Who else but Sarah?*

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This paper explores the semantics of else when it modifies a bare quantifier, as in someone else, or a wh-phrase, as in who else. I argue that else triggers the presupposition that there is a contextually salient witness, which is removed from the domain of the quantifier it modifies. I also show that the presupposition can be satisfied in multiple ways: from prior text, from non-linguistic discourse context, and, as in the title, through an exceptive phrase like but Sarah.

Keywords pragmatics

Introduction

This note addresses the meaning of the element else, which appears to impose the requirement of obviation on permissible coreferents. For example, someone else is to be understood as bound by a local antecedent in some cases (1), but as deictic in others (2). In either case, the individual or sequence of individuals denoted by someone else cannot corefer with any of its possible antecedents, regardless of locality.

(1) a. Sarah, laughed at someone else
   cf. Sarah, laughed at herself
   b. Every linguist, laughed at someone else
      cf. Every linguist, laughed at herself

(2) [Pointing at Sarah as she walks into the room:] Who else? would it be!

These observations, and others, have lent support to the idea that else provides an implicit variable at some level of representation, on par with some analyses of local and enemy (Partee 1989; Mitchell 1986). On Culicover and Jackendoff’s (1995) account, for example, just as local may be understood as local to x, the element else may be understood in terms of the paraphrase other than x at an extra-syntactic level of representation (their conceptual structure). Kubota and Uegaki (2009) provide a variable free account, after Jacobson (1999), but the intuition remains that any entity denoted by else must not corefer with any other discourse entity (though see Zwart 2010 for potential counterexamples).

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Given the intriguing patterns that else presents for co-reference, it is perhaps not surprising that discussion of else has been largely concerned with how it can be accommodated (or not) within current versions of binding theory. Accordingly, the meaning of else, independent of its relation to binding theory, has received less attention in the literature.

In this paper, I propose that else introduces two distinct types of meaning along the at-issue/not-at-issue divide (Potts 2005). First, else triggers the presupposition that there is a contextually salient witness, represented as $\overline{w}$, in the discourse context. Second, that witness is removed from the domain of elements of the quantificational element it modifies (following comments in Hand 1987, Isac and Reiss 2004, and Zwart 2010). The basic proposal is summarized in (3) below:

(3) $X$ else
   a. **At-issue effect**: removes a witness $\overline{w}$ from the domain $D$ of $X$.
   b. **Not-at-issue effect**: triggers the presupposition that a contextually salient witness $\overline{w}$ is accessible in the discourse.

After briefly presenting the syntactic distribution of else, I provide justification for the claim that else requires a contextually salient witness. I then show that the effect is best captured as a presupposition trigger with an additive component, much like the particle too, by showing that it passes the classical tests for presuppositions. Finally, I conclude by showing that else expresses a modification of the implicit quantificational domain by providing a witness which is removed from that domain, in a way similar, but not reducible, to exception phrases.

1 Syntax of X else

As noted by many others, else may only appear with bare quantificational expressions that form a head. These quantifiers can be composite (someone) or simplex, provided that they do not take an overt restrictor NP (who).\(^2\) For convenience, let us call this class of quantificational expressions $X$ else. Quantificational expressions that are syntactically composed of distinct phrasal units are banned from $X$ else. Examples in (4) illustrate the contrast:

(4) a. $\begin{cases} 
\text{Someone} \\
\text{Everyone} \\
\text{Nobody} \\
\text{Anyone} \\
\text{Who} 
\end{cases}$ else laugh(ed) at her joke?

\(^2\)We might also include few else, much else, and possibly the more archaic none else in this list, although each seems to require a specialized context. Other combinations appear to be idiosyncratic: somehow else is not permitted, and elsewhere may be substituted for somewhere else (Culicover and Jackendoff 1995, fn. 9). There are also numerous idioms involving else, such as all else being equal, above all else, little else, etc. And, of course, else appears on its own, as a kind of connective, as in Eat your dinner, else no TV (Isac and Reiss 2004). All such cases are set aside here.
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b. * \{ Some \\
        Every \\
        No \\
        Any \\
        Which \} (else) linguist (else) laughed at her joke?

