

Choosing additive particles in *wh*-questions

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I Introduction

- *Additive particles* are expressions like *also*, *too* and *else* which trigger a so-called *additivity presupposition*.
 - (1) a. John danced. Mary danced **too**.
 - b. John didn't dance. #Mary danced **too**.
 - (2) a. John danced. Who **else** danced?
 - b. John didn't dance. #Who **else** danced?
- In English and German the different additive particles differ in their **distribution across sentence types**.
- In **assertions and polar questions**, *also/too* and German *auch* are the standard additive particles:
 - (3) a. Mary **also** danced. / Maria hat **auch** getanzt.
 - b. Mary danced, **too**.
 - (4) a. Did Mary **also** dance? / Hat Maria **auch** getanzt?
 - b. Did Mary dance, **too**?
- By contrast, in *wh*-questions, *else* and German *noch* are preferred:
 - (5) a. #Who **also** danced? / #Wer hat **auch** getanzt?
 - b. #Who danced, **too**?
 - (6) Who **else** danced? / Wer hat **noch** getanzt?
- I will mostly focus on *also* and *else*.
- The aim of the talk is two-fold: (i) **derive the distributional properties** of *also* and *else*; (ii) understand how these properties **interact** with certain non-canonical questioning scenarios.

2 Data: showmaster questions and summoning questions

2.1 Showmaster questions

- Umbach (2012) maintains that, whenever German *auch* 'also' is used in a *wh*-question, this question receives a *showmaster interpretation*: the speaker already **has a particular answer in mind**. Typically she only asks the question to prompt the hearer to **say the answer out aloud**.
- Umbach's example:
 - (7) [Little Lisa tells her mother what happened when she visited the zoo with Auntie.]
Auntie to Lisa: Und was ist im Zoo auch passiert?
Auntie to Lisa: *And what also happened at the zoo?*
- Umbach only discusses the German example, but just the **same showmaster interpretation** seems to arise with the **English translation** of (7).
- In my account, I will focus only on English *also* versus *else*, and leave their German counterparts for future work.

2.2 Summoning questions

- Umbach’s generalization is too strong: **not all** *wh*-questions with *also/auch* receive a showmaster interpretation.
- A case in point are a certain class of questions, to my knowledge not discussed in the literature. I will call them *summoning questions*.
- A summoning question typically is **directly posed to a group of people** with the aim of finding out who of these people have a certain property:

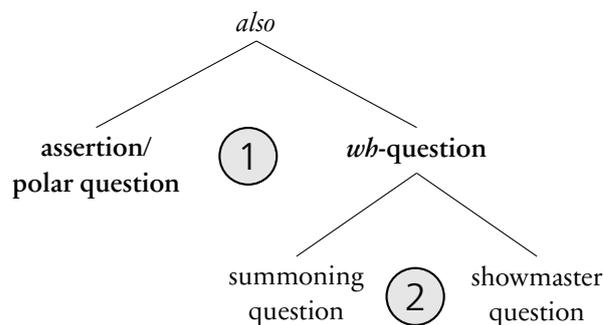
- (8) a. Who **also** wants an ice cream? (9) a. Wer will **auch** ein Eis?
 b. Who is **also** in favor of leaving? b. Wer ist **auch** dafür zu gehen?
 c. Who of you is **also** on Snapchat? c. Wer von euch ist **auch** bei Snapchat?

- Summoning questions can host *also/auch* **without showmaster effect**. E.g., in (8-a)/(9-a), the question of who wants an ice cream is genuine: the speaker does not have anybody particular in mind.
- By default, the speaker will act as the antecedent for the additive particle (*I’m getting an ice cream—who also wants one?*), but this doesn’t seem to be necessary for licensing *also/auch*:

- (10) I’m getting an ice cream for Lisa. Who of you also wants one?

2.3 The puzzle

- To summarize, this leaves us to grapple with the following pattern.



3 Background on additivity presuppositions

3.1 Focus sensitivity

- Additive particles are **focus-sensitive**: their presupposition depends on the focus structure of their containing sentence.

- (11) a. John also gave a DOG to Mary.
 ~> John gave **something other than a dog** to Mary.
 b. John also gave a dog to MARY.
 ~> John gave a dog to **somebody other than Mary**.

- We can easily implement this focus-sensitivity in a Roothian alternative semantics:

John also gave a dog to MARY.

