Binding, Relativized[*]

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Abstract

To handle a set of binding problems noted in Heim (1994) and discussed in Sharvit (2011), I capitalize on the proposal that the Binding Conditions A and B should be relativized: the semantic covaluation they require or prohibit must be relativized to (a) particular thinker(s) /attitude holder(s). Thus, by using a reflexive or a pronoun, a speaker encodes that in their local binding domains, reflexives whether plain or exempt must be locally covalued for some thinkers (in their modal worlds), and pronouns can't be locally covalued for any thinker. For reflexives, depending on the sentence, such a thinker can be the speaker of the utterance, (one of) the attitude holder(s) whose thoughts are reported, as e.g. in Free Indirect Discourse contexts as in Sharvit (2011), (and/)or more generally, the Logophoric Center in logophoric contexts (Charnavel (2013), Charnavel (2019b)) I take Free Indirect Discourse to be a special subcase of. In effect then, I generalize the treatment of Free Indirect Discourse proposed in Sharvit (2011).

Before showing how this can handle Heim's initial cases, Sharvit's Free Indirect Discourse cases as well as various other cases, and I show why the generalization Heim (1994) or Sharvit (2011) assume - appealing to intermediate *de se* read binders - is neither necessary nor sufficient.

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1 Introduction

Let us place ourselves in the following scenario.

(1) Oedipus Scenario: Oedipus kills someone he does not know, Laius his real father.He becomes king of Thebes. Later, to end a god sent plague on Thebes, Laius's killer must be punished and Oedipus, king of Thebes, searches for Laius 's killer, expecting to find him and to punish him.
I, the speaker of sentences, as well as my hearers, know the actual truth and that we all know it.

Heim (1994) notes a set of problems regarding the binding of reflexives and pronouns. These problems are illustrated by the following examples I utter in this context:[1]

(2) a. Oedipus$_k$ wants [$_{localdomain}$ PRO$_k$ to find himself$_k$]
b. *Oedipus$_k$ wants [$_{localdomain}$ PRO$_k$ to find him$_k$]

The reported problem here is that in the local binding domain shown, PRO and *himself/him* pick out different individuals: PRO refers to who Oedipus takes himself to be in his *bouletic* alternatives, the imaginary cases in which this want of his would be satisfied, namely himself (thus a *de se* reading of PRO), but in these contexts, for Oedipus, *himself/him* refers to somebody else (not Oedipus) but the killer. The reflexive *himself* is read as referring to Oedipus *de re*, that is for the speaker, but not *de dicto* that is for Oedipus (so it is not read *de se*).[2] How then are Condition A or B of the Binding theory satisfied, given that PRO and the reflexive or the pronoun do not corefer in this local domain?

This problem led to a series of proposals, Heim's own, those found in Charlow (2010) and Sharvit (2011). I will first discuss this problem and show why Heim's suggestion, namely that an intermediate *de se* read pronoun PRO is crucial, fundamentally adopted in Sharvit (2011), is not the right generalization. Instead, *de re* local binding (covaluation for the speaker, that is in the speaker's world(s)) as in Charlow (2010) (or Sauerland 2013, in effect similar to Charlow's) is correct for these cases. But covaluation for **the speaker only** is insufficient as Sharvit (2011) shows in discussing F(ree) I(ndirect) D(iscourse). The challenge, met by the proposal presented here, is to have a formulation defaulting to Charlow's proposal in Heim's cases but handling Sharvit FID cases. I will take the generalization to be that for binding theory, covaluation or lack thereof (reported by the speaker) must hold for any thinker (= in any thinker's modal alternatives) whose thoughts about the binding relation are reported *de dicto*, in effect generalizing Sharvit, 2011's approach. This will handle logophoric contexts (which include FID) which - cf. Charnavel (2013) and Charnavel (2019b) - impose specific *de dicto* requirements. But since *de re* is *de dicto* for the speaker, this will yield Charlow's treatment for Heim's basic cases.

[1] The problems raised by examples (2) and all the examples discussed in this article are not problems about coreference vs binding. To convince oneself, it suffices to imagine multiple universes in addition to the actual one, each with its own Oedipus and relevant scenarios. Sentences such as *Every Oedipus$_k$/Only the actual Oedipus$_k$ wants [$_{localdomain}$ PRO$_k$ to find himself$_k$]* behave relevantly in the same way as the sentences of the text.

[2] I am until section 4 reporting these examples of apparent condition B effect as starred (Heim notates them ?*), assuming that the pronoun and its overt antecedent, here *Oedipus* are presupposed to be covalued by the speaker (either because they corefer for the speaker, or because the speaker assumes that they corefer for someone. In section 4, I will return to these cases, qualifying these judgements.

2 Heim's 1994 puzzling reflexive pronouns in *de se* reports

Beginning with Heim's cases.[3] I will first show why the account of these cases in Heim (1994) or Sharvit (2011) should be modified.

