Han C-h. (2004) On negative yes/no questions, *Linguistics and Philosophy* 27.