

Focus, Evidentiality and Soft triggers

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Abstract. Soft triggers are fairly easily suspendable in context. Two main environments in which this happens have been identified: (a) The presupposition of soft triggers can be suspended by focus (cf. Beaver 2004) (b) Simons (2007) has observed that many soft triggers such as *hear, see, believe, discover, know, etc.* have semantically parenthetical uses which are not presuppositional. This paper offers a way of predicting these facts in the context of a theory applicable to soft triggers.

1 Introduction

Soft triggers are fairly easily suspendable in context, as was pointed out by Karttunen (1971), Stalnaker (1974), Chierchia and McConnell-Ginet (2000), Simons (2001), Beaver (2004), Abbott (2006), Klinedinst (2009), Romoli (2011), among others. Observe a classic example:

- (1) As far as I know, everything I've said is correct. But if I realize later that I have not told the truth, I will confess it to everyone. (Karttunen 1971)

Such examples of suspendability have been taken to suggest by many of the above authors that—at least in the case of soft triggers—a pragmatic explanation of why the presupposition arises is desirable.

Yet how presuppositions could be predicted has been an elusive and rarely addressed question. While the few attempts in the literature to explain presuppositions of at least certain items provided valuable insights (cf. Sperber and Wilson 1979, Simons 2001, Abusch 2010, Simons et al. 2010), they either did not make correct predictions or failed to be sufficiently explanatory. Stalnaker (1974) and Schlenker (2010) laid out a blueprint for a triggering mechanism, but did not provide a theory themselves.

Abrusán (2011) proposed a mechanism for predicting the presuppositions of soft triggers according to which entailments of a sentence *S* that are independent from the main point of *S* are presupposed. The main point of a sentence *S* is defined by grammar, and is given by those entailments that are by nature about the event time of the matrix predicate of *S*. Entailments of *S* that describe events that are not necessarily about the event time of the matrix predicate of *S* are independent from the main point, hence presupposed. However this proposal was not context-sensitive and was therefore not able to handle cases of presupposition suspension.

This paper argues that besides the grammatically defined main point, a secondary, pragmatic main point can be derived as well by markers such as focus and

evidential expressions. In these cases, sentences have two main points that are relevant for presupposition triggering: the default (grammatical) and a secondary (pragmatic) one. Entailments that are to be presupposed have to be independent from both of these. This predicts that in the examples of presupposition suspension no presupposition is triggered to begin with. A useful metaphor for the perspective of the present paper comes from vision science: Visual attention is thought to be guided both by automatic (bottom-up) processes and by context driven (top-down) processes that modulate the outcome of the first process. We might view the presuppositions of soft triggers as a result of how attention structures the informational content of a sentence: bottom-up processes derive the grammatically defined main point, while contextual (top-down) processes modulate what becomes the main point in a given context.

2 Aboutness

The notion of aboutness in this paper is that of being about an entity (object). This treatment is an extension of the notion of being about an argument worked out by Demolombe and Fariñas del Cerro (2000) for first order logic. The proposal has two parts: the definition of variants of a possible world with respect to an object and the definition of being about an object.

2.1 Variants

We define variants of possible worlds with respect to objects. Roughly speaking, two worlds w and w' are c -variants if they only differ by the properties of the object denoted by the constant symbol c . In this case we need to allow that c -variants differ in the truth assignment to atomic sentences where the expression c appears as an argument of the matrix clause. Let M be a model $\langle W, D, R, \llbracket \cdot \rrbracket \rangle$, where

- W is a set of possible worlds
- D is a domain of things¹
- $R \subseteq W \times W$ is an accessibility relation on W
- for a non-logical atomic predicate p^n , $\llbracket p^n \rrbracket^w \subseteq D^n$

For the purpose of calculating variants, a sentence such as *a knows that p at t* will be treated as if it had the more simple syntax $K(a)(t)$, where K stands for *knows that p*. The language is assumed not to contain the identity predicate. We can then define for every possible world $w \in W$, variants w' of w as follows:

- $D_{w'} = D_w$
- $\llbracket x \rrbracket^{w'} = \llbracket x \rrbracket^w$, for each constant or variable symbol x

¹ To keep the above discussion more simple, I assume that both individuals and time intervals belong to D . Things in D are typed however, (so $D = D_e \cup D_I$) and predicates have a type restriction on their arguments.