~> There’s a true $p \in \llbracket \text{John gave a dog to MARY} \rrbracket^F$ such that $p \neq \llbracket \text{John gave a dog to MARY} \rrbracket^0$

EXISTENCE
NON-IDENTITY

3.2 Focus sensitivity via Current Question

- Beaver and Clark (2008) suggest a way of capturing this focus sensitivity in a QUD-based framework.¹
- They assume that every assertion addresses an (explicit or implicit) *Current Question* (CQ).
- By **question-answer congruence**, an assertion has focus marking on the constituent corresponding to the *wh*-phrase of the CQ.

(12) [CQ: **What** did Mary give John?] (13) [CQ: **Who** gave John a dog?]
 Mary gave John a [**dog**]_F. [**Mary**]_F gave John a dog.

- This allows B&C to capture the EXISTENCE condition in terms of the CQ: they take an additive particle to signal that a **positive partial answer to the CQ has saliently been established** in the discourse.
- For example, in (14), *also* marks that a positive partial answer to *What did John read?* has saliently been established.

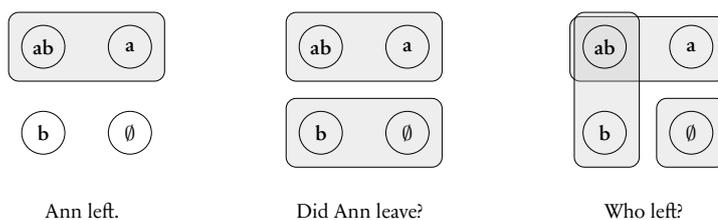
(14) [CQ: **What** did John read?]
 John also read [**Middlemarch**]_F.

4 Lifting the additivity presupposition

- We will now formulate a **generalized additivity presupposition** that is applicable to additive particles in **assertions as well as in questions**.
- To do so, we will borrow some notions from **inquisitive semantics**.

4.1 Inquisitive semantics

- Why inquisitive semantics? It's not essential here, but it makes it easy to **treat assertions and questions in a uniform way**—which is just what we want.
- In inquisitive semantics, declaratives and interrogatives are taken to denote **the same kind of semantic object**, namely a set of propositions.
- These propositions are exactly those pieces of information that **resolve the issue** raised by the sentence. We call them *resolutions*.
- Sentence meanings are always **downward closed**: if a sentence meaning P contains a proposition p , then it also contains all $q \subseteq p$.
- Note that **declaratives** are also taken to raise an issue, namely a **trivial issue**: the information conveyed by the declarative itself is enough to resolve the issue.
- **Examples:**



¹This also captures the anaphoric nature of additive particles, not discussed here (see Kripke 2009).

- What will be relevant for the additivity presupposition are **positive partial resolutions**:
 - A **partial resolution** doesn't have to resolve the issue completely; it's enough if it rules out some alternatives.

- (15) a. **John or Mary will come.** Alice will come too.
 b. **Someone from your soccer team called.** Mary called too.

For instance, take the issue $\frac{\square\square}{\square\square}$. Among its partial resolutions are $\frac{\circ\square}{\circ\square}$, $\frac{\circ\square}{\square\square}$ and $\frac{\circ\square}{\circ\square}$.

- A **positive partial resolution** of a polar question is a non-empty resolution entailing the *yes*-reply. A positive partial resolution of a *wh*-question is a non-empty partial resolution entailing a *somebody/something*-reply.

- (16) a. **John won't come.** #Alice will come too.
 b. **Nobody called.** #Mary called too.

For instance, take again the issue $\frac{\square\square}{\square\square}$. Examples of positive partial resolutions are $\frac{\circ\square}{\circ\square}$, $\frac{\circ\square}{\square\square}$ and $\frac{\circ\square}{\circ\square}$, but not $\frac{\circ\square}{\square\square}$ or $\frac{\circ\square}{\circ\square}$.

4.2 Formal details

- To give a formal definition of positive partial resolution, we need an additional notion, namely that of **highlighting** (see, e.g., Roelofsen and Farkas 2015).
- This notion is used to capture the **semantic objects that a sentence makes salient**:

- (17) a. Ann watched Psycho. $\rightsquigarrow \lambda w.W(p)(a)(w)$ o-place property
 b. Did Ann watch Psycho? $\rightsquigarrow \lambda w.W(p)(a)(w)$ o-place property
 c. What did Ann watch? $\rightsquigarrow \lambda x.\lambda w.W(x)(a)(w)$ 1-place property
 d. Who watched what? $\rightsquigarrow \lambda y.\lambda x.\lambda w.W(x)(y)(w)$ 2-place property