2.1 The Heim/Sharvit proposal

As Heim (1994) notes, the following problematic cases arise.[4]

(3) Oedipus expressed his hope as: 'I will punish the killer'. I report:
   a. Oedipe$_k$ espère qu' [$_{localdomain}$ il$_k$ se$_k$/le$_{*k}$ punira]
   Oedipus$_k$ hopes that [$_{localdomain}$ he will punish himself$_k$/him$_{*k}$]
   b. Oedipe espère [$_{localdomain}$ PRO$_k$ se$_k$/le$_{*k}$ punir]
   Oedipus$_k$ hopes [$_{localdomain}$ PRO to punish himself$_k$/him$_{*k}$]

In this scenario, with object pronouns, coreference with Oedipus is (reportedly) degraded. With reflexives, the reading of interest, namely Oedipus hoping 'I will punish the killer' is both available and true in this scenario.
We could frame Heim (1994) report of a problem as the intuition that a priori, these sentences seem to function like the direct discourse counterpart of (4a) instead of the closer analogue in (4b) which exhibits judgments opposite of what is observed in (3).

(4) a. Oedipus$_k$ hopes: 'I will punish myself$_k$/me$_k$'
   b. Oedipus$_k$ hopes: 'I will punish himself$_{*k}$/him$_k$'

On the basis of (4b), we might have expected local binding of the reflexive to be excluded and local binding of the pronoun to be fine. Since the opposite is the case in (3), Heim concludes that the reflexive or the pronoun in (3) must count as locally bound by the main clause subject (hence satisfying condition A and and violating condition B respectively).
As we will see, this intuition is precisely what we give up. That the sentences involve indirect discourse (or as we will see Free Indirect Discourse) is crucial. But let's first examine Heim's proposal.

Heim next asks why if the reflexive and the pronoun are allowed to count as locally bound, they can't do the same in other examples as e.g.:

(5) Oedipus$_k$ hopes that his$_k$ daughter will find himself$_{*k}$/him$_k$

Heim's suggestion is that the non local antecedent is licit if it antecedes the intermediate, locally c-commanding pronoun if it is read *de se*, a suggestion fundamentally adopted in Sharvit (2011). Heim (1994) tentatively suggests the following (reformulated) generalization:[5]

[3] Many thanks to Pranav Anand who generously provided a handout of a talk he gave in April 2018 at UCSC from which I very liberally borrow.

[4] Heim actually discusses dream scenario cases but her discussion carries over to hope scenarios in both finite and infinitival cases. Note that in the tensed case, the pronoun is meant to refer to Oedipus *de se*.

[5] Heim (1994) considers the possibility that the reflexive moves to its antecedent clause. Heim also suggest that the generalization in (6) could derive from *de se* subject deletion (which is semantically neutral, as semantically, [he$_l$ λ_k [he/PRO$_k$ γ]] = [he$_l$ γ]). Both of these options are adequately criticized in Sharvit, 2011, section 2 p. 63 and section 5.2, respectively, so I will ignore them here.

(6) A subject read *de se* does not close the local binding domain of an anaphor or a pronoun.

This generalization or rather its effect is shared with Sharvit (2011) which proposes that Binding Theory is sensitive to two types of covaluation of arguments. Type I covaluation is the usual kind: two expressions are covalued just in case they have the same semantic value for the speaker. Type II covaluation takes (6) as primitive: Type II covaluation holds between two DPs if 'one of them denotes an attitude holder and the other corresponds to the self of the attitude holder' (Sharvit, 2011, p. 64). Local binding within the embedded clauses in (3) is thus posited to be allowed; the *de se* read subject locally binds the object in the examples under discussion under type II covaluation.

I will now show that:
The Heim/Sharvit suggestion is not necessary because there are well formed cases similar in structure to Heim's 1994 examples but not involving any *de se* pronoun. I will document two kind of licit cases of apparent long distance binding as in (3) where the intervening subject is not read *de se*.[6]
The Heim/Sharvit suggestion is not sufficent because there are ill formed cases similar in structure to Heim's 1994 examples but involving a *de se* read expression. I will provide cases in which there is an intermediate *de se* expression as potential local binder for a reflexive but which is insufficient to license the reflexive.

2.2 Intermediate *de se* not necessary: Generalizing Heim (1994), Sharvit (2011)

2.2.1 Inanimate Cases

To show that (6) is insufficiently general, it suffices to consider cases of inanimates. Consider the following scenario, a counterpart of the scenario with Oedipus, but involving mindless entities:

(7) Radiating Bodies: In its system, this sun heats up other celestial bodies as well as itself, thanks to its atomic reactions. In turn, a celestial body heated by the sun radiates heat back to the sun, heating it up too. Lydia, pointing at a bright celestial body, says/thinks: 'Without the sun heating it (this celestial body), the sun would cool down faster.' Lydia is not realizing that the celestial body she is pointing at is the sun itself. But I am realizing it.
I can report:

a. ✓Lydia pense que sans PRO_k se fournir de la chaleur, le soleil
✓Lydia thinks that without PRO_k heating itself$_k$, the sun$_k$
refroidirait plus vite
would cool down faster

b. ⋆ Lydia pense que sans PRO_k lui$_k$ fournir de la chaleur, le soleil
⋆ Lydia thinks that without PRO_k heating it$_k$, the sun$_k$
refroidirait plus vite
would cool down faster

[6] Such cases also pose problem for the proposal as formulated in Sauerland (2013).

