Focus Suppositions

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1 Introduction

For the purpose of this note, think of denotations as structured meanings $\langle$B(ackground), F(ocus)$\rangle$. We define an operator FOC on such structured meanings:

(1)   FOC($\langle$B,F$\rangle$) denotes $\langle$B,F$\rangle$, and introduces the supposition $P = \exists C(B)$

Here, $\exists C(B)$ stands for the existential closure of B as defined e.g. in Schwarzschild (1999). Different focussings yield different structured meanings, and, accordingly, different suppositions:

(2)   a.   Gil plays the harp$_F$ $\mapsto$ $\langle \lambda x.$Gil plays x, the-harp$\rangle$
       b.   Gil plays$_F$ the harp $\mapsto$ $\langle \lambda R.$ Gil R-s the harp, play$\rangle$
       c.   Gil$_F$ plays the harp $\mapsto$ $\langle$play the harp, Gil$\rangle$

The assertion made by a sentence represented as $\langle$B,F$\rangle$ is simply B(F) (that Gil plays the harp, for all of (2)). The suppositions $\exists C(B)$ for the above sentences are, respectively:

(3)   a. $P_{(2a)}$ = Gil plays something
       b. $P_{(2b)}$ = Gil stands in some relation to the harp
       c. $P_{(2c)}$ = Someone plays the harp.

I call P a *Focus Supposition* to keep the issue unbiased, but it seems safe to assume that P is anaphoric in some sense, i.e. has to find an antecedent in the discourse which entails, or is synonymous with, P.

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[0]Many thanks to Roger Schwarzschild for discussing the issues in this paper with me.

Not only a sentence, but also their parts denote structured meanings; (4) lists the structured meanings for the constituents of (2b) (focus on *plays*):[1]

(4) $\langle$the-harp, $\lambda x.x\rangle$, $\langle \lambda R.R$, play$\rangle$, $\langle$Gil, $\lambda x.x\rangle$, $\langle \lambda R.R(\text{the-harp})$, play$\rangle$

FOC as defined can apply to any of these constituents; for those whose background isn't just the identity function, it yields additional suppositions:

(5)   a. $P_{Ob_{(2b)}} = P_{VP_{(2b)}} =$ the harp has some property
        b. $P_{Su_{(2b)}} =$ Gil has some property

FOC thus delimits a family of theories about focus, all of which have in common that they introduce an existential supposition about non-focussed material. Any specific theory of focus, cast in these terms, has to specify two things: To which constituent(s) of the sentence FOC is applied, and what the condition on P's antecedent are. I call these issues the *scope of focus/FOC* and the *accessibility of antecedents*, respectively.

If we set the scope of FOC to be the entire sentence, and require that the antecedent be the *immediate question under discussion*, we get the familiar question–answer congruence condition on focus. For example, from *Who played the harp?* we get the proposition A= that someone played the harp (e.g. as the grand union of its Hamblin-denotation), which can serve as the antecedent to $P_{(2c)}$, but not $P_{(2a)}$ or $P_{(2b)}$ (e.g. Roberts (1996), a.m.o.).

If we require that FOC be applied to every constituent, and allow the $\exists C$ of any salient previously uttered constituent to function as an antecedent, we get a version of the Givenness theory of focus (e.g. Schwarzschild (1999) a.m.o.). Thus, (2b) introduces all of the suppositions $P_{(2b)}$, $P_{Ob/VP_{(2b)}}$ and $P_{Su_{(2b)}}$ given above, which will be appropriate if at least Gil, the harp, and that Gil stands in some relation to the harp are saliently mentioned in the discourse.

In neither of these cases would we normally speak of these suppositions as presuppositions, since intuitively, presuppositions are about assumptions and commitments, while Focus Suppositions seem to be about something much weaker, i.e. that something is under discussion, or just simply previously mentioned. Yet, both these approaches can be cast in terms of our operator FOC in (1).

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[1] See Krifka (1995) for a compositional semantics that delivers such meanings.

Geurts & van der Sandt's (henceforth GS) *Background Presupposition Rule* (BPR), too, belongs to the family of theories definable using FOC. Where within this family it is located depends on what conditions on to the scope of FOC and the accessibility of antecedents are imposed. GS don't clearly specify these important parameters, so we will need to speculate a little in our discussion.

GS call the supposition P a *pre*supposition, so regarding the accessibility of antecedents, it seems they intend to explore the following hypothesis:[2]

(6)   Uniformity Hypothesis:
        The accessibility requirements for antecedents for the focus supposition P equal those for the antecedent of 'Ordinary' Presuppositions as introduced by *the, too, regret, stop, also, it*-clefts etc. etc.

