TOO

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Summary

We propose an account of the presuppositional contribution of *too* which deviates from the orthodox view in that we divide the standard presupposition in two: a descriptive part encoding information which must be matched by parallel information in the discourse context, and a hidden pronominal element. The two components are resolved independently and may link up to different levels of discourse structure. This yields a straightforward account of Kripke's observation that *too* seems to give rise to a more specific presupposition than is predicted by the standard view. The analysis also enables us explain why the presupposition of *too* is reluctant to accommodate, may access positions that are otherwise inaccessible, and gives rise to fully transparent readings in attitude contexts.

Three puzzles about 'too'

According to the standard view (e.g. Karttunen and Peters 1979) *too* contributes to (1a) by inducing the presupposition that there is someone other than Mary who lives in London. (1a) is thus said to presuppose (1b):

(1) a. $[\text{Mary}]_F$ lives in London too.
b. $x\ [x \neq \text{Mary} \quad \text{live\_in\_London}(x)]$

The standard accounts of projection moreover require that this presupposition should be given in the linguistic or extralinguistic context. If not, a cooperative speaker will revise the context of utterance, and accommodate the required information so as to license the presupposition. Kripke (as reported in Soames 1989 and Kripke ms.) noted that the standard presupposition is too weak for licensing *too*. Since we all know that many people live in London, the presupposition of (1a) is trivially fulfilled in any normal context. So we would expect (1a) to be fine. However, when uttered out of the blue this sentence sounds odd and calls for further identification of the person in question. Simply accommodating the information that there is someone other than Mary living in London will not do. Moreover, if the presupposition is satisfied by another clause, as in (2a) and should therefore be expected to be neutralized, we still conclude that the speaker holds (2b) to be true. This suggests that *too* does contribute to the semantic content, though not in the way predicted by the standard view.

(2) a. If Herb comes to the party, $[\text{the boss}]_F$ comes, too.
b. Herb is not the boss.

In view of these facts Kripke concluded that the standard view is wrong, that the presupposition of *too* contains an anaphoric element and that this presupposition arises from the anaphoric requirement that when someone uses

too he refers to some parallel information that is either in another clause or in the context. Furthermore, according to Kripke, the consequent of (2a) does *not* presuppose that someone other than Herb comes, but rather gives rise to the more substantial presupposition that Herb is not the boss.

The behaviour of *too* is remarkable in further respects, as well. Zeevat (1992, 2000) notes that this particle tends to access positions that are otherwise inaccessible:

(3) A. Harry may well have dinner in New York.
B. John is having dinner in New York, too.

Here the presupposition is licensed, apparently, by material in the subordinated, hence inaccessible, context.

Fauconnier (1985) and Heim (1992) draw attention to the remarkable behaviour of *too* and *also* in attitude contexts. When embedded in an attitude context the presupposition triggered by these particles may be interpreted as fully independent of the belief of the subject of the attitude. Heim imagines two children talking to each other on the phone:

(4) John: I am already in bed.
Mary: My parents think I am also in bed.

There is no suggestion here that Mary's parents share the information she just got. They may not even have any beliefs about John. Thus the presupposition is interpreted as fully independent of the parents' beliefs.

The anaphoric requirement

Though we agree with Kripke's observations we will not adopt his analysis. Following the mainstream of the presupposition literature we strictly distinguish between the presupposition induced and the result of the resolution process. We moreover adopt the anaphoric account of presupposition we have developed in earlier work (e.g. van der Sandt 1992, Geurts 1999). The main tenet of this theory is that so-called presupposition triggers are in fact anaphoric expressions that are just like pronouns in that they have to be bound to some accessible antecedent. If they cannot be bound, the descriptive content of the anaphoric expression will be accommodated at some suitable position which is accessible from the position where it is induced. The process of resolving presuppositional anaphors by binding or accommodation is subject to a number of constraints. Resolution of the presuppositional expression should respect the conditions on accessibility and not violate Gricean conditions on discourse acceptability. Ceteris paribus global accommodation, that is accommodation at the main level of discourse structure, is preferred to accommodation at subordinate levels.