Sentence (7a) is well formed and true in this context: Condition A is satisfied. Its structure is similar to that of example (3a) but without any *de se* thought: *itself* is viewed by Lydia as not referring to the sun, while PRO must be, see below why. It is satisfied for the same reason as in (3a). Similarly, (7b) exhibits a condition B effect without any *de se* thought.[7]

These examples meet a generalization of (6) based on a property of PRO - the *de dicto omnibus* property - documented in Sportiche (2019). The generalization about PRO reported and discussed therein is that in a sentence S, PRO must be coreferential (or covalued) with its controller for the thinker π in S the report of whose attitude is the smallest constituent containing both PRO and its controller: PRO must be the same object that its controller is for π.[8]

Given the control relation in (7), we are dealing with a case involving the *de dicto omnibus* requirement. Now this requirement is a generalization of the mandatory *de se* reading found in (3b): as Lydia in (7) is the thinker the report of whose attitude is the smallest constituent containing both PRO and its controller, PRO and its controller *the sun* must be coreferential for Lydia. (3b) is the special case in which PRO and its controller must be coreferential for the controller itself.[9]

[7] Besides showing that *de se* in itself is not necessary, these examples remove a possible confound in English. French *se* cannot be an exempt reflexive but one could have envisioned that the animate reflexive in (3b) is exempt from condition A and anteceded long distance directly. If it were, it would have to be interpreted logophorically, (see Charnavel, 2013 or Charnavel, 2019b, Charnavel, 2019a), hence refer to a human. But this is precisely *not* true in such a case. This comes in addition to the fact that (i) the sentences (3) are out with pronouns (but this could have been argued to be due to a reflexive/pronoun competition); (ii) Also, sentence (5) is ill-formed, an unexpected observation if a reflexive in this position could indeed be exempt from condition A.

[8] Note that this characterization does not take into account the existence of partial or split control. Modifications to accommodate partial and split control seem straightforward.

[9] In effect, Heim's 1994 examples illustrate that PRO and reflexives relate differently to their antecedents. Unlike PRO, reflexives do not generally have to be read *de se* or *de dicto omnibus*. The following is a closer minimal pair:

i. a. Oedipus$_k$ expects PRO$_k$ to be punished
   b. Oedipus$_k$ expects himself$_k$ to be punished

Sentence (7a) is false in the Oedipus scenario, while (7b) is true. This is corroborated by the minimal contrast between the following two examples:

ii. a. (Only) Oedipus$_k$ expects PRO$_k$ to be punished
    b. (Only) Oedipus$_k$ expects himself$_k$ to be punished

With *only*, the second sentence can be contradicted by *No, I expect him$_k$ to be punished too*, but the first one cannot be, felicitously.
While some speakers agree with these judgements, others reportedly disagree that the reflexve can be read *de re* e.g. Higginbotham (2003), or disagree if the reflexive is prosodically reduced, Hornstein and Pietroski (2010). What needs to be controlled for is how speakers cluster regarding examples (16), (3), (7b) and (ii-b) above. I have not been able to duplicate these reported judgements (so I am not sure what to say for these speakers) but speakers I have informally consulted or audiences at presentations of this work do report that narrow focus on the reflexive makes the *de re* reading of the reflexive more easily accessible (a remark also made in unpublished notes by Simon Charlow in 2009). However, lack of focus does not seem to exclude the *de re* reading.

This PRO/reflexive difference also holds in French:

iii. a. (seul) Jean$_k$ croit PRO$_k$ avoir été élu
        (only) Jean believes PRO to have been elected
     b. (seul) Jean$_k$ se$_k$ croit élu
        (only) Jean self believes elected

Only the latter can be denied by *No, Pierre le croit élu aussi*. The fact that this holds even though the marker of reflexivity is a clitic here (*se*), suggest that focal accent is not essential to the availability of *de re* readings. Given that quite generally, *de se* readings are interpretively the default, see e.g.

To handle (7), we could thus modify Sharvit's 2011 Type II covaluation and replace in its definition *de se* by *de dicto omnibus* but:

#1 This would not tell us why Type II covaluation works.
#2 The *de dicto omnibus* is actually not required: it is insufficient to handle other cases not involving intermediate *de se* read pronouns, some pointed out in Charlow (2010), others by Philippe Schlenker (p.c.).

2.2.2 *De re* cases

To illustrate point #2 above, we modify the Oedipus scenario.