Before we discuss the adequacy of this hypothesis in section 3, we will need to settle on an answer to the question of the scope of focus.

2   Scope of FOC

FOC on GS's view must sometimes take scope within a clause (rather than take widest scope). For example, they claim that (7) (pre)supposes that someone stole the tarts. This means that FOC must take scope below the negation, as in (7a), not above it as in (7b):[3]

(7)   [Fred's wife]$_F$ didn't steal the tarts.
        a.   NOT(FOC($\langle$steal(the-tarts),Fred's wife$\rangle$)))
        b. #FOC($\langle\lambda x$[NOT(steal(the-tarts)(x))],Fred's wife$\rangle$)

Translation (7b) would wrongly have P = that someone didn't steal the tarts. (7a) on the other hand has P = that someone stole the tarts; since negation is a hole for Ordinary Presuppositions, it is, by Uniformity Hypothesis, for Focus Suppositions, so that that P ends up a supposition of the whole sentence, which is what GS want. Similar remarks apply to other holes for

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[2]GS do claim explicitly at the beginning of their section 4 that the projection behavior of Focus Suppositions should be the same as that of Ordinary Presuppositions, supporting our conjecture that they endorse Uniformity Hypothesis.

[3]Assume that NOT($\langle$B,F$\rangle$) $=_{\text{def}} \langle\lambda\psi.\neg[B(\psi)], F\rangle$, and NOT(C) $=_{\text{def}}$ NOT($\langle$C,$\lambda\phi.\phi\rangle$), where ψ and ϕ are variables over the type of F and C, respectively.

presuppositions GS discuss, e.g. *if*-clauses.

On the other hand, in their discussion of polarity focus, GS crucially assume that FOC must scope above the polarity element. Sentence (8) would thus be represented as (8b), rather than (8a):[4]

(8)   John did NOT shoot the sheriff.
   a. $\#\langle\lambda p.p(\text{FOC}(\langle\text{someone shot the sheriff}, \lambda p_{tt}, p\rangle)), \text{NOT}\rangle$
   b. $\text{FOC}(\langle\lambda p.p(\text{someone shot the sheriff}),\text{NOT}\rangle)$

The Focus Supposition derived by (8a) is that someone shot the sheriff, which GS point out would be 'obviously false' if taken as an Ordinary Presupposition (p.34). (8b) on the other hand derives the trivial presupposition that someone did or didn't shoot the sheriff, which seems acceptable.

Given this state of affairs, I will use examples in which the assumed scope of FOC can be inferred directly from GS's discussion in what follows, though ultimately, a principled answer to that question should be given.

Let me mention in closing this section that (8) illustrates another significant aspect of GS's proposal. While the proposition P= that someone shot the sheriff, shouldn't be an Ordinary Presupposition, it is still '...treated as

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[4]GS do not discuss (8), but the sentences *NOBODY/SOMEONE shot the sheriff*, which they claim displays polarity focus as well. I am not convinced that this claim is born out by the fact, since it seems that uncontroversial cases of polarity focus have a very different distribution than sentences with accented *nobody/someone*, as illustrated below. I therefore use a less controversial case of polarity focus in the main text.

(i)   a.   (I wish someone had shot the sherif!)
            1)   (But) someone DID shoot the sheriff.
            2)   #But SOMEONE shot the sheriff.
       b.   (What do you see?)
            1)   #I DO see something.
            2)   I see SOMETHING.

(ii)   a.   Who did you give a raise?
            1)   We gave NO ONE a raise.
            2)   #We DID give no one a raise.
            3)   ?We DIDN'T give anyone a raise.
       b.   We shouldn't have given anyone any raises.
            1)   #But we gave NO ONE a raise.
            2)   ?But we DID give no one a raise.
            3)   But we DIDN'T give anyone a raise.

given material' (since it is completely unfocussed), as GS correctly point out (p.36); (8) is not a possible out-of-the-blue utterance. In other words, the Focus Supposition P is given, but not an Ordinary Presupposition.

GS do not talk further about Focus Suppositions that aren't Ordinary Presuppositions; obviously, there is another side to the theory of focus, which governs those (something like Givenness, I suppose). To be sure, this doesn't undermine GS's claim that some Focus Suppositions behave just like Ordinary Presuppositions; they are careful to say that the BPR is merely a '. . . partial answer' to the question how focus affects interpretation (p.2). It just shows that the BPR isn't meant to, and can't, replace a Givenness-type theory of focus. Accordingly, when we talk about Focus Suppositions in the examples to follow, we mean those Focus Suppositions that are supposed to be treated like Ordinary Presuppositions, in line with the Uniformity Hypothesis, not those that are subject to mere givenness in the sense alluded to in GS's quote above.