In this framework the presupposition that is usually taken to be triggered by (2a) would come out as ∂[x: come(x), x ≠ y] (here we adopt Beaver's notation for marking presuppositional information). Resolution of this expression according to the standard algorithm yields wrong results for Kripke's examples. Assuming that the presupposition associated with the proper name has been dealt with, the initial representation of (2a) is as follows:

(5) [x, y: Herb(x), boss(y),
[: comes(x)] [: comes(y), ∂[z: comes(z), z ≠ y]]]

We might try to resolve the presuppositional expression at the main level, but this possibility, which would yield an incorrect reading, is excluded on the grounds of pragmatic infelicity. Thus the only alternative is to link the presuppositional expression to the parallel information in the antecedent, which yields after appropriate substitutions:

(6) [x, y: Herb(x), boss(y), [: comes(x), x ≠ y] [: comes(y)]]

This interpretation is too weak and does not account for the inference that Herb is not the boss.

The presupposition of 'too'

In order to account for Kripke's observations we propose an encoding of the presupposition of *too* which remains quite close to the orthodox view: in the presuppositional structure of TOO ϕ(a) we distinguish between a descriptive condition ϕ(x), and a pronominal part consisting of an anaphoric variable with the condition x ≠ a . The full presuppositional expression then comes out as ∂[: ϕ(x), ∂[x: x ≠ a]], where x is free variable which must be resolved in context. Note that the pronominal part is embedded in a larger presuppositional expression.

Assuming that the presuppositions of the proper name and the description have been taken care of the representation of (2a) is as follows:

(7) [x, y: Herb(x), boss(y),
[comes(x)] [: comes(y), ∂[: comes(z), ∂[z: z ≠ y]]]]

Resolution proceeds in the standard way. We first resolve the most deeply embedded anaphoric expression. In the present case this is the pronominal part of the presuppositional expression. After making the appropriate substitutions this yields:

(8) [x, y: Herb(x), boss(y), x ≠ y,
[: comes(x)] [: comes(y), ∂[: comes(z)]]]

Next the descriptive condition is resolved to parallel information in the antecedent, which gives (9) as the final representation:

(9) [x, y: Herb(x), boss(y), x ≠ y, [: comes(x)] [: comes(y)]]

This analysis deviates from Kripke's in one crucial respect but accounts for his observations. We deviate from Kripke's proposal in that we assign a presuppositional expression to the consequent of the conditional which is essentially the same as the standard presupposition, except that it is divided into two parts. As a result of splitting the presuppositional expression into a pronominal and a descriptive part, the presuppositional components may pick up their antecedents from different levels of representation. In the present case this results in a representation which entails what Kripke takes to be presupposed. The resolution of the pronominal part accounts for the inference that Herb is not the boss. The descriptive part of the presuppositional expression is absorbed in the antecedent of the conditional.

Whereas the pronominal element needs an antecedent, the descriptive condition can be resolved by way of accommodation. Therefore (10b), the representation of (10a), resolves to (10c):

(10) a. Either the boss will stay away from the party, or $[\text{John}]_F$ will come, too.

b. [x, y: boss(x), John(y),
[: stay_away(x)] [: comes(y), ∂[: comes(z), ∂[z: z ≠ y]]]]

c. [x, y: boss(x), John(y), x ≠ y,
[: stay_away(x)] [: comes(x), comes(y)]]

The pronominal expression is bound at top level. However, the descriptive condition cannot be resolved there in view of the infelicity of the resulting interpretation. This forces accommodation in the second disjunct, and yields (10c). This example also shows that, the received view notwithstanding, the presupposition of *too* contributes to the semantic content of the carrier sentence (cf. e.g. Stalnaker 1974, Karttunen and Peters 1979, Zeevat to appear). Not only does it enforce non-identity between the focused constituent and the antecedent of its pronominal component, but when accommodated it may also affect the semantic content in a more substantial way. Thus the second disjunct of (10) requires for its truth that both John and the boss will come.