(8) Oedipus has learned that Laius had a unique son without realizing that he himself is this son. He now thinks that Laius's son, who he of course does not imagine is Laius' killer, should take revenge by punishing Laius's killer. Oedipus says/thinks: 'Laius's son should punish Laius's killer'
I can truly report:
Amusant! Oedipe$_k$ pense qu' il$_k$ devrait se$_k$/le$_{*k}$ punir
Funny! Oedipus$_k$ thinks he^1_k should punish himself^2_k / him$_{*k}$

In Oedipus's mind (that is in his doxastic alternatives), *he*^{1} and *himself*^{2} do not corefer and neither refers to him. So this should be a case of non local binding of *himself*^{2} by *Oedipus*. But *he*^{1} here is not read *de se*.

Philippe Schlenker's examples (slightly modified here) make the same point with counterfactuals. The following examples all involving the reflexive *se* are well formed:

(9) Context: Charles is interviewing with a recruiter who is my interlocutor - but even he isn't too convinced that he should be hired. In fact...
a. À ta place, Charles ne s'embaucherait pas
in your place, Charles NE SE would-hire not
'In your place, Charles would not hire himself'
b. S'il était toi, Charles ne s'embaucherait pas
if he were you, Charles NE SE would-hire not
'If he were you, Charles would not hire himself'

These examples show that *se* can be licensed even if, according to the logic of Heim's discussion, it cannot have any antecedent. In the counterfactual situations, there is no act of self-hiring. Rather, what happens is that my interlocutor (or her counterpart) does not hire Charles (or Charles's counterpart). So *se* cannot be coindexed with *Charles*, as this would yield a reading of self-hiring. But it also cannot be coindexed with *toi*, since *se* has 3rd rather than 2nd person features.[10]

Pearson, 2015a, and given that English reflexives are often deaccented and would normally be in (ii-b), see for discussion Ahn, 2015, narrow focus on it in non contrastive environments is perhaps taken as a clue by speakers to favor the non default reading.

[10] Note also that even if it somehow could - change *in your place, if he were you* to *in his place, if he were him* there is no binder (no c-command) that could satisfy Condition A. This adds a reason not to adopt Heim's long distance binding idea.

2.3 Intermediate *de se* binders not sufficient; *de se* non *de re* cases

Suppose we modify the story about Oedipus as follows where the modifications are shown in red:

(10) Oedipus Scenario:
Oedipus is under the delusion that he is the king of Athens and that it is his responsibility to search for the killer of his fellow king Laius, to punish him in order to satisfy the gods and end the plague. Athens is in fact a democracy and nobody but him believes that Athens has a king. Oedipus is in fact king of Thebes.

Oedipus, believing that he is talking about himself, while visiting Athens expresses his hope as 'The king of this city will punish the culprit', referring to himself by his title (as kings, politicians and others sometimes do) to highlight the fact that it is a king's responsibility to do so. In this context, Oedipus is expressing a hope about him *de se* and indeed I can truthfully report:

(11) Oedipe$_k$ espère [$_{localdomain}$ PRO$_k$ punir le coupable]
Oedipus$_k$ hopes [$_{localdomain}$ PRO to punish the culprit]

but if I report:

(12) Oedipe$_k$ espère que [$_{localdomain}$[le roi d'Athènes] *se$_k$/ ✓le$_k$ punira]
Oedipus$_k$ hopes [$_{localdomain}$ that [the king of Athens] will punish *himself$_k$/✓him$_k$]

under the relevant reading, the judgements are the opposite of those in (3b), even though *the king of Athens* is read *de se*. In this scenario, with object pronouns, coreference with Oedipus is fine. With reflexives, the reading of interest, true in this scenario, namely Oedipus hoping 'I will punish Oedipus' is not available.

2.4 Conclusion

The previous discussion shows that having an intermediate *de se* binder is neither necessary, nor sufficient. What then separates the good cases from the bad cases? These last examples provide a minimal pair showing what the relevant criterion is:

(13) Oedipe$_k$ espère [$_{localdomain}$ PRO$_k$ se$_k$/le$_{*k}$ punir]
Oedipus$_k$ hopes [$_{localdomain}$ PRO to punish himself$_k$/lhim$_{*k}$]

(14) Oedipe$_k$ espère que [$_{localdomain}$[le roi d'Athènes] *se$_k$/ ✓le$_k$ punira]
Oedipus$_k$ hopes [$_{localdomain}$ that [the king of Athens] will punish *himself$_k$/✓him$_k$]

In (13), *PRO* behaves like an implicit 1st person pronoun. This pronoun picks out Oedipus for Oedipus (whoever Oedipus may think he is), but it picks out the actual Oedipus for me the speaker, which the reflexive or the pronoun also do. The *de se* reading of *PRO* is (or can be) a subcase of a *de re* reading.
This is not the case in (14): here the expression *the king of Athens* picks up Oedipus for Oedipus, but does not pick out anyone for me. It is read *de dicto* only.
What seems to matter then is that both the reflexive (or the pronoun) and its local antecedent be read *de re*, that is as coreferential for the speaker. It should be clear that this

handles the cases discussed so far.
But this will not handle further cases (e.g. the gryphon cases below, or FID cases). As we will see, the proposed generalization is that to be licensed (resp. counterlicensed) the reflexive (resp. the pronoun) and its local antecedent must be covalued for the same attitude holder (and not necessarily the speaker).
What follows provides a more explicit proposal.