Culicover and Jackendoff (1995) capture the distribution with (5a), which needs to be supplemented with \textit{wh}-elements (5b) to fill out the paradigm:

(5) a. $X_{[-\textit{wh}]} \textit{else} = \{\textit{some}/\textit{every}/\textit{any}/\textit{no}\} + \{\textit{one}/\textit{thing}/\textit{body}/\textit{place}/\textit{where}\} + \textit{else}$

b. $X_{[+\textit{wh}]} \textit{else} = \{\textit{who}/\textit{what}/\textit{why}/\textit{when}/\textit{how}\} (+\{\textit{ever}\}) + \textit{else}$

I will make no assumptions regarding the phrase structure of $X \textit{else}$ for present purposes. However, whatever the syntax of $X \textit{else}$ ultimately is, semantically the expression $X$ must be a Mostowski quantifier – a quantifier of type $\langle 1 \rangle$ which maps from a universe of elements $M$ to some subset $Q \subseteq M$ for which the predication holds. We will make use of this fact directly in developing a semantics for $\textit{else}$ that restricts the quantificational domain $M$ to a subset $M - \{w\}$, where $w$ is a witness in $M$ for the predication in question.

## 2 Semantics of $\textit{else}$

The essential claim is that $\textit{else}$ provides the discourse with a witness, which is removed from the domain $M$ of the bare quantifier that $\textit{else}$ modifies. We define a witness set as (6) below, where conservativity is simply the property that the truth of the quantificational statement depends only on the elements within the restrictor set $A$ (also known as the lives on property; see Barwise and Cooper 1981 and Partee et al. 1990). Let $D$ be the denotation for a determiner in universe of discourse $E$, $A$ the denotation for a restrictor NP, so that $D(A)$ is the denotation of a quantifier, and $B$ the denotation for a predicative VP. We may think of $D$ as a relation between the sets $A$ and $B$ as in Generalized Quantifier Theory (Barwise and Cooper 1981).

(6) \textbf{Witness set}: A witness set of a conservative quantifier $D_E(A, B)$ is any $W \subseteq A$ such that $D_E(W, B)$.

From (6), it is straightforward to define a witness $w$ as an element in $W$:

(7) \textbf{Witness}: Let a witness $w$ be some element or sequence of elements in a witness set $W$.

For example, if the universe of discourse is $E = \{a, b, c\}$, $a$ is a witness for the statement \textit{Someone laughed} only if \textit{a laughed} is true; if both $a$ and $b$ laughed, then the sequence $a, b$ can serve as a witness. In general, the witness set $W$ is any subset from the restrictor $A$ for which the predication $B$ holds true, and a witness $w$ for $D(A, B)$ is just some element in $W$.

In what follows, I first defend the view that $\textit{else}$ presupposes some witness $w$. I then provide a sketch of a semantics in which $w$ is removed from the domain of quantification for the quantificational expression they modify. A basic case is provided below, where the semicolon ‘;’ indicates that the expression on the left is a presupposition to the expression on the right.
Someone else laughed, too.
$$\text{\(\overrightarrow{w} \in M. \, \text{laughed}(\overrightarrow{w}); \exists x \in (M - \{\overrightarrow{w}\}). \, \text{laughed}(x)\)}$$

Here, the context – whatever it may be – must have at least two individuals who laugh: the witness and another individual. However another reading of (9) exists in which the else can be construed as denying that the witness in fact laughs.

(9) No, someone else laughed.
$$\text{\(\overrightarrow{w} \in M. \, \neg\text{laughed}(\overrightarrow{w}); \exists x \in (M - \{\overrightarrow{w}\}). \, \text{laughed}(x)\)}$$

I’ll call these two readings inclusive and exclusive, respectively, and present more detailed observations in §2.3. I concentrate on the exclusive reading until then. I now turn to justifying the basic idea that else contributes a witness.

