Choosing additive particles in *wh*-questions

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1 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 \textit{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 \textbf{directly posed to a group of people} with the aim of finding out who of these people have a certain property:

\begin{align*}
\text{(8)} & \quad \text{a. Who \textbf{also} wants an ice cream?} & \quad \text{(9)} & \quad \text{a. Wer \textbf{auch} ein Eis?} \\
& \quad \text{b. Who is \textbf{also} in favor of leaving?} & \quad \text{b. Wer ist \textbf{auch} dafür zu gehen?} \\
& \quad \text{c. Who here is \textbf{also} on Snapchat?} & \quad \text{c. Wer von euch ist \textbf{auch} bei Snapchat?}
\end{align*}

- Summoning questions can host \textit{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 \textit{(I’m getting an ice cream—who also wants one?)}, but this doesn’t seem to be necessary for licensing \textit{also/auch}:

\begin{align*}
\text{(10)} & \quad \text{I’m getting an ice cream for Lisa. Who of you guys also wants one?}
\end{align*}

2.3 The puzzle

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

\begin{center}
\begin{tikzpicture}
\node [level 1] {also
\node [level 2] {assertion/polar question} \node [level 3] {summoning question} \node [level 4] {showmaster question}
\node [level 2] {\textit{wh}-question} \node [level 3] {\textit{wh}-question}
\end{tikzpicture}
\end{center}

3 Background on additivity presuppositions

3.1 Focus sensitivity

- Additive particles are \textbf{focus-sensitive}: their presupposition depends on the focus structure of their containing sentence.

\begin{align*}
\text{(11)} & \quad \text{a. John also gave a DOG to Mary.} & \quad \rightarrow \text{John gave something other than a dog to Mary.} \\
& \quad \text{b. John also gave a dog to MARY.} & \quad \rightarrow \text{John gave a dog to somebody other than Mary.}
\end{align*}

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

\begin{align*}
\text{John also gave a dog to MARY.} & \quad \rightarrow \text{There’s a true } p \in [\text{John gave a dog to MARY}]^F \text{ such that } p \neq [\text{John gave a dog to MARY}]^0
\end{align*}

\begin{tabular}{l}
\text{EXISTENCE} \\
\text{NON-IDENTITY}
\end{tabular}
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.

\[(12) \quad \text{[CQ: What did Mary give John?]} \quad \text{Mary gave John a [dog]}_F.\]

\[(13) \quad \text{[CQ: Who gave John a dog?]} \quad \text{[Mary]}_F \text{ gave John a dog.}\]

- 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.

\[(14) \quad \text{[CQ: What did John read?] } \quad \text{John also read [Middlemarch]}_F.\]

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:

```
\begin{array}{ccc}
\text{ab} & \text{a} & \text{a} \\
\text{b} & \emptyset & \emptyset \\
\end{array}
```

```
\begin{array}{ccc}
\text{ab} & \text{a} & \text{a} \\
\text{b} & \emptyset & \emptyset \\
\end{array}
```

```
\begin{array}{ccc}
\text{ab} & \text{a} & \text{a} \\
\text{b} & \emptyset & \emptyset \\
\end{array}
```

Ann left.

Did Ann leave?

Who left?

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 \(\square\). Among its partial resolutions are \(\bigcirc\), \(\bigcirc\), and \(\bigcirc\).

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 \(\square\). Examples of positive partial resolutions are \(\bigcirc\), \(\bigcirc\), and \(\bigcirc\), but not \(\bigcirc\) or \(\bigcirc\).

### 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. \(\rightsquigarrow \lambda w.W(p)(a)(w)\) \(\circ\)-place property
- b. Did Ann watch Psycho? \(\rightsquigarrow \lambda w.W(p)(a)(w)\) \(\circ\)-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 \(\circ\)-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):

\[
\{ f(\vec{d}_i) \cup \cdots \cup f(\vec{d}_j) \mid \vec{d}_i, \ldots, \vec{d}_j \in D^n\downarrow \setminus \{\emptyset\} \}
\]

### 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.\(^2\)

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

<table>
<thead>
<tr>
<th>If an additive particle occurs in a sentence $S$, this presupposes that:</th>
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<tbody>
<tr>
<td>- a positive partial resolution $p$ of the CQ has saliently been established, <strong>EXISTENCE</strong> (^*)</td>
</tr>
<tr>
<td>and</td>
</tr>
<tr>
<td>- there is no positive partial resolution $q$ of $S$ such that $q \subseteq p$. <strong>NON-IDENTITY</strong> (^*)</td>
</tr>
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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]$_F$?

(19) can be part of a strategy for finding an answer to the *wh*-question *What did John read?*. I will assume that this *wh*-question is the CQ of (19).\(^3\)

CQ: *What did John read?*

- 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**. This means:

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.

\(^3\)More work needs to be done to determine when polar questions are part of a strategy to answer a *wh*-CQ, and when they are simply “their own CQ.”
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.) This means:

**NON-IDENTITY** is impossible to satisfy for unrestricted wh-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 ⊆ 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).
- We therefore take an *else*-question to have the corresponding non-*else* question as its CQ:

  **CQ**: What did John read?

  \[ \text{John read } [\text{Middlemarch}]_F. \text{ did John read?} \]

  \[ [\text{What else}]_F \]

- 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*:

  \[ (23) \text{ John danced all night at Mary's birthday party. Who #(from YOUR dorm) also danced?} \]
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 \( wb \)-domain to that group:

(24) I’m getting an ice cream. Who (of you guys) 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 (23).

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 \( wb \)-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:\(^4\) 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.

\([\text{T]}\)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? ] = \{ \text{giraffe-stole-lisa’s-hat} \}\(^4\)

Then, the generalized additivity presupposition boils down to the same as for the assertion \text{A giraffe stole Lisa’s hat} or the polar question \text{Did the giraffe steal Lisa’s hat}.

Satisfying NON-IDENTITY\(^*\) is unproblematic here. So, also is acceptable in showmaster questions.

\(^4\)George 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 non-identity*.
- 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

- On closer examination, else doesn’t look much like an additive particle. E.g., 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?

- Additives are not the only elements that are licensed in showmaster, but not in ordinary wh-questions. We seem to get a similar effect with speaker-oriented adverbs such as fortunately.

(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