3 Binding Theory

3.1 How to satisfy Conditions A and B

Assume the Binding conditions A and B as standardly formulated:[11]

(15) Binding Conditions
   a. Condition A: an anaphor must be bound in its local domain.
   b. Condition B: a pronoun cannot be bound in its local domain.

Where (syntactic) binding is defined as c-command plus coindexing. Now, consider the following sentence, with indexing as indicated (where nobody is mistaken about who Flora is: *Flora* denotes Flora for all). Assume further that Flora invited exactly one person:

(16) Charles thinks that Flora$_k$ invited herself$_k$

Coindexing is interpreted as the reflexive having the same semantic value as its antecedent: whoever *Flora* points to, *herself* points to the same person. The words used are the speaker's. A speaker not believing that this identity relation held would not use a reflexive: such sentences always conveys identity of semantic value **according to** the speaker. For example, my uttering (16) is truthful in the following contexts:

(17) a. Charles thinks that Flora invited a person who I think is Flora but who he does not think is Flora (he may be unsure or think it is someone else)
   b. Charles thinks that Flora invited a person who both I and he think is Flora
   c. Charles thinks that Flora invited a person who he thinks is Flora but who I do not think is Flora (I may be unsure or think it is someone else)

(16) would be false in the following context:

(18) Charles thinks that Flora invited a person who neither he thinks nor I think is Flora

Are there cases in a sentence is true only in context of the (17c) sort? The answer is positive.
First, as names are rigid, we suppose, *Flora* denotes Flora for the speaker as well as for Charles. Since the speaker states that the reflexive is covalued with *Flora*, this means the reflexive also denotes Flora for the speaker. So if the sentence is true in context (17c), it will be in all three contexts in (17). To be able to bring out cases such as (17c), we need to have the antecedent of the reflexive to have different denotations for Charles and the speaker. This can arise with descriptions that pick out different individuals for Charles and me, or

[11] Recall that unless otherwise explicitly stated, I will also not worry about some licit apparent violations of Condition B of the kind discussed in Heim, 1993, Heim, 2007, Roelofsen, 2010 or Sharvit, 2014 until section 4, and some later in section 5.

with cases in which some description does not pick out anything for me.
So let us first consider descriptions, which may diverge in different worlds. Consider:

(19) Charles thinks that the best French girl in the class talked about herself (in her essay)

Assume that for Charles, the best French girl in the class is Flora, while for me the speaker, it is Leila. This sentence can mean either:

(20) a. Charles thinks that Flora talked about Flora
b. Charles thinks that Leila talked about Leila

The first meaning could arise in the following situations.
(i) Charles points at Leila and says: the topic of Leila's essay is her. I could report this by uttering (19) with *the best French girl in the class* read *de re*. (ii) Charles points to someone who he mistakenly thinks is Leila and says: the topic of Leila's essay is her. I could report this by uttering (19) with *the best French girl in the class* read *de re*.

The second meaning could arise in the following situations.
(i) Charles points at Flora and says: the topic of Flora's essay is her. I could report this by uttering (19) with *the best French girl in the class* read *de dicto*.
(ii) Charles points to someone who he mistakenly thinks is Flora and says: the topic of Flora's essay is her. I could report this by uttering (19) with *the best French girl in the class* read *de dicto*.

In all cases, there is covaluation of the reflexive and its antecedent in the actual world. It does not matter how I get to it. In all cases, whether *the best French girl in the class* is read *de re* or *de dicto*, it denotes someone for me and the only requirement is that the reflexive denote this person too, whether she is correctly identified by Charles or not.
Note that this remain true even if we modify the context and assume that Charles thinks there are French girls in the class, but in fact there aren't any: *the best French girl in the class* does not denote anyone for me. But it does for for Charles, namely Flora. If I know that this is who Charles means when he says *the best French girl in the class*, who Charles takes to be the best French girl in the class denotes Flora for me. I could truthfully report (19) with the second meaning in one of the second situations.
This state of affairs could be, and has been, taken to mean that covaluation must hold in the actual world(s), the world(s) the speaker takes himself to live in. But this would be an incorrect conclusion. To see this, we need to look at cases in which the antecedent of the reflexive has no denotation for the speaker.
Suppose I modify the scenario above and now assume that there are no French girl in the class and Charles means to refer to someone but I have no idea who Charles mean by the expression *the best French girl in the class*. I of course could not truthfully utter (19) in any of the above scenarios. But I simply report Charles saying: 'the best French girl in the class talked about herself (in her essay)'. Here there is no covaluation in the actual world.
This can be made even more conspicuous in the following kind of cases: suppose for example that Charles thinks that gryphons exist but I don't and he says, talking about gryphons: 'A gryphon grooms itself every morning'. I can say:

(21) Charles thinks that a gryphon$_k$ grooms itself$_k$ every morning

Here, *a gryphon* does not pick out any referent for me[12] but I take it does in Charles's

[12] Note that we could not say that the reflexive and its antecedent are covalued for me, the speaker, in

thoughts.[13] What this shows is that in principle, condition A may be required to hold for someone else than the speaker, and this should be in principle be detectable even in cases like (16), in which *Flora* has a denotation for me.
I will call cases in which the reflexive and its antecedent are covalued in the actual world *de re* covaluation or coreference. And I will call cases in which the reflexive and its antecedent are covalued in the thoughts of an attitude holder other than the speaker *de dicto* covaluation or coreference. As we will see, the latter can be shown to arise when the embedded clause is reported from the point of view of the attitude holder. This is the case in (21), in Free Indirect Discourse, and more generally in logophoric contexts (an example of which (21) has to be).

These conclusions hold mutatis mutandis for pronominal binding. Suppose for example that I do not believe in ghosts but Charles does and thinks "every ghost haunts its castle, namely the castle it lives in". I can still truthfully report: "Charles thinks that every ghost haunts its castle" with *its* bound by *every ghost*. Here I report Charles' awareness of a relation he thinks exists between ghosts and their castles, even though these terms have no denotation for me.

Similar considerations hold for condition B (where Flora invited exactly one person, namely herself):

(22) a. Charles thinks that Flora$_k$ invited her$_{\checkmark j/*k}$
b. Charles thinks that a gryphon$_k$ grooms it$_{\checkmark j/*k}$ every morning

Both sentences are ill formed with coindexing: they violate Condition B. By using a pronoun (instead of reflexive) in (22a), the speaker signals that the denotations of *Flora* and *her* actually diverge. What Charles think does not matter: he may well think: 'Flora invited herself and nobody else'. Sentence (22a) would still be well formed and true as long I the speaker think that the person invited is not Flora. For the same reasons as above, to detect reference disjointness for the attitude holder, we must, in such simple cases, use an antecedent for the pronoun that has no denotation for the speaker. This is done in (22b). Here the sentence would be false if Charles thinks: 'a gryphon grooms itself and nothing else' (despite the fact that *a gryphon* has no denotation for me).

In conclusion:

(23) When Condition B is satisfied in such a sentence as (22a) or (22b), the speaker reports that there is disjoint reference but this underspecifies in which worlds this holds. This could hold:
a. in the actual world only, in which case the attitude holder is not aware that there is disjoint reference between the subject and the object of *invite*.
b. in both the actual world and the attitude holder's doxastic alternatives in which case both the speaker and the attitude holder are aware of it.

that they both have no value (one could imagine postulating a special entity in the actual world - the empty set - such that any expression picking it out is interpreted as having no actual referent). This would yield wrong results in variants of cases like (22b): Say Charles believes in gryphons and thinks that a gryphon grooms the gryphon in his backyard every morning. The sentence *Charles thinks that a gryphon grooms it (the gryphon in his backyard) every morning* would come out as ill formed because *a gryphon* and *it* would come out as covalued for me.

[13] This would be valid whether the relation between *a gryphon* and *itself* is one of coreference or semantic binding, as shown by *Charles thinks that every gryphon$_k$ grooms itself$_k$ every morning*.

c. in the attitude holder's doxastic alternatives only in which case the attitude holder only believes that there is disjoint reference.

3.2 Formulating the binding conditions

From the above considerations, we conclude that a speaker using a locally bound reflexive or a non locally bound pronoun conveys that that there is local coreference or local disjoint reference, but this does not say for whom coreference or disjoint reference is reported to hold. Sometimes it can mean coreference or disjoint reference in the thoughts or only in the thoughts of some attitude holder whose attitude is being reported. I will formulate the binding conditions accordingly. To illustrate cases involving expressions that unlike gryphons denote actual objects, I will build on a distinction made in Charnavel (2013) or Charnavel (2019b). In these works, a distinction is made between ways of reporting the content of someone's attitude: it can be reported from the point of view of the reporter, or it can be reported from the point of view of the attitude holder, or both, among other options. Furthermore, Charnavel (2013) argues that these options are syntactically encoded: a TP is or can be introduced by a logophoric operator, LOG, which takes the TP as complement, taking a silent subject anteceded by the point of view holder(s). For example, my uttering a simple sentence without embedding,

(24) Flora invited Leila

expresses by default (which can be overidden, e.g. in FID, or other cases in which someone else's thoughts are reported) my point of view about its content. Assuming a LOG operator is present at the edge of the main TP, scoping over the sentence and taking the speaker of the main context as antecedent for its subject:[14]

(25) [e_s [LOG [Flora invited Lydia]]] (with e_s = speaker)

Intuitively, we can read the import of [e_s [LOG]] as 'as e_s would describe it', or here (since e_s is the speaker) 'as I would describe it' or 'I say' as in 'Flora invited Lydia, I say'.
If the sentence contains an attitude report as in (26):