3   Accessibility of the Antecedent

One influential school of thinking about Ordinary Presuppositions, call it the *satisfaction theory of presuppositions* (STP), holds that an antecedent for a presupposition always has to be in what we may call the *local context* in order to be accessible. The local context for a matrix sentence is the discourse common ground, the local context for a sentence embedded under a *verbum sentiendi* is the local modal base introduced by that verb, the local context of the consequent of a conditional is the discourse context with the antecedent added etc.

It is not necessary to go into the details here, because the Uniformity Hypothesis is clearly incorrect on this view. For what it boils down to is that any sentence whose local context is the discourse common ground requires that that discourse common ground entail the $\exists C$ of the background of that sentence. In the light of this, consider the following:

(9)   (My team didn't score a goal.)
    a.   If the OTHERS scored a goal, my team is out of the tournament by now.
    b.   Thank god the OTHERS didn't score a goal.
    c.   Did the OTHERS score a goal?

In keeping with our speculations about the scope of FOC above, I assume here that FOC scopes below *if*, the negation, and the question operator, respectively, yielding the Focus Supposition P = that someone (some team) score a goal. It would obviously be odd to claim that the discourse common ground (as set up by the material in parentheses) entails P. Not only would that make the following sentences incoherent, it would also predict that these texts as a whole imply P, which they intuitively don't.

Let us be very clear about what goes on here: Supposition P is clearly not entailed by the discourse common ground; nor is it accommodated into it, for that would mean that it is implied by the end of the text, which it isn't. Nor is it defeated, since there is no sense in which any participant in the conversation disagrees with what anyone else said, presupposed, or implied.[5] And finally, these examples don't involve local accommodation in the sense of the STP, since there is nothing in these sentences that creates a local context.[6]

So, on the STP, it is very clear the Focus Suppositions are not on a par with Ordinary Presuppositions. It is probably for this reason that the idea that focus introduces an existential presupposition is usually discarded rather quickly. If we read it to say that the local context needs to entail that there is something that makes the background true, it is obviously too strong.

The binding theory of presuppositions (BPT), as endorsed by GS, on the other hand, allows more flexibility in that the antecedent of a presupposition must not necessarily be its local context. Put differently, the BTP has less

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[5]I do not claim to have a theory of defeating presuppositions. Presumably, if you ask me whether I stopped playing the tuba, and I reply that I never played to tuba to begin with, I defeat your presupposition. But this is clearly not what is going on in the examples in (9). On p.14, GS say '[t]hese inferences [the existential presupposition of focus; DB] are defeasible, to be sure, but if they are presuppositions it is only to be expected that they should be' (p.14); but no theory of when and how presupposition can be defeated is offered, and the examples discussed (in GS's section 4) involve presuppositions that are locally accommodated (see note 6).

[6]A locally accommodated presupposition would be, for example, if I say *Did you score a goal? Did you enjoy scoring it?*, where the second question seems to locally take a positive answer to the first for granted.

The only way to apply this to the examples in (9) would be to claim that the Focus Supposition is accommodated beneath the conditional, negation, and question operator, respectively. To allow that, however, renders the claim that there is a Focus Supposition vacuous: a sentence radical always entails its Focus Supposition, so accommodating the Focus Supposition at that level will always be possible.

built-in restrictions on the accessibility of antecedents. A good shot at the examples in (9) would be that the proposition A = that my team scored a goal, as found in the lead-in sentence *My team didn't score a goal* can serve as the antecedent for P (which would be good, since A entails P). Since A is embedded under negation, it never makes it into the discourse common ground, which is why these examples argued against an existential presupposition under the STP. But maybe A is still accessible under the BTP, and thus able to antecede P, as required.

This seems a plausible move to make, though I don't know if it is the line of analysis GS would want to take for these examples. But it should be noted that this is also very close, perhaps identical, to what a Givenness theory would say: Through the lead-in sentence, the constituent *score a goal* is salient, and its $\exists C$ entails that someone scored a goal, i.e. the Focus Supposition. Remember that generally, the Givenness theory implies that the $\exists C$ of *any* salient constituent is accessible as an antecedent for Focus Suppositions. The question is thus not whether the BPR can be interpreted in such a way as to capture these examples , but whether the prerequisite conditions on antecedents can be shown to hold in the same way for Ordinary Presuppositions, as required by the Uniformity Hypothesis. In other words, are antecedents accessible for Focus Suppositions accessible for Ordinary Presuppositions, and *vice versa*?