- if p is a predicate symbol of arity n
 - if t is an $n+1$ -tuple the first n terms of L_c and the final element is from W and which contains no occurrence of the constant c , then $\langle \llbracket t \rrbracket, w' \rangle \in \llbracket p \rrbracket$ iff $\langle \llbracket t \rrbracket, w \rangle \in \llbracket p \rrbracket$.
 - if an element $\langle d_1, \dots, d_n \rangle$ of D^n is such that for every j in $[1, n]$, $d_j \neq \llbracket c \rrbracket$, then $\langle d_1, \dots, d_n \rangle \in \llbracket p \rrbracket^{w'}$ iff $\langle d_1, \dots, d_n \rangle \in \llbracket p \rrbracket^w$.

2.2 Aboutness

Given the above notion of variants, we might define aboutness as follows:

(2) **Aboutness**

A sentence S is about the object denoted by the constant symbol c iff there are two worlds w and w' in W which are c -variants and $\llbracket S \rrbracket^w = 1$ and $\llbracket S \rrbracket^{w'} = 0$

Conversely, we can also give a definition of what it means for a sentence to not be about an object c :

(3) ***The property of not-being about***

A sentence S is not about the object denoted by the constant symbol c iff for every w, w' in W st. w and w' are c -variants $\llbracket S \rrbracket^w = \llbracket S \rrbracket^{w'}$.

2.3 Examples

(4)

- a. $\xi = \text{Fido is tired}$
- b. $\varphi = \text{Some individual is tired}$
- c. $\psi = \text{Fido is tired or Fido is not tired}$

The sentence S above is about Fido iff there are two Fido-variants w, w' , st. $\llbracket \xi \rrbracket^w = 1$ and $\llbracket \xi \rrbracket^{w'} = 0$. Notice that the definition in (2) quantifies over all worlds, therefore φ is also about Fido, because there are two worlds which differ only in the properties of Fido, st. and $\llbracket \varphi \rrbracket^w = 1$ and $\llbracket \varphi \rrbracket^{w'} = 0$, e.g. if Fido is the only tired individual in w . ψ however is not about Fido because ψ is a tautology, and therefore it is true in every two worlds w, w' that are Fido-variants.

3 Abrusán's (2011) Proposal

Abrusán (2011) presented a mechanism to predict the presuppositions of soft triggers. The main intuition, inspired by Stalnaker (1974), is that entailments of a sentence that are in some sense independent from the main point of the sentence are presupposed. It was assumed that that the main point of a sentence is given by those entailments that are by nature about the event time of the matrix predicate. Propositions that describe events that are not (or do not have to be) about the event time of the matrix predicate of S are independent, and hence presupposed.

Let's illustrate the idea with a simple example. Consider (5), in which t_1 denotes the event time interval of the matrix predicate, and t_2 is some interval before t_1 , given by the context. Let's look at the sentence S and two of its (many) entailments φ and ψ :

(5) $S = \text{John knows (at } t_1\text{) that it was raining (at } t_2\text{).}$

- a. $\varphi = \text{John believes (at } t_1\text{) that it was raining (at } t_2\text{).}$
- b. $\psi = \text{It was raining (at } t_2\text{).}$

In an intuitive sense, φ is about the time denoted by t_1 , but ψ is not: changing the properties of the world at t_1 will not affect the truth value of ψ but it might affect the truth value of φ . This is exactly what is captured by Demolombe and Fariñas del Cerro's (2000) definition of aboutness: There are no two t_1 -variants (i.e. worlds that differ in nothing but the properties of t_1) which differ in the truth value of ψ . Therefore, ψ is not about t_1 . But there might be two worlds that are t_1 variants and differ in the truth of φ in them, e.g. w_1 in which John believes (at t_1) that it was raining, and w_2 in which John does not believe (at t_1) that it was raining.