(26) Charles thinks that Flora invited Lydia

I can present its entire content from my own point of view or I can present the embedded clause from the attitude holder's point of view (or both, or other people's under the right discourse circumstances). Sentence (26) is thus syntactically ambiguous:
First, I can present the entire content of this sentence from my point of view as shown below, where LOG operators taking the author coordinate of the main context as antecedent for

[14] I am simplifying the presentation in a way that does not impact the present discussion: as argued e.g. in Schlenker (1999), clauses are introduced by parameters $< author, addressee, world, ... >$ (encoded in C, say) providing contextual information regarding which worlds are compatible with an attitude holder's beliefs and who this attitude holder takes himself (the author) and his adressee(s) to be in each of such worlds, among other things. The antecedent of the subject of LOG may in fact be the author coordinate of a context LOG is embedded under.
I also ignore a number of other issues. Charnavel's LOG operator, or Sharvit 2008's FID operator encode the first personal perspective of the attitude holder whose perspective is reported. This should normally preclude *de re* non *de dicto* ascriptions in their scope but in fact, some *de re* ascriptions are allowed to leak through (FID's are a subset of other LOG operators's), e.g. first person features. I will briefly return to this in the case of FID in section 5 but I will otherwise not discuss this question.

its subject is present at the edge of the main TP, or at the edge of both TPs, as shown below:[15]

(27) a. [e_s [LOG [Charles thinks Flora invited Lydia]]]
b. [e_s [LOG [Charles thinks [e_s [LOG Flora invited Lydia]]]]]

Intuitively, with such a structure, the sentence is (roughly) conveying that as I would describe it, Charles thinks that Flora invited Lydia or 'Charles thinks that Flora invited Lydia, I say'.
I can also present some or all of the content that the attitude holder has thoughts about from his point of view: in (28a), the entire embedded TP is so presented. This is encoded by LOG, which means: 'my complement is presented from the first personal perspective of my subject'. The intuition here is that (28a) is the most faithful indirect discourse rendition of (28b), where the direct quote unambiguously states Charles' thought as Charles sees it:

(28) a. [e_s [LOG [Charles$_k$ thinks that [e_k[LOG[Flora invited Lydia]]]]]]
b. Charles thinks: 'Flora invited Lydia'
or to put it intuitively with indirect discourse:
c. As I would describe it, Charles thinks that, as he would describe it, Flora invited Lydia.

Charnavel (2013)'s reason for representing the LOG operator syntactically is based on the distribution and properties of so-called exempt anaphors. Empirically, Charnavel shows that they are subject to Condition A where the local binder is the subject of the logophoric operator, a syntactic condition, just like non exempt anaphors, and thus unifies their treatment in any language in which anaphors are underspecified as to whether they can be used logophorically or not. At a more fundamental level, the reduction of the standard anaphoric status of expressions such as English *herself* or French *lui-même* to their containing the items *self, même*, a desideratum of any explanatory theory, requires treating their morphologically identical exempt counterparts as standard anaphors too, and thus subject to exactly the same structural licensing conditions.
Condition A and Condition B are syntactic conditions, as their appeal to locality considerations - a syntactic notion - show. Since I argue that it is essential to take point of view into account to evaluate whether Condition A and Condition B are satisfied for pronouns or non exempt anaphors, I too must assume that LOG operators are syntactically represented.

Before proceeding let me note that I simplify the exposition here, regarding the exact distribution of logophoric operators, in ways that do not affect the discussion. In a related point, I also ignore the connection between concept generators in the sense of Percus and Sauerland (2003a) and logophoric operators: they may well be exactly the same objects, both syntactically represented, although with a more specified syntax for the latter.

With this background, we can now return to the examples (16), (21), (22a) and (22b). Starting with (21), the fact that I do not believe in gryphons means that I must adopt Charles' point of view when reporting the content of his beliefs regarding gryphons or pronouns denoting gryphons. In other words, (21) receives the following representation:

(29) Charles$_s$ thinks that [e_s [LOG [a gryphon$_k$ grooms itself$_k$ every morning]]

Intuitively, this reports Charles thinking 'A gryphon grooms itself every morning'. This is

[15] The difference between these two representations does not matter here but it is possible to detect the presence of these LOG operators, e.g. by locality considerations.

only true if indeed Charles thinks so. So here there must be coreference for Charles but not for me since these terms have no denotation for me.

Giving these syntactic options, (16) repeated below in (30a) may receive one of the following two representations:

(30) a. Charles thinks Flora invited herself
b. [e_s [LOG [Charles thinks Flora$_k$ invited herself$_k$]]]
c. [e_s [LOG [Charles$_p$ thinks [e_p [LOG [Flora$_k$ invited herself$_k$]]]]]]

First, in both cases, there is a reflexive relation for me the speaker, namely that holding between Flora and what *herself* denotes (the reflexive relation is: R(x,x)= Charles thinks that x invited x). In addition, as stated earlier, my uttering (30a) with structure (30b)conveys that the relation I report as holding in Charles' thoughts is reflexive even if he does not realize that it is. The expressed proposition would be true in all situations in (17) except (17c).

