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Author	Tancredi, Christopher
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# 20 Condition B as an Epiphenomenon

*Christopher Tancredi*<sup>1,2</sup>

<sup>1</sup> Institute for Cultural and Linguistic Studies, Keio University

<sup>2</sup> Centre for Advanced Research on Logic and Sensibility (CARLS), Keio University

Binding Condition B has from one perspective always been a mystery. For while there is no problem constructing such a condition to block unwanted cases of pronominal interpretation, there has never been a theory that gives a principled explanation for why the blocked interpretations should be blocked. In its simplest form, Condition B effectively stipulates that a pronoun cannot have an antecedent that is too local. This condition is intended to block interpreting the pronoun *him* in (1) as anaphoric on *John*.

- (1) John admires him.

In this paper I propose to eliminate this stipulation and to derive Condition B effects from the mechanisms of anaphoric interpretation.

Before turning to cases that are difficult for a Condition B based binding theory to handle, it is worth first examining the run of the mill examples of anaphora below.

- (2) a. John praises himself  
b. John thinks I like him  
c. John's an unhappy person. However, most people like him.  
d. (John walks by smiling.) He seems to be happy.

In (2a) the anaphor *himself* obligatorily takes *John* as its antecedent. In (2b) and (2c) the anaphoric dependence of *him* on *John* is optional in that in a proper context it is easy to find a different interpretation for *him*. In the absence of any other context, however, interpretation of *him* as referring to John is virtually a requirement. Finally, in (2d) we have an interpretation of *he* that is not usually categorized as anaphoric, in which the pronoun picks out someone salient in the context who has not been under discussion. These sentences entail their counterparts below in which the name *John* is repeated in place of using the anaphoric expression.

- (3) a. John praises John  
 b. John thinks I like John  
 c. John's an unhappy person. However, most people like John.  
 d. (John walks by smiling.) John seems to be happy.

There is something distinctly unnatural about repetition of the name in these examples, though semantically they are impeccable.

Standard diagnostics such as the availability of strict and sloppy identity readings under VP ellipsis suggest that a bound variable interpretation is obligatory for the anaphor in (2a), optional for the pronoun in (2b), and unavailable in (2c) and (2d). I will argue, however, that the first of these suggestions is incorrect, and that a general theory of anaphora resolution makes available a non-bound variable reading for the anaphor as well.

I propose that pronominal interpretation, including interpretation of the pronoun embedded in an anaphor, is always a matter of discourse anaphora, i.e. of copying some suitable meaning from the existing discourse context. Under this approach, bound variable interpretation is a consequence of anaphora. I analyze bound variable anaphora in particular as deriving from an expression being anaphoric on a thematic role within the scope of the lambda abstractor binding a variable in that role. In the cases I will examine here I take the relevant variable to be provided by the external subject thematic role, assumed to be provided by small *v*. In addition to anaphora on a thematic role, I also assume that it is possible for an expression to be anaphoric on another referential expression. Indeed, strict identity interpretations I derive from anaphora on a non-variable expression such as a referential subject. The options available for generating the interpretations observed for the sentences in (2) will then be something like the following, where indices on predicates indicate thematic roles assigned, coindexing of an anaphoric expression with an NP indicates anaphora on that NP, and coindexation with a thematic role indicates anaphora on that thematic role.

- (4) a. John<sub>1</sub> v<sub><2,...></sub> praises him<sub>1/2</sub>self  
 b. John<sub>1</sub> v<sub><2,...></sub> thinks I like him<sub>1/2</sub>  
 c. John<sub>1</sub> v<sub><2,...></sub> is an unhappy person. However, most people like him<sub>1/\*2</sub>  
 d. (John<sub>1</sub> walks by smiling.) He<sub>1</sub> seems to be happy

This theory of anaphoric interpretation is as general as possible while still allowing for strict and sloppy readings of pronouns under ellipsis. It brings with it, however, the possibility of an anaphor such as *himself* in (2a) not being interpreted as a bound variable. As we can see in the following example, VP ellipsis that includes an anaphor only gives rise to a sloppy identity reading.

- (5) John praises himself. Bill doesn't.