In effect the aim was to tell independent events apart: Select the main event described by the sentence, and decide what other information conveyed by the sentence describe independent events from the main one. But this is a very difficult task and cannot be easily accomplished just by looking at events themselves because of the very complex mereological structure of events. For example, is the event of raining part of the complex event of John's knowing it? If not, why not? The idea of looking at event times instead of events themselves serves the purpose of making independence more tractable: Events that happen at different times are clearly different events. Further, in some cases, e.g. mathematical truths (*John knows that 2+2=4*), the possibility of invoking events is not obvious at all. However, since event times are more abstract than events, evoking event times is still possible even in these cases.

Of course one might wonder about sentences such as (6), where the embedded proposition and the matrix predicate are assumed to be true at the same time. The simple picture above predicts that the embedded proposition in (6) is not independent from the main assertion, and is therefore not presupposed, contrary to fact:

(6) $S = \text{John knows (at } t_1\text{) that it is raining (at } t_1\text{).}$

- a. $\varphi = \text{John believes (at } t_1\text{) that it is raining (at } t_1\text{).}$
- b. $\psi = \text{It is raining (at } t_1\text{).}$

Thus we need a way to distinguish accidental co-temporaneity from non-accidental ones. In the above example, though it so happens that the embedded proposition and the matrix proposition are true at the same time, this is only an accident. But the co-temporaneity of the matrix time of φ with the matrix time of S is not an accident, but follows from the lexical interpretation of *know*. To distinguish these two cases, Abrusán (2011) and Abrusán (2011) proposes to compute

the triggering mechanism on an abstraction of the sentence in which accidental temporal overlap can be ignored, as opposed to non-accidental ones. I refer the reader to the above papers for further detail.

4 Contextual Effects

The triggering mechanism outlined above was viewed as a function that takes as its input the semantic entailments of a sentence S , and flags one or more of these as presupposed. It has been argued however (cf. Stalnaker 1974, Chierchia and McConnell-Ginet 2000, Simons 2001, Beaver 2004, Abbott 2006, Abusch 2010, Schlenker 2010) that certain examples might necessitate taking the context into account as well. This section looks at two such cases, and how they might be integrated into the above framework, without claiming to be exhaustive.

4.1 Parenthetical Uses of Verbs

Simons (2007) observes that certain clause embedding verbs such as *hear*, *see*, *believe*, *discover*, *know*, etc. have semantically parenthetical uses. In these cases the embedded clause carries the main point of the utterance, while the matrix clause serves an evidential function of identifying information source, emotional attitude, etc. An example is the conversation below:

(7) A: Why didn't Louise come to the meeting yesterday?
 B: I heard that she's out of town.

Some of the verbs that admit such parenthetical uses are members of the class commonly thought of as factive verbs (e.g *see*, *know*, *discover*, etc.). Simons notes that when used in this parenthetical manner, these verbs loose their presuppositionality: In the examples below the information that Louise is out of town is presented as new information, and not as information that is already entailed by the common ground or presupposed. Some illustrative examples from Simons' paper:

(8) A: Why isn't Louise coming to our meetings these days?
 B: Henry discovered/realized/figured out/learned that she's left town.
 (9) Yikes! I just remembered/realized that I didn't turn off the stove!

As regards projection facts, it also seems that the above verbs can act in a way as if their complement was not presupposed. Such facts have been long noted in the literature (cf. Stalnaker 1974, Chierchia and McConnell-Ginet 2000, Simons 2001, Beaver 2004, Abbott 2006, Abusch 2010, among others), and for this reason the terminology *semi-factives* has been sometimes used to describe the above verbs:

(10) a. If Henry discovers that Louise is in NY, he'll be furious.
 b. Why is Henry in such a bad mood? Did he discover that Louise is in NY?

c. Henry is in a terrible mood. Perhaps he's discovered that Louise is in NY.