2.1 Else provides a witness

The claim that else contributes a witness is supported by the intuition that (10a) indicates that Sarah laughed at one or more individuals, in contrast to the variant without else (10b).

(10) a. Sarah laughed at nobody else.
   b. Sarah laughed at nobody.

A parallel case can be constructed for questions as in (11). As before, the addition of else seems to imply ($\Rightarrow$) that Sarah does want something to eat, though what precisely is left unspecified. The difference can be clearly seen in the interpretation of Nothing as a reply. In the first case, Sarah wants nothing besides what else refers to, for example cookies; in the second, she wants nothing at all, not even cookies. To be more precise, what else in (11a) presupposes that Sarah does indeed want something to eat, and, accordingly, nothing ranges over a subset of the quantificational domain that excludes that witness. In contrast, (11b) there is no such presupposition, and so nothing ranges over the entire domain.

(11) a. i. What else does Sarah want to eat?
   ii. Nothing.
   \(\Rightarrow\) Sarah wants something to eat.
   b. i. What does Sarah want to eat?
   ii. Nothing.
   \(\Rightarrow\) Sarah doesn’t want anything to eat.

Thus, else alters the basic entailment patterns of the quantificational head it modifies. Without else, the statement Somebody baked Sarah cookies this week is a blatant contradiction in (12); with else, it is an entailment.

(12) a. Nobody baked Sarah cookies this week.
   \(\Rightarrow\) Somebody baked Sarah cookies this week.
   b. Nobody else baked Sarah cookies this week.
   \(\Rightarrow\) Somebody baked Sarah cookies this week.

\(^3\)Isac and Reiss (2004) call the inclusive reading additive. I will avoid that term in order to circumvent any confusion surrounding the observation that else is similar to the additive particle too.
This entailment may be denied when else is used metalinguistically (Horn 1985, 1989); such denials are licensed only when the statement has been asserted in prior discourse context, and is further uttered with a contradiction contour marked by the ˘ diacritic (Liberman and Sag 1974).

(13) a. What else does Sarah want to eat?
   b. She doesn’t want something ˘ ELSE; in fact, she doesn’t want anything at all!

In many respects, else seems to be strongly linked to previous discourse, paralleling d-linked phrases like which that are strongly linked with entities previously mentioned (Pesetsky 1987).

(14) a. [A few linguists] walked into the room. [Which one] was Sarah?
    b. [A few linguists] walked into the room. [Who else] was coming?

However, the discourse requirements of else can be easily accommodated should previous discourse fail to provide an appropriate reference set.

(15) [Mutters to himself upon seeing an unfamiliar pair of shoes in the kitchen:] Someone else is here . . .
(16) [Upon entering a crowded elevator:] If anyone else gets in here, we’ll break the damn thing!
(17) [As the last person on Earth:] I wish someone else, anyone else, were here.

As shown above, else can be interpreted with respect to the speaker, either as an individual (15) or as part of a collective, e.g., the inhabitants of a crowded elevator (16). Under an attitude predicate like wish (17) or in the antecedent to a conditional (16), else may receive an entirely non-specific reading, in that the speaker need not have a particular individual in mind. Such uses show that else may be easily understood as exophoric, referring to an individual outside of the text, as well as endophoric (14). In either case, else provides a witness; what differs is whether the identity may be inferred on the basis of the text directly.

Something similar might be said regarding the anaphoricity of the additive particle too, which again may be endophoric (18a) or exophoric (18b), as discussed in Kripke (2009) among many others.

(18) a. If Herb comes, the boss will come, too.
    b. [Seeing someone yawn at a boring lecture:] I’m bored, too.

Though certainly not identical, the elements else and too parallel each other in many respects. I now show that else, like too, is a presupposition trigger.