- a. ok Bill doesn't praise himself
- b. \* Bill doesn't praise John

If the analysis were to simply treat *himself* as a variant of *him* then this fact would be puzzling: analyzing *himself* as anaphoric on *John* rather than on the subject thematic role should give rise to a sloppy reading that doesn't exist. However, by taking the anaphoric element to be not *himself* but rather the pronoun *him* embedded therein, we can account for the absence of a strict reading without having to give up our very general assumptions about anaphoric interpretation. To do so we need only take *self* to have an independent interpretation that forces identity between the role associated with the position occupied by *himself* and some other argument of the predicate selecting *himself*. This could be accomplished, for example, by analyzing *self* as a reflexivizer, as in Reinhart and Reuland (1993). A plausible semantics for *self* that will account for the VP ellipsis facts is given in (6) below.

$$(6) \llbracket \text{self} \rrbracket = \lambda x.\lambda R.\lambda y: y = x. R(y)(y)$$

According to this semantics, *self* applies first to *him* in the first sentence in (5) (=4a), then to *praises*, and finally to *John*. It presupposes that the reference of the subject is identical to that of *him* and applies the interpretation of *praises* to the subject twice. With *him* anaphoric on *John*, prior to application of the VP to *John* the VP interpretation is  $\lambda y: y = \text{john}. y \text{ praises } y$ . This is a reflexive predicate, i.e. one in which a single variable occupies two distinct thematic positions within the predicate. However, it presupposes that the interpretation of the subject is *john*. If we try to apply this meaning to the second sentence in (5) we will end up with a presupposition failure, since Bill is not John. With the pronoun anaphoric on the thematic role represented by *y*, however, presupposition failure can be avoided. The interpretation that results will be  $\lambda y: y = y. y \text{ praises } y$ , and the presupposition here is trivially satisfied by any subject. Copying this interpretation into the VP position in the second sentence of (5) will give rise to a sloppy identity interpretation as desired.

With a basic understanding of how anaphora resolution works and how it interacts with VP ellipsis, we can turn now to Condition B effects. As has been widely noted in the literature, the sentence below appears to lack an interpretation in which *him* is anaphoric on *John Smith*.

- (7) John Smith nominated him.

The first question we have to ask is whether this absence of anaphoric interpretation is a matter of semantics, i.e. whether it is semantically possible or impossible for *him* to be interpreted as anaphoric on *John Smith*. The strongest explanation we

could give for our intuitions here would be that the semantics simply does not allow for the relevant anaphoric interpretation. I propose to give just such an explanation. Since the mechanisms of anaphora resolution are as general as possible, the only way to generate such a solution is by appeal to inherent limitations on accessibility to an antecedent. I take such limitations to come from syntactic processing.

Borrowing the Minimalist idea of interpretation applying phase by phase, I account for the absence of an anaphoric interpretation in (7) with the following assumptions:

- (8) i: A pronoun can only be anaphoric on something present in the discourse context.
- ii: An expression has its interpretation added to the discourse context when it is interpreted.
- iii: Interpretation applies top down, phase by phase.

If we take anaphora to be on thematic roles, then these three assumptions suffice to block a local anaphoric interpretation of *him* in (7). Assuming that the subject's thematic role is assigned by *v* and that CP and vP are the only phase categories in the sentence, the interpretation of *v* will be added to the context at the same time that the pronoun's interpretation is, and so *v*'s interpretation will not already be in the context at the time when the pronoun needs to resolve its reference. Because of this, in (9) below, *him* cannot be assigned the index 1.

- (9) [<sub>CP</sub> John Smith [<sub>VP</sub> ~~John Smith~~ <sub>v<1,...></sub> nominated him]]

While the above analysis does indeed block one way of interpreting *him* as anaphoric on its local subject, viz. through the subject thematic role, it does not yet count as a complete derivation of Condition B effects since it still potentially leaves other paths to anaphoric interpretation open, in particular a path in which the pronoun is analyzed as directly anaphoric on the NP *John Smith*. However, we can extend the basic analysis in such a way that this interpretation too is blocked by assuming that the interpretation of the name is not added to the discourse context until it has fulfilled its syntactic roles in the sentence. Assuming a top-down interpretation procedure, we can effectively block such direct anaphora by assuming that the name starts in the position it is spelled out in and then lowers to its theta-marked position. Semantic interpretation on this approach spells the end of syntactic procedures. If *John Smith* were interpreted at the CP level, it would be available as an antecedent of *him*. However, in this case it would fail to function as the subject of *v*, resulting in a violation of the theta criterion. If it lowers into vP to fulfill its theta requirement, then conversely it will not be added to the discourse context in the upper CP phase and so will not be accessible as an antecedent to the pronoun.

The above analysis succeeds in accounting for the simplest cases of Condition B effects. Before looking at exceptional cases, however, it is worth first re-examining how SELF anaphors work. For these appear to allow something very like the local anaphoric connection that was just made unavailable in principle for pronouns. If the story told above about the anaphoric interpretation of *him* within *himself* is to go through then we need a way to make such an interpretation possible. The simplest way of doing so on the present approach is to analyze *himself* as a complex NP and to take complex NPs to constitute independent phases. Top-down phase by phase interpretation will then require the vP phase to be processed prior to the NP phase, making both the subject theta role and the NP *John Smith* accessible antecedents for the pronoun embedded inside the anaphor.