Following Kripke, a number of authors (Asher and Lascarides 1998, Beaver 1997, Heim 1992, Van Rooy 1997, Zeevat 1992, to appear) have pointed out that the presuppositions of *too* are on a par with those of pronouns in that they demand an antecedent, and cannot be construed by way of accommodation. This peculiarity, which *too* has in common with *again* and other focus adverbs, proves difficult to explain on the standard view, which holds that resistance to accommodate is due to lack of semantic content. An alternative account is found in Zeevat (to appear) who claims that *too* is semantically redundant but obligatory in contexts that provide an antecedent for the presuppositional expression. Appealing to a result in Blutner's (2000) bi-directional optimality theory, he argues that if a triggering environment has

a simple non-triggering expression alternative with the same meaning, it does not accommodate. As pointed out with respect to example (10), we reject the claim that *too* is semantically inane. On the account we endorse, the presupposition triggered by *too* contains a pronominal element, and this explains why *too* requires an explicit antecedent.

Inaccessible antecedents and transparent readings

When we inspect the presuppositional frame of *too* we observe a crucial difference between this presupposition and most other types of presupposition inducers. Consider the encoding of a definite description. The initial structure generated for 'The ψ is ϕ' is [: ϕ(x), ∂[x: ψ(x)]]. Here the anaphoric variable recurs in a condition in the matrix sentence. After projection of the presuppositional expression, the anaphor thus has to bind the variable in the non-presuppositional condition ϕ(x). The presuppositional frame of *too* on the other hand does not share the anaphoric marker with any condition of its inducing matrix. The general format is: [x: ϕ(x), ∂ [: ψ(y), ∂[y: y ≠ x]]. Thus, after resolution of the presupposition the anaphoric variable will not enter in a binding relation with any condition in the matrix where it originated.

This gives an explanation for Zeevat's observation that the presupposition of *too* may access formally inaccessible antecedents. Clearly definite descriptions, pronouns and other presupposition inducers do not allow such antecedents. And the semantics of DRT provides a straightforward explanation, since the resulting DRS would not express a determinate proposition. In the case of descriptions or pronouns any attempt to access the modally embedded context in (3) results in an uninterpretable structure. This does not hold for the presupposition of *too,* however. Resolution of (11a), the representation of (3) after some preprocessing, results in (11b):

(11) a. [x, y: Harry(x), John(y), maybe[: have_dinner(x)],
have_dinner(y), ∂[: dinner(z), ∂[z: z ≠ y]

b. [x, y: Harry(x), John(y), maybe[: have_dinner(x)], have_dinner(y)]

We thus find that depending on their internal structure and the way they share their variables with their inducing matrix, different presupposition triggers may have different anaphoric properties. Which positions a presupposition can access depends on the interlinking between the anaphoric variable and the conditions it is intended to bind.

The same line of argument accounts for Heim's observation that the presupposition of (4) may be read as being fully independent of the beliefs of Mary's parents. In order to see this we should keep in mind that the binding theory of presupposition does not allow for copying routines. Presuppositional anaphors are created in situ, but will in the course of the

resolution process act as entities in their own right and be interpreted at the site where they are resolved. Descriptive information will land at the position where the anaphoric variable links up to or creates its antecedent. If a presupposition is induced in the scope of an attitude verb and does not find an antecedent in an accessible embedded context, it will project out to the main context. In the case of definite descriptions this yields a *de re* construal. The presuppositional material is interpreted externally and enables an anaphoric link to the content of the attitude (see Geurts 1999 for details). Thus (12b), which is the preliminary representation of (12a), resolves to (12c):

(12) a. Harry believes that the dog is hungry
b. [: Harry_believes: [∂[y: dog(y)], hungry(y)]]
c. [y: dog(y), Harry_believes : [hungry(y)]]

Here the marker correlated with *the dog* has a link into the content of the attitude, but it is the speaker, not the subject of the attitude, who is committed to the content of the description. When processing the presupposition of *too* we observe a different situation. Since the presupposition of *too* does not share its anaphoric variable with the inducing matrix, the content of the attitude is simply divorced from the presuppositional content, if the latter projects out.

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