Simons proposes that in the above cases the main verb is used in an evidential way. Evidentials are words or morphemes that express the source of information or the type of evidence that the speaker has for the information being conveyed. In many languages of the world these markers of information are highly grammaticalized, and might even be obligatory. (cf. Speas 2008, Aikhenvald 2006). The most common information types expressed are direct information (which might e.g. be visual, auditory, other sensory, etc.) and indirect information (e.g. reported, inferred, etc.), with variation among languages of how the evidence types are divided. Most often, evidentials are analyzed as either illocutionary operators (cf. Faller 2002, Davis et al. 2007, etc.) or as modal operators (cf. Garrett 2000, Izvorski 1997, etc.), with languages possibly differing in the semantic properties of their evidentials. Another source of theoretical (and perhaps empirical) variation is whether the content of evidential markers becomes part of the propositional content. Further, given that evidentials either serve an illocutionary or a modal function, the content modified by the evidential is (also) the main point of the utterance. This can also be seen with the evidential verbs surveyed above, as was pointed out by Simons, many of which allow a so-called sliting construction. In such cases the main verb is inserted as a parenthetical comment into the subordinated clause, as in (11):

(11) John, I heard, is out of town.

Simons' (2007) idea has interesting consequences for the present proposal. Above it was assumed that there is a grammatically defined main point, the information that is about the tense of the matrix verb. But in cases where the matrix verb is used in an evidential way, there might also be a second (pragmatic) main point besides the grammatically defined default one, which is derived contextually. The second main point concerns the clause "modified" by the evidential, the syntactically embedded clause. Technically the secondary main point is the information that is about the time of the syntactically embedded verb. Since presupposed material has to be independent from the main point (i.e. not be about the event time of the main point), once the embedded clause becomes the main point as well, the content of the embedded clause is not predicted to be presupposed any more, despite being entailed. This is exactly what is happening in these examples.

Part-time triggers Certain expressions, as was noticed by Schlenker (2008, 2010), trigger a presupposition when they appear in certain contexts but not in others. Schlenker calls such expressions 'part-time triggers'. An example is the verb *announce*. In some contexts, it does not entail the truth of its complement and in these contexts it does not presuppose the truth of its complement either. In other contexts, it entails and presupposes the truth of its complement:

(12) Mary has announced that she is pregnant

- a. *Scenario 1*: Mary is 30 years old and she is expected to be reliable. Therefore the context entails the truth of the embedded proposition.
→ (12) presupposes that Mary is pregnant
- b. *Scenario 2*: Mary is 7 years old and is not expected to be reliable. Therefore the context does not entail the truth of the embedded proposition.
→ (12) does not presuppose that Mary is pregnant

As Schlenker points out, the verb *announce* contrasts minimally with the verb *inform*, which seems to lexically entail and presuppose the truth of its complement in the above context. The mechanism proposed in this paper can be extended to handle the above facts by allowing contextual entailments to enter the pool of candidate entailments for presuppositions. Then if the embedded proposition is contextually entailed, it is also be predicted to be presupposed, as in (12a). Otherwise, as in (12b), it isn't.

Interestingly, there are further cases, discussed in Schlenker (2006), which show that *inform* itself is a part-time trigger. In contexts in which the truth of the complement is in question and the subject is assumed to be a very reliable source of information regarding the truth of the complement, the factive inference of both *announce* and *inform* disappears:

(13) George is the family butler. He is very reliable. If he says p, then we can infer that p is the case, and if he does not say p, we can infer that p is not the case.

Has George announced/informed the guests that dinner is ready?
→ there is no implication that dinner is ready.

This can also be accounted for in the present proposal. A plausible thing to say is that the butler being a completely reliable source for the information in question (whether dinner is ready), the embedded clause becomes the pragmatic main point. In effect, the question is interpreted as 'Is dinner ready (according to the most reliable source)?'. This makes the truth of the embedded clause not independent from the secondary main point (indeed it is equivalent to it) and therefore the truth of the embedded clause is not predicted to be presupposed, despite being entailed.