Here's an argument that they may not be. GS's discussion of *too* implies that *Wilma believes that the dean$_F$ is a freemason* triggers the Focus Supposition that someone is a freemason. In other words, FOC takes scope lower than the propositional attitude verb (otherwise the Focus Supposition would be that Wilma, or someone, believes that someone is a freemason). We can now show that the antecedent for such a Focus Supposition can be itself embedded under an attitude verb:

(10)   (Muslims thinks Allah is almighty.)
      a.   But Buddhists don't think Buddha$_F$ is almighty.
      b.   Do Buddhists think Buddha$_F$ is almighty?
      c.   I wouldn't be surprised if Buddhists think Buddha$_F$ is almighty.

Here the Focus Supposition is P = that someone is almighty. The example is constructed in such a way that P cannot be locally accommodated (i.e. taken to be entailed by Buddhists' beliefs); if it were, these sentences should imply that Buddhists think someone is almighty, which is not the case here

(plausibly, in case they don't think that Buddha is almighty, they don't think anyone at all is). Nor can it be globally accommodated, since there is no sense in which the speaker appears to assume P. Intuitively, the antecedent for P should be the proposition A = that Allah is almighty, which is embedded under *think*. So a sentence embedded in one attitude context can antecede the Focus Supposition of a sentence in a different attitude context. Contrast this with a case of Ordinary Presuppositions:

(11)   (Sue thinks Bob married Christie.) Does Steve think Bob (#also) married Nana$_F$.

The addition of *also* wreaks havoc with an otherwise unobjectionable sentence. It introduces the Ordinary Presupposition P = that Bob married someone other than Nana, which Steve couldn't plausibly believe if he believes that Bob married Nana. But why can't the proposition A = that Bob married Christie, serve as the antecedent to P (it does entail P after all)? The immediate answer would be that P's antecedent must be part of the local context (Steve's beliefs), but not another embedded context.[7] But that

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[7]Note in passing that P's antecedent can't be the matrix context either; (i) seems as odd as (11):

(i)   (Bob married Christie.) Does Steve think Bob (# also) married Nana$_F$?

GS provide an example with *too* in which they argue the Ordinary Presupposition — P = that there is someone other than the dean, and that someone is a freemason — takes a global antecedent, A = that Steve is a freemason:

(ii)   (Steve is a freemason, and) Wilma believes the dean$_F$ is a freemason, too.

But such examples, too, become much worse if we embed A as in (iii):

(iii)   (Vlado thinks Steve is a freemason, and) Wilma believes the dean$_F$ is a freemason, too.

(iii) with the focussing indicated is odd, unless we accommodate that Wilma shares Vlado's belief. The embedded A = that Steve is a freemason, does not seem accessible to antecede the Ordinary Presupposition of an embedded *too*.

  This shows that the Ordinary Presupposition triggered by *too*, like that of *also*, is more selective with regard to its antecedent than a Focus Supposition. I'm not sure what the source of the contrast between (i) and (ii) is, but I speculate that, to a first approximation, A can only antecede an embedded Ordinary Presupposition P if A is at least *compatible* with the embedded clause. Thus GS's (ii) minimally contrasts with a variant of our earlier (i):

answer is not feasible if we want the embedded context to be the antecedent to the Focus Supposition in (10).

So here we have a case where Focus Suppositions and Ordinary Presuppositions do not show parallel restrictions on the accessibility of antecedents, in contradiction to the Uniformity Hypothesis.[8]

4   Sentences and Formulae

GS make an interesting proposal to come to terms with such variation in accessibility (p.32). To understand it, note first that I have been assuming throughout that Ordinary Presupposition and Focus Supposition are propositions, i.e. that they correspond to sentences. But GS argue that Ordinary Presuppositions must sometimes be open formulae with free variables. Thus *Someone managed to Q* asserts that someone Q-ed, but it doesn't merely presuppose that it was hard for someone to Q, but rather it presupposes P = that it was hard for x to Q, where x is a variable bound by 'someone' (read: 'that someone'). In such a situation, the antecedent for P must be in the scope of 'someone' in order to get a well-formed structure (i.e. one in which x is bound). We thus derive an additional accessibility requirement on the antecedent for P from the fact that it (and the presuppositions triggered by *manage* in general) is an open formula.