- To **generalize** over these different cases, we view propositions as o-place properties. A sentence then highlights an ***n*-place property**, where $n \geq 0$ is the number of *wh*-elements in the sentence.
- Let S be a sentence with highlighted property f mapping n -tuples of individuals to propositions. Then the set of positive partial resolutions of the issue expressed by S can be defined as follows (where \downarrow stands for downward-closure):

$$\{f(\vec{d}_i) \cup \dots \cup f(\vec{d}_j) \mid \vec{d}_i, \dots, \vec{d}_j \in D^n\}^\downarrow \setminus \{\emptyset\}$$

4.3 A generalized additivity presupposition

- For implementing the **EXISTENCE condition**, we simply adopt Beaver and Clark's CQ-based solution. I will label the relevant condition **EXISTENCE***.
- Our generalized version of the **NON-IDENTITY condition** will be labeled **NON-IDENTITY***. Unlike classical **NON-IDENTITY**, it will be formulated in terms of **logical independence**.²

²For discussion of this point, see the longer version of this talk at www.nadinetheiler.net/papers/LUSH_handout.pdf, as well as Jasinskaja and Zeevat (2009); Beaver and Clark (2008).

- **Generalized additivity presupposition:**

If an additive particle occurs in a sentence S , this presupposes that:

- a positive partial resolution p of the CQ has saliently been established, **EXISTENCE***
- and
- there is no positive partial resolution q of S such that $q \subseteq p$. **NON-IDENTITY***

- Sentence S can be a declarative, a polar interrogative or a *wh*-interrogative. Let's check which predictions the presupposition makes for these different cases.

4.4 Assertions

- Let's consider the example in (18).

(18) John also read [Middlemarch]_F.

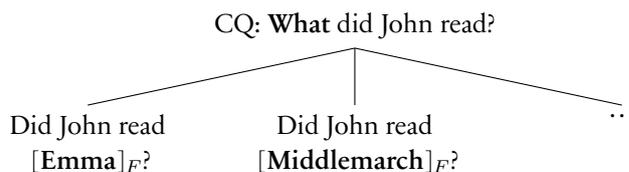
- Recall that the CQ associated with (18) is *What did John read?*
- So, **EXISTENCE*** requires there to be a saliently established positive partial resolution p of *What did John read?*
- The **positive partial resolutions** of (18) are the proposition that John read Middlemarch and all subsets of this propositions.
- So, **NON-IDENTITY*** requires that p is **logically independent** from the proposition that John read Middlemarch.

4.5 Polar questions

- Let's consider the example in (19).

(19) Did John also read [Middlemarch]_F?

- Observe that (19) is a **subquestion** of the *wh*-question *What did John read?*. For this reason, (19) is commonly assumed to be part of a **strategy** for finding an answer to *What did John read?*.



- Note that a principle similar to question-answer congruence is in place here: the **focus-marked constituent in the polar questions** corresponds to the *wh*-phrase in the CQ.
- So, an assertion and its corresponding polar question have the **same CQ**.
- An assertion and its corresponding polar question also have the **same set of positive partial resolutions**.
- So, for polar questions the generalized additivity presupposition amounts to exactly the **same as for assertions**.
- That is, (19) presupposes that there's a saliently established positive partial resolution p of *What did John read?*, and p is logically independent of the proposition that John read Middlemarch.

4.6 *wh*-questions

- The CQ often remains implicit and can only be deduced from the focus structure of assertions. But the CQ *can* also be **asked explicitly**—and it makes sense to assume that this is what (unrestricted) *wh*-questions usually do.
- For instance, I assume that the unrestricted *also*-marked question in (20) is part of a strategy to answer the CQ *What did John read?*

(20) [CQ: What did John read?]
What did John **also** read?

- So, for (unrestricted) *wh*-questions, the CQ is **identical to the question itself**. (We'll get to restricted *wh*-questions in a bit.)
- That means that NON-IDENTITY* is **impossible to satisfy** for these questions.
- To see this, observe that (20) presupposes there is a proposition *p* such that:
 - *p* is a saliently established positive partial resolution of *What did John read?*, and
 - there is **no** positive partial resolution *q* of *What did John read?* such that $q \subseteq p$.
- There can't be a *p* satisfying these two requirements.
- **Taking stock:** this explains why *also* in *wh*-questions is degraded. But why is it not degraded in summoning questions? And why is *else* acceptable in *wh*-questions?
- In these cases, the overtly asked question and the CQ are **not identical**, but rather the CQ is a superquestion of the overtly asked question.