With our basic analysis in place, we can now turn to some traditionally more challenging cases. To set the stage, consider first a variant of an example from Evans (1980).

- (10) There was a meeting yesterday to select a new chair of the department. Did anyone nominate John<sub>i</sub> for the position?  
Yes, HE<sub>i</sub> *nominated him<sub>i</sub>*.

This example contains two pronouns which can easily be analyzed as independently anaphoric on *John*. The final sentence entails that John nominated John, but there is no hint of a Condition B violation here. The story we told for Condition B effects essentially predicts that this sentence should be good since on that story the only thing that is ever blocked is attempted anaphora on something too local. Anaphora on an expression in a prior sentence should never cause problems under this story, regardless of what other dependencies there might be elsewhere.

In getting (10) to come out as acceptable, the analysis proposed does better than most other analyses of Binding Theory that I am aware of (with the exception of Fiengo and May 1994). A slight variant of the example, however, shows that things are not as straightforward as one might hope.

- (11) There was a meeting yesterday to start the selection process for a new chair of the department. Nobody expected John<sub>i</sub> to be a candidate. However, ?HE<sub>i</sub> *NOMINATED him<sub>i</sub>*.

Under the story as we have told it so far, there is no expectation that the anaphora possibilities in (11) should be any different from those in (10). However, while I take the intended interpretation in (11) to be possible, its status appears to be worse than (10), a fact that is still in need of explanation.

Given the analysis of anaphora that we assume for (10), blocking (11) by making *John* semantically inaccessible to *him* is not an option. Intuitively, what we would like to be able to say about (11) is that its unacceptability derives from the

fact that a variant of the final sentence with *himself* in place of *him* is possible. Unfortunately, one could say the same thing about (10), and yet (10) is fine. To work this intuition into an analysis, we need to be attentive to details of pronunciation. To do so, consider the following options in the context given in (10).

- (12) There was a meeting yesterday to select a new chair of the department. Did anyone nominate John<sub>i</sub> for the new chair position?
- a. Yes, HE<sub>i</sub> *nominated him<sub>i</sub>*.
  - b. #Yes, HE<sub>i</sub> *nominated him<sub>i</sub>self*.
  - c. Yes, he<sub>i</sub>/HE<sub>i</sub> *nominated HIM<sub>i</sub>SELF*.

Here, capitals indicate presence of a pitch accent, and italics indicate deaccenting. What we notice here is that while it is possible to employ a SELF anaphor in the same context as the pronoun *him*, doing so requires putting focus on the anaphor, as in (12c). Absence of such focus as in (12b) is unacceptable. No such focus was required on the pronoun in (12a), however. If we take deaccentability to be a diagnostic for givenness in a discourse, the obvious conclusion to draw here is that *nominated him* counts as at least potentially given while *nominated himself* does not. I propose that this difference in givenness between the two examples is what makes it the case that the possibility of employing *himself* does not block that of employing *him*. Blocking only obtains when the two alternatives would otherwise be equally acceptable in the discourse context with the same focus/givenness status. Another way to look at this is to say that while pronouns and anaphors do compete, they don't generate blocking effects with respect to one another unless they are competing on an equal footing.

When we turn our attention to (11), we find a situation in which competition IS on an equal footing, at least as far as givenness is concerned. As seen in (13), deaccenting of the anaphor *himself* in the context of (11) is perfectly acceptable.

- (13) There was a meeting yesterday to start the selection process for a new chair of the department. Nobody expected John<sub>i</sub> to be a candidate. However,
- a. ?HE<sub>i</sub> NOMINATED *him<sub>i</sub>*.
  - b. HE<sub>i</sub> NOMINATED *him<sub>i</sub>self*.

In this case, givenness considerations do not distinguish between the pronoun with a long-distance antecedent and the anaphor with a local one, and the anaphor wins.

The above explanation has been kept at a very informal level. If it is to be turned into a legitimate solution, we need to be able to formalize it in a way that makes correct predictions. For that I propose the following:

- (14) Principle of Locality: All else being equal, local anaphora is preferred over long distance anaphora.