2.2 Else as presupposition trigger

We’ve seen evidence above that else indicates the existence of a salient witness in the discourse context, much like too. In this section, I show that else patterns with presuppositions on all the major diagnostics: else may be backgrounded, it is difficult to deny, it passes presupposition holes, but not presupposition plugs.
There is much support for the idea that an utterance presents more than one type of meaningful content. In addition to the regular semantic content – i.e., what is said in Grice’s (1975) terms and at-issue content in Potts’ (2005), other kinds of content may be presupposed or implicated, collectively determined as not-at-issue. Examples of presuppositions may be found in (19) below, where CAPS mark focus prominence.

(19)  

<p>| | |</p>
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| a. | Sarah stopped laughing.  
⇒ | Sarah was laughing previously |
| b. | Sarah talked to the king of France.  
⇒ | There exists a king of France |
| c. | Sarah talked to ZOE, too.  
⇒ | Sarah talked to someone besides Zoe, e.g., Audie. |

The first piece of evidence in favor of a presuppositional analysis is that the witness can easily be backgrounded in common ground. Here, the previous context explicitly introduced a visitor, Wyatt, who is the understood witness for else in the following sentence.

(20) Wyatt visited Sarah this week. Someone else visited last week.

Second, presuppositions are notoriously awkward to deny, which is what makes their rhetorical use so powerful, if at times insidious. To take a well-worn example, the predicate quit smoking presupposes that the subject, Sarah, smoked at some point in the past (21A). A denial like (21B) fails to address the presupposition itself. Instead, (21B) targets the main assertion – that Sarah has quit smoking.

(21) A. Sarah quit smoking.  
B. No, she didn’t.

Special care must be taken to target a presupposition. In (22), speaker B must provide a complete rejoinder in order to deny the presupposed content.

(22) A. Sarah quit smoking.  
B. You’re wrong: she’s never smoked.

A similar pattern holds for else: speaker A’s utterance presupposes that someone laughed, which is not easily denied (23B.i). Only when speaker B explicitly contradicts the presupposition can the presupposition be denied (23B.ii).4

(23) A. Someone else laughed.  
   B. i. No, they didn’t.
   ii. You’re wrong: nobody laughed.

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4On a related note, else also passes the more controversial ‘Hey, wait a minute test’ (Shanon 1976), though I do not take such objections to necessarily diagnose what’s being challenged as a presupposition, following Potts (to appear).

(1) a. Someone else laughed.  
   b. Wait a minute, someone laughed?
The form of the denial is informative. Just as (22B) used the temporal adverbial *never* to address Sarah’s supposed smoking habit, (23B.ii) address the presupposition with a quantifier *nobody* that is incompatible with the presupposed witness.

Further, presuppositions survive in environments where *at-issue* content may not, a phenomenon often called projection (e.g., Simons et al. 2010). That is, presuppositions are insensitive to the entailment-cancelling effect of certain expressions or syntactic environments, also known as presupposition *holes* (Karttunen 1973), canonically including negation (b), questions (c), epistemic modals (d), and the antecedent of a conditional (e), none of which eliminate the presupposition that there is a king of France (a).

(24) Example modeled after Cherchia and McConnell-Ginet (1990:28)
   a. The present king of France lives in Claremont.
   b. It is not the case that the present queen of France lives in Claremont.
   c. Does the present king of France live in Claremont?
   d. It’s possible that the present king of France lives in Claremont.
   e. If the present king of France lives in Claremont, he has probably met Sarah.

   As shown by the minimal pairs below, only when *else* is added to *anyone* or *someone* does the presupposition of a contextually salient witness project.

(25) Negation
   a. Sarah didn’t visit with anyone today.
      ⇒ Sarah visited with someone today.
   b. Sarah didn’t visit with anyone else today.
      ⇒ Sarah visited with someone today.