5 *else*-questions

5.1 *else* removes the witness

- I suggest that the relevant difference between *also* and *else* is that only *else* is a **modifier of *wh*-/quantificational phrases**: it **removes the witness** of the additivity presupposition from the *wh*-/quantificational domain (Romero, 1998; Harris, 2014; Schwarz, 2017).
- For instance, in (21), Mary gets removed from the *wh*-domain. The resulting question is what Eckardt (2006) calls a *remnant question*.

(21) A: Mary called.
B: **Who else** called? = **Who other than Mary** called?

- Evidence for this difference comes from the contrast in (22):

(22) I can juggle...
a. Who else of **us/#you** can juggle?
b. Who of **#us/you** can also juggle?

- Here, the speaker is the witness. In (22-a), the 'of you'-restriction is bad because the **witness is not in the *wh*-domain** and thus can't be removed by *else*.
- By contrast, the 'of you'-restriction is fine in (22-b) since *also* doesn't remove the witness from the *wh*-domain.

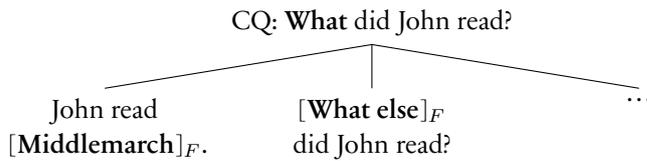
5.2 Witness removal guarantees non-identity

- Let's return to the generalized additivity presupposition:

If an additive particle occurs in a sentence S , this presupposes that:

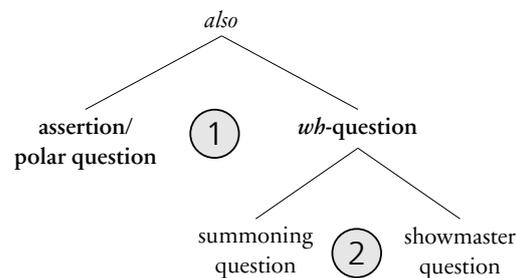
- a positive partial resolution p of the CQ has saliently been established, **EXISTENCE***
- there is no positive partial resolution q of S such that $q \subseteq p$. **NON-IDENTITY***

- How does an *else*-marked *wh*-question relate to the CQ?
- Since an *else*-question is a subquestion of the **corresponding question without *else***, it is also part of a **strategy** to answer the latter (cf. Eckardt, 2006).
- So, we take an *else*-question to have the corresponding non-*else* question as its CQ:



- So, for *else*-restricted *wh*-questions, the CQ is different from the question itself. This means it is possible to satisfy NON-IDENTITY*.
- To see why, consider the question *What else did John read?* again. Assume that the domain consists of Middlemarch, Emma and Frankenstein. The *else* signals that there is a proposition p such that:
 - p is an already established partial resolution of *What did John read?* (=Which of Middlemarch, Emma and Frankenstein did John read?), and
 - there is **no** positive partial resolution q of *What did John read?* (=Which of Emma and Frankenstein did John read?) such that $q \subseteq p$.
- A proposition p satisfying these conditions is, e.g., the proposition that John read Middlemarch.

To summarize, so far we have accounted for part ① of the puzzle: the fact that *also* is acceptable in assertions and polar questions, but degraded in *wh*-questions. We move on to part ②.



6 Other ways of guaranteeing non-identity

6.1 Summoning questions

- What saves the day in *else*-questions is the **witness removal**.
- So, we expect *also*-questions whose domain doesn't contain the witness to be acceptable as well.
- Indeed, supplying a suitable **overt domain restriction** seems to improve the acceptability of *also*:

(23) John danced all night at Mary’s birthday party. Who #(from YOUR dorm) also danced?

- In **summoning questions** a suitable restriction doesn’t have to be spelled out overtly—it is supplied by the **setup of the context**.
- If a speaker addresses a group using a summoning question, she restricts the *wh*-domain to that group:

(24) I’m getting an ice cream. **Who (of you)** also wants one?

- And since that group doesn’t contain the witness, NON-IDENTITY* can be satisfied and *also* becomes acceptable.
- But the acceptability of *also* seems to **improve more** through certain restrictions than others. E.g., the restriction in summoning questions seems to work better than the one in (24).
- Those restrictions that “work best” have one thing in common: they **guarantee without relying on world knowledge** that the witness is not contained in the *wh*-domain.
- This can happen either through grammaticalized strategies for removing the witness (*else*) or through splitting up a situation into **speaker and hearers** (summoning questions).