Above we assumed that *Bob also married Nana$_F$* asserts that Bob married Nana, and introduces the Ordinary Presupposition P = that Bob married someone other than Nana, which corresponds to a sentence; we concluded that the Uniformity Hypothesis was at a loss to explain why P couldn't have an embedded antecedent in (11), while a parallel Focus Supposition in (10) could.

Assume instead that that sentence asserts that there is some x whom Bob married, and x=Nana, and that its Ordinary Presupposition is P = that Bob married someone other than x. Now P contains a variable x which is bound to 'someone' in the assertion part. Since that 'someone' can only

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(iv)   (Bob married Christie.) # Does Steve think Bob married Nana$_F$ too.

According to GS's story, *too*'s presuppositions should be met in the matrix context since there is someone other than Nana, and Bob married that someone. But (iv) is much worse than (ii), intuitively because A/P is not compatible with the embedded clause.

[8]I think other cases show the same thing, e.g. cleft sentences, as discussed in Rooth (1999), which GS dismiss without very good reason.

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take embedded scope in *Steve thinks that Bob also married Nana$_F$* (=(11)), we derive that the antecedent of P must be embedded under it as well, i.e. that the Ordinary Presupposition must be met locally.[9]

I don't know if this analysis can derive the behavior of *also* correctly, much less if it can be extended to other items that trigger Ordinary Presuppositions. The point to be made is a different one: We can presumably encode many accessibility restrictions on Ordinary Presuppositions by using specific open formulae as presuppositions, along the lines just demonstrated. But the choice of these formulae will be guided not by the semantics of the item in question, but by our desire to encode its accessibility restrictions in its lexical entry. At an extreme, we could give the following semantics for Focus Suppositions to replace (1):

(12)   FOC($\langle$B,F$\rangle$) denotes $\langle \lambda f.$there is a ψ, $\psi = f$ and $B(\psi)$, F$\rangle$, and introduces the supposition P = there is an alternative ϕ to ψ s.t. $B(\phi)$[10]

These semantics for FOC impose the same extreme accessibility restrictions on Focus Suppositions that we derived for *also*'s Ordinary Presupposition in this section. This is wrong, as we saw, since Focus Suppositions can access antecedents that aren't accessible to Ordinary Presuppositions. And of course, we can go back to (1) instead of (12), to avoid that result. But the point is, again, that we are free to model our Focus Suppositions as we see fit given our observations regarding accessibility, rather than deriving accessibility restrictions from our theory of presupposition.[11]

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[9]In GS's notation, these two treatments of (11) are (ia) and (ib), respectively:

(i)   a.   [n: Nana(n), b: Bob(b), c: Christie(c), Sue thinks [:b married c],
           Steve thinks [v:v$\neq$n, <u>b married v</u>, b married n]]
     b.   [n: Nana(n), b: Bob(b), c: Christie(c), Sue thinks [: b married c],
           Steve thinks [u, v:v$\neq$u, b married u, u=n, <u>b married v</u>,]]

In (ia), the doubly underlined presupposition can be linked to the matrix DRS (with $v = c$), but in (ib) it can't (since u would be left unbound).

[10]We understand the set of alternatives to ψ to include ψ itself, as is standard in the literature on focus.

[11]The situation is reminiscent of Heim (1988)'s dynamic meaning for *not*. It does successfully derive that *not* is a hole for presuppositions, but there are other conceivable dynamic meanings that are truth conditionally equivalent and don't derive that behavior.

5   Conclusion

Looking at some simple cases (essentially those usually thought to refute the idea that focus triggers an existential presupposition) we have seen that the BPR forces upon us the assumption that there are no (or at best very weak, pragmatic) constraints on the accessibility of antecedents for Focus Suppositions (this is the position usually taken by Givenness theories of focus). At the same time, though, such an unrestricted theory of accessibility is a poor candidate for a theory of Ordinary Presuppositions, which seem to be much more restricted in their choice of antecedents.

Arguably, then, additional restrictions on the accessibility of antecedents have to be built into the theory of Ordinary Presuppositions, which thereby can't be the theory of Focus Suppositions, contrary to the Uniformity Hypothesis. Perhaps, however, these restrictions can be derived from independent factors, such as if and where a presupposition contains free variables. If such independent factors could be isolated and motivated, the idea that Ordinary Presuppositions and Focus Suppositions behave uniformly may be feasible. This is an intriguing perspective, which GS's paper opens up for exploration.

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