This Principle of Locality (PL) compares different anaphoric analyses, including those employing simple pronouns and those involving complex anaphors as in (12a-c), or (13a,b). The all else clause takes into consideration not only the intended semantic interpretation but also the givenness markings of the sentences. PL only decides among sentences for which givenness marking is identical and is equally satisfied in the context. To see how PL accounts for the judgments, consider first (13). The pronoun in (13a) cannot be anaphoric on the local subject, either directly or through the subject theta role. The only way for it to end up referring to John anaphorically is for it to be anaphoric on the occurrence of *John* from the preceding sentence. Such anaphora will allow *him* to count as given, though nothing else in the sentence will simultaneously count as given.<sup>1</sup> Looking at (13b), here *him* (inside of *himself*) can be locally anaphoric, either on the subject thematic role or on the subject pronoun *HE*. In either case, *him* (though not *self*) will count as given in the discourse. With respect to givenness, then, *him* and *himself* are on an equal footing. Since the ultimate interpretations associated with the two sentences are truth conditionally identical – both are true iff John nominated John – PL comes into play to decide between the two options. In this case, the anaphoric resolution employing *himself* is more local (i.e. to a more local antecedent) than that employing *him*, making choice of *himself* preferred over *him*.

Turning to (12) the semantic options for *him* and *himself* are identical to those just examined for (13). However, as we have already seen, choosing *him* makes the VP *nominated him* qualify as given in (12a), whereas choosing *himself* does not make the VP *nominated himself* qualify as given in (12b). Since the sentences differ in what counts as given in the context they occur in, they do not compete with one another. As a result, the options in (12a) and (12c) both remain available. The option in (12b) is excluded since it marks as given a VP that does not qualify as given in the discourse context.

We see in the comparison between (10) and (11) that pronouns and anaphors can compete with one another when they generate identical interpretations and stand on an equal footing with respect to givenness. Though we have only looked at cases in which the potentially offending pronoun is deaccented, the same effects can be seen in cases where focusing would be required, as in (15).

- (15) There was a meeting yesterday to select a new chair of the department. Did John<sub>i</sub> nominate anyone for the position?  
Yes, ?he<sub>i</sub> nominated HIM<sub>i</sub>.

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<sup>1</sup>. For reasons why the subject and object pronouns cannot both count as given see below. Since this question affects both (12a) and (12b) equally it is of no relevance here.



This example parallels (11) in its acceptability: while not impossible, it is degraded compared to (10). With the pronouns *he* and *HIM* anaphoric on *John*, the final sentence has as its interpretation that John nominated John. For familiar reasons, *HIM* could not be anaphoric on *he* or on its local subject theta role, leaving this as the only anaphoric possibility that generates the desired interpretation. The exact same interpretation, however, could equally come from choosing the anaphor *HIM-SELF* instead of the pronoun *HIM*, and givenness considerations do not distinguish between these possibilities. As in the case of (13), PL then picks the more local option, that involving the anaphor.

An additional twist is added by the following example.

- (16) There was a meeting yesterday to select a new chair of the department. What did John Smith<sub>i</sub> do there?  
 #*He*<sub>i</sub> NOMINATED *him*<sub>i</sub>.

Here, just as in (13) and (15), *him* is unacceptable because it loses out in a PL competition to *himself*. However, (15) appears to be much worse than either (13) or (15), and this difference does not yet follow from the analysis. I propose that the extra badness of (16) comes from the impossibility of two expressions in a single clause having their deaccenting licensed simultaneously by a single antecedent. That such a restriction is plausible can be seen by considering the following example, in which the same pattern of deaccenting is unacceptable even without any relevant anaphoric relations among the deaccented expressions.

- (17) At last week's meeting, a woman proposed that we select a new chair of the department. At this week's meeting, #*a woman* NOMINATED *a woman*.

The formulation given in PL makes it possible in principle for an anaphor and a pronoun to tie in a competition if both are equally locally anaphoric. I would argue that this is just what is needed to account for cases like the following:

- (18) a. John laid his bike down [<sub>PP</sub> next to *him / himself*]  
 b. John saw [<sub>NP</sub> a picture of *him / himself*] in the paper.

If we take the PP in (18a) and the NP in (18b) to introduce phases, then the pronoun can readily take either *John* or the subject thematic role as its antecedent: both get added at the higher vP phase. These antecedents are also the most local possible ones for the anaphor *himself*. While I have not given an explanation for why *himself* is possible in such cases since clearly we do not want *self* to reflexive *next to* or *picture*, if we take it as given that *himself* IS possible under an anaphoric interpretation, PL fails to select between *him* and *himself*: both are equally

locally anaphoric.<sup>2</sup>

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2. It is crucial here that locality is defined by comparing the positions of the potential antecedents and not by comparing the paths of anaphora. Under the assumptions we are adopting, the occurrences of *him* inside of *himself* are separated from the subjects in (18) by an extra phase boundary, that introduced by *himself*. If locality were defined in terms of paths then the pronoun would always be closer to the subject than himself and would thus be expected to always win in such examples, contrary to observation.