(26) Questions
   a. Did anyone visit Sarah?
      ⇒ Someone visited Sarah.
   b. Did anyone else visit Sarah?
      ⇒ Someone visited Sarah.

(27) Epistemic modal
   a. It’s possible that Sarah visited with someone today.
      ⇒ Sarah visited with someone today.
   b. It’s possible that Sarah visited with someone else today.
      ⇒ Sarah visited with someone today.

(28) Antecedent of conditional
   a. If someone visits Sarah, give them some of that cake.
      ⇒ Someone visited Sarah.
   b. If someone else visits Sarah, give them some of that cake.
      ⇒ Someone visited Sarah.
Finally, *else* patterns with presuppositions with respect to *plugs*: predicates, such as verbs of saying, that prevent the presupposition from projecting (Karttunen 1973). As shown in (29), the presupposition of *quit* does not project out of the complement past *said*. That is, the sentence does not presuppose that Sarah ever smoked.

(29) Rachel and Kimberly said that Sarah quit smoking.
    ⇒ Sarah smoked in the past

The situation is similar for *else*, though somewhat more complex. *Else* is so easy to accommodate that its behavior is often obscured. In (30), we can either cancel the presupposition that else refers to an individual besides Sarah (a), or the presupposition that there is even a witness at all (b).

(30) a. Sarah said that someone else ate the cookies, when it fact it was her.
    ⇒ Someone besides Sarah ate the cookies

    b. Sarah said that someone else ate the cookies, when in fact no one ate them.
    ⇒ Someone ate the cookies

In the final section, I note the semantic connection between *else* and exceptive phrases, which both modify the quantificational domain of the determiner with which appear.

2.3 *Else* and exceptives

I conclude with the observation that *else* is fully compatible with, and indeed closely related to, so-called exceptive phrases (von Fintel 1993; Hoeksema 1995; Moltmann 1995; Zuber 1998; Peters and Westerstahl 2006) as in (31) below.

(31) a. Nobody (else) except/besides/but Sarah is napping.
    b. Besides/except Sarah, nobody (else) is napping.

The connection is a promising one, for many authors have pursued an analysis in which the NP (*Sarah*) in the exceptive phrase is excluded from the quantificational domain of, e.g., *nobody*. For example, on von Fintel’s (1993) approach, the exceptive connective *but* consists of two conditions: domain subtraction and uniqueness. The domain subtraction condition is simply a rendering of the intuitive at-issue meaning we have supposed all along, namely that the relevant domain excludes the witness $\vec{w}$. The central difference here is that the identity of the witness is given explicitly.

(32) For some determiner $D$, a restrictor $A$, an NP $C$, and nuclear scope $P$ for $D$:
    $D \ A \ \parallel \ \but \ \parallel \ C \ \parallel \ P = \ \text{True} \ \Leftrightarrow \ P \in D(A - C) \ \land \ \\forall S(P \in D(A - S) \ \rightarrow \ C \subseteq S)$

The uniqueness condition ensures that the exception set $C$ consists just of exceptions to the quantified statement. Together, the two conditions guarantee that all and only elements of $C$ are exceptions. This seems correct for bare universals, in that *else* provides all the witnesses (for either inclusive or exclusive interpretations).

(33) a. Everyone else drank coffee.
b. Nobody else drank coffee.
c. Did anyone else drink coffee?

However, given the context of A’s utterance, B does not commit to just two unique coffee drinkers in the office; there may be many more.

(34) A. Looks like you’re the only coffee drinker in the office.
   B. Someone else must drink coffee around here.

If von Fintel’s (1993) analysis is correct (though see Moltmann 1995 and Peters and Westerstahl 2006 for counter proposals), the semantic effect of else is weaker than the semantic effect of exceptive phrases.

On approach to consider is that of Keenan (1996) and Zuber (1998), who treat the effects of exceptive phrases as (co-)intersective, depending on the determiner D the exceptive modifies. The relevant properties are defined below, where X’ is the set complement of X and E is the universe of discourse.


To illustrate with Keenan’s (1996) analysis, in which exceptive determiners are simplified to complex determiners, applying NO ONE BUT SARAH to the VP denotation LAUGHED yields a singleton set containing just Sarah. In contrast, EVERYONE BUT SARAH is treated as co-intersective, as it depends just on PERSON − LAUGHED.

(37) a. No one but Sarah laughed.
   \((NO\ ONE\ BUT\ SARAH)(LAUGHED) = 1 \text{ iff } PERSON \cap LAUGHED = \{\text{Sarah}\}\)
   People who laughed include only Sarah.
   b. Everyone but Sarah laughed.
   \((EVERYONE\ BUT\ SARAH)(LAUGHED) = 1 \text{ iff } PERSON − LAUGHED = \{\text{Sarah}\}\)
   People who laughed exclude only Sarah.

The relation to else would seem straightforward: simply replace the NP Sarah with the witness \(\overrightarrow{w}\) to produce a comparable effect.

(38) a. No one else laughed.
   \((NO\ ONE\ BUT\ \overrightarrow{w})(LAUGHED) = 1 \text{ iff } PERSON \cap LAUGHED = \{\overrightarrow{w}\}\)
   People who laughed include only the witness.
   b. Everyone else laughed.
   \((EVERYONE\ BUT\ \overrightarrow{w})(LAUGHED) = 1 \text{ iff } PERSON − LAUGHED = \{\overrightarrow{w}\}\)
   People who laughed exclude only the witness.

Another way of putting the possible connection is that an exceptive phrase seems to make the witness explicit, whereas else leaves it implicit.
Unfortunately, there are several problems with such a reduction. The first is that exceptive phrases and *else* can co-occur, and the effects are not entirely vacuous. There are two readings of (39). In one, *Sarah* is identified with the witness; in the other, both an implicit witness from the context and Sarah are exceptions to the universal statement. One way to put the difference is that only in the first case is *else* endocentric to the NP in the exceptive.

(39) Everyone else except Sarah laughed.

Such distinctions are subtle, and require some additional context. For example, the context in (40) suggests that Sarah is the only exception to liking the joke in question. In contrast, both Sarah and the Speaker are considered exceptions in (41).

(40) A. Wasn’t that a great joke?  
    B. Everyone else except Sarah laughed.  
    *Sarah is the only exception*

(41) A. Did anyone actually like that awful joke?  
    B. Everyone else except Sarah laughed.  
    *Sarah and the Speaker are exceptions*

The important fact to note here is that different contexts suggest different quantificational domains for *everyone*, as noted elsewhere (Barwise and Perry 1983; ?). However, this sensitivity to context is not overridden by the exceptive, which need not wholly specify the witness to be excluded from the quantificational domain.

Worse still is the fact that an analysis like (38) is too strong. As mentioned, the *else* can be either *inclusive* or *exclusive*, and the classification is sensitive to the context.

(42) *Inclusive*  
    A. Why were you laughing?  
    B. Everyone else laughed . . .  
    *(Speaker B is a conformist)*

(43) *Exclusive*  
    A. Why weren’t you laughing?  
    B. Everyone else laughed . . .  
    *(Speaker B is a contrarian)*

While we do not have a compositional analysis for *else* when it appears with a bare quantifier, we have succeeded in providing a few core properties that must be addressed in a more complete analysis.

**Conclusion**

I presented evidence that *else* consists of two independent parts, targeting two dimensions of meaning. At the not-at-issue level, *else* presupposes the existence of a contextually salient witness, which is recoverable through various types of anaphoric relations, similar to the additive particle *too*. The at-issue content is analogous, in some respects, to a quantified exceptive phrase in that they both remove an element from the quantificational domain.
Still, whatever its empirical value, this paper leaves a great deal unsaid in understanding the compositional semantics of *else*; it has only shown that there is much (else) to do.

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