4.2 Focus

Presupposition suspension or canceling can also be brought about by focus (cf. Beaver 2004). As Beaver observes, (14b), but not (14a) suggests that the student has plagiarized his work, as well as a sense of complicity between speaker and student:²

² Example (14a) is slightly modified from the original, the focused part being the entire embedded clause in the present discussion, but only the verb *plagiarized* in the original version. These two cases are hard to tell apart phonetically in English, but Hungarian indicates that more likely the latter is the case.

(14) a. If I discover that [your work is plagiarized]_F, I will be [forced to notify the Dean]_F.
 b. If the T.A. [discovers]_F that your work is plagiarized, I will be [forced to notify the Dean]_F.

Focus is usually taken to be the part of a sentence that conveys the new or highlighted information, thus the information that directly answers a background question. In this sense, focus grammatically signals the presence of a background question. I will assume here that grammatically marked background questions can introduce a secondary (or pragmatic) main point, similarly to evidentials. Secondary main points concern the event time of the most direct proposition that answers the background question. The presupposition triggering mechanism looks both at the default (grammatical) and the secondary (pragmatic) main points and requires the presupposition to be independent from both of these. This derives the above data in the present framework.

In (14a), focusing the embedded clause indicates that the background question is *What will I discover?* The direct answer to this question is a proposition, namely the proposition denoted by the embedded clause. The pragmatic, secondary main point therefore concerns the information that is about the tense argument of this proposition, i.e. the tense argument of the embedded clause. For this reason, the information conveyed by the embedded clause is not independent from the secondary main point, and is not predicted to be presupposed. In (14b) focus on the matrix verb indicates that the background question is *What will the TA do?* The direct answer to this question is a proposition that restates the main clause of the antecedent of the conditional and therefore the pragmatic main point of the sentence concerns the main clause and the matrix tense. Since this is the same as the default (grammatical) main point, we derive the same presupposition as in the default, unfocused case: the truth of the embedded complement is independent from the main point (i.e. it is not about the matrix tense argument) and is presupposed.

In Hungarian the pattern identified by Beaver can be replicated more generally, even with factive verbs such as *tud* 'know'. The main verb *tud* 'know', just like most verbs that take propositional complements, can have a pronominal argument in the main clause (in this case *azt* 'that.acc') that is anaphoric to the embedded proposition. This pronoun can be focused: when it is, as in (15a), the truth of the complement is not presupposed any more. This is in contrast to (15b), in which instead of the propositional anaphor the verb is focused: here factivity is preserved:

(15) a. Kétem, hogy Péter [azt]_F tudja, hogy esik az eső.
 doubt.1sg that Peter that.acc knows that falls the rain
 'I doubt that what Peter knows is that it is raining.'
 b. Kétem, hogy Péter [tudja]_F (azt), hogy esik az eső.
 doubt.1sg that Peter knows (that.acc) that falls the rain
 'I doubt that Peter [knows]_F that it is raining.'

The Hungarian facts can be predicted in the same way as the English data above. Thus the present account is able to derive why in certain contexts the presuppositions of soft triggers disappear: in these cases focus indicates the presence of a background question and a secondary main point that is different from the default main point. Since the presupposition has to be independent from this secondary main point as well, presuppositions are simply not generated.³

4.3 Comparison with Simons et al. (2010)

Recently, Simons et al. (2010) have proposed that entailments that do not address the question under discussion project. The present proposal is similar to this idea in that presuppositions will be suspended if a background question invokes a secondary main point. However, in contrast with Simons et al. in this paper this is only a secondary mechanism and is only licensed by markers that are relevant categories for grammar; simply arbitrarily changing the question under discussion has no effect on the presuppositions generated.

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³ Another case of presupposition-suspension based on focus might be the example in (i). In Hungarian, the example only works if the adverb *recently* is present, and is in focus position.

(i) I notice you are chewing on your pencil. Have you recently stopped smoking? (Geurts 1994)

Possibly, the adverb makes the entire stretch of time signaled by *recently* the main point of the utterance. This allows a non-presuppositional understanding of the question, if the time of smoking falls within the stretch of time designated by the adverb.

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