My uttering the sentence with structure (30c) conveys that there is a reflexive relation in Charles's thoughts that he is aware of, as intuitively, this representation encodes that Charles thinks: 'Flora invited herself'. The expressed proposition would be true in all situations in (17) but (17a). Since (30b) and (30c) are string identical, we do not know which we are dealing (but, as we will see below, it is possible to disambiguate).

To summarize, in a well formed sentence,

(i) an anaphor must be reported by the speaker to be covalued with a local c-commanding antecedent, and

(ii) this covaluation must hold for the attitude holders (that is, in all of their modal alternatives) such that the anaphor and its antecedent are in the immediate scope of a LOG operator representing these attitude holders's point of view on the content of their thoughts. Call any such attitude holder 'relevant attitude holder'. This is saying that an anaphor must be reported by the speaker to be covalued with a local c-commanding antecedent for relevant attitude holders *de dicto*.

This does not exclude simultaneous covaluation *de re*: if the antecedent of the reflexive has a denotation for the speaker, covaluation between them will hold *de re* too since the speaker, by choosing a reflexive, conveys that there must be covaluation, hence for himself.

Given a pair of DPs (α, β), α a local binder and β a reflexive, there is, for syntactic reasons, a unique LOG operator in whose immediate scope this pair is found. This LOG operator requires the content of its complement to be reported from the first personal point of view of LOG's pronominal subject. As a pronoun, this subject may denote a single individual, in which case there is a unique relevant attitude holder. But this subject may denote a set of people (e.g. have a plural antecedent or split antecedents), in which case there is a set of relevant attitude holders. In what follows, I will stay away from such cases but an extension covering them seems straightforward.

As the same consideration applies to Condition B, mutatis mutandis, we can reformulate the binding relations as follows:[16]

[16] Semi formal considerations: granting that the binding conditions should be stated as we do, the binding theory looks at co- or contra- indexing patterns, interpreted as co- or contra- valuation for particular attitude holders. This raises the question of how this latter notion should be formally encoded. There are two ways to go about it. Deciding which is more suitable depends on other, complex issues, that are way beyond the scope of the present article, so I simply informally outline what they are which we can illustrate by returning to example such as (21) and similar cases. Recall that Charles thinks that gryphons exist but I don't and has certain beliefs about gryphons that I reports as:

(31) Relativized Binding Conditions (RB Conditions or RBC)
   a. Condition A: An anaphor must be covalued with a local binder for some relevant attitude holder.
   b. Condition B: A pronoun cannot be covalued with a local binder for any relevant attitude holder.

3.3 Detecting logophoric contexts

Since (30b) and (30c) are string identical, we do not know which we are dealing with. But relying on Charnavel (2013) or Charnavel (2019b), we can disambiguate and test the binding conditions in (31). One way to disambiguate is to use exempt anaphors.
An exempt anaphor X is a licit, anaphor looking, expression which has a non local antecedent A. Charnavel (2013) or Charnavel (2019b) argue that in such cases, X is in fact locally bound by the pronominal subject of a LOG operator, itself anteceded by A (thereby unifying the behavior of all anaphors under Condition A). Abstractly, this is illustrated in (32), where $l.b.d(X)$ means local binding domain of X:

(32) A_k ... $[_{l.b.d(X)}$ $[e_k$ [LOG [... X_k ...]]]]

Two examples of such anaphors are the French expressions *son propre X/his own X* (where it is understood to contrast with others' Xs) and *lui-même /himself/ lit. him-same*. Following Charnavel and Sportiche (2016), with an animate antecedent, these anaphors can be exempt - this is exemplified in (33a) - while they can't be with an inanimate antecedent. (33b) illustrates one case of exemption and how it must be analyzed:

(33) a. Charles pense que sa propre maison fait de l'ombre sur l'église.
   Charles thinks that his own house casts a shadow on the church
   b. $Charles_k$ pense que [e_k [LOG [sa_k propre maison fait de l'ombre sur l'église]]]

We are now in position to test the prediction made by the formulation of the binding conditions in (31). We adopt the descriptive version of Condition A given in Charnavel (2013) or Charnavel (2019b) and defended in Charnavel and Sportiche (2016). This states that an anaphor must be bound within the spellout domain of the phase containing it, which

i. a. Charles thinks that a $gryphon_k$ grooms $itself_k$ every morning
   b. Charles thinks that a $gryphon_k$ grooms its_k chicks every morning

The question does not arise if coindexation codes semantic binding. Indeed, in such a case the embedded clause would fit the format *a gryphon* λx. *x grooms x/x's chicks every morning* and the indices play no role other than to indicate that the same variable is used. If however we are dealing with coreference, we would need to specify the referential role played by the index k.
One way to do so would be to assume that quite generally, attitude predicates quantify over assignment functions. This would generalize Sharvit, 2008's treatment of the FID operator - actually beyond what she proposes - but in ways consistent with what is proposed in Groenendijk et al. (1996) (see