6.2 Showmaster questions

- I will base my account of showmaster questions on that of George (2011), who treats similar questions as cases of **extreme domain restriction**:³ the speaker restricts the domain to a **singleton set** containing only that entity she has in mind as an answer.
- (We might want to allow for restriction to a larger-than-singleton domain. We might also want to implement the domain restriction as a presupposition. I leave this open for now).
- George uses a **trivia question** to argue for this treatment:

- (25) a. What was considered a sin in the 16th and 17th century?
b. Eating chocolate.

[T]here are certainly many other things that were considered sins in the centuries in question. (...) we understand [(25-a)] as a question about which activity or activities in some suitably restricted domain was or were considered sinful (...) the question becomes a game not of testing our trivia knowledge, but of asking us to guess which sin the author of the question was thinking of.

(George, 2011, pp.208f)

- Now, what happens if a speaker uses *also* in a question with a thus restricted domain?
- For instance, assume the particular answer Auntie has in mind is that a giraffe stole Lisa’s hat:

(26) [[What also happened at the zoo?]] = { giraffe-stole-lisa’s-hat }[↓]

- Then, the generalized additivity presupposition **boils down** to the same as for the **assertion** *A giraffe stole Lisa’s hat* or the **polar question** *Did the giraffe steal Lisa’s hat?*
- Satisfying NON-IDENTITY* is **unproblematic** here. So, *also* is acceptable in showmaster questions.

³George doesn’t explicitly mention the term ‘showmaster question’, but discusses special cases of these questions: trivia questions as well as examples like (i), where the speaker has a particular answer to the embedded question in mind.

(i) Do you know what’s awesome?

7 Conclusion

7.1 Summary

- Additive particles presuppose that there is a saliently established positive partial resolution of the CQ which satisfies the **generalized non-identity condition**.
- With **assertions and polar questions**, NON-IDENTITY* is satisfiable, while with **run-of-the-mill unrestricted *wh*-questions**, it is impossible to satisfy.
- In order to guarantee NON-IDENTITY* with *wh*-questions, the ***wh*-domain needs to be suitably restricted**. This is what happens, e.g., in summoning questions (domain restricted to hearers) and showmaster questions (singleton domain).

7.2 Future work

- Is *else* even an additive particle? In fact, it doesn't trigger an additivity presupposition when it appears in assertions or polar questions:

(27) Mary didn't call.

- a. #Who else called?
- b. But someone else did.
- c. Did anyone else call?

- Showmaster questions are not unique to *also*. We seem to get a similar effect with **speaker-oriented adverbs** such as *fortunately* or *surprisingly*.

(28) a. Fortunately, JOHN taught semantics.
b. #Did JOHN, fortunately, teach semantics?
c. #Who, fortunately, taught semantics?

(29) [A, B and C are talking. A is telling C about something that B already knows. B isn't happy with the way A is reporting the events.]
B to A: But you have to tell the whole story! What, unfortunately, happened next?

References

- Beaver, D. and Clark, B. (2008). *Sense and sensitivity: How focus determines meaning*. Blackwell.
- Eckardt, R. (2006). *Was noch?* Navigating in Question Answer Discourse. In A. Späth, editor, *Interface and interface conditions*. Mouton DeGruyter, Berlin.
- George, B. R. (2011). *Question embedding and the semantics of answers*. Ph.D. thesis, University of California, Los Angeles.
- Harris, J. (2014). Who else but Sarah? *Connectedness: Papers in celebration of Sarah Van Wagenen*, pages 175–187.
- Jasinskaja, K. and Zeevat, H. (2009). Explaining conjunction systems: Russian, English, German. In *Proceedings of Sinn und Bedeutung*, volume 13, pages 231–245.
- Kripke, S. A. (1991/2009). Presupposition and anaphora: Remarks on the formulation of the projection problem. *Linguistic Inquiry*, 40(3), 367–386. Initially circulated in 1991 as a transcript of a lecture given at Princeton.
- Roelofsen, F. and Farkas, D. F. (2015). Polarity particle responses as a window onto the interpretation of questions and assertions. *Language*, 91(2), 359–414.
- Romero, M. (1998). *Focus and reconstruction effects in Wh-phrases*. Ph.D. thesis, University of Massachusetts Amherst.
- Schwarz, B. (2017). On the locus of question exhaustification. Talk at NELS 48.
- Umbach, C. (2012). Strategies of additivity: German additive *noch* compared to *auch*. *Lingua*, 122(15), 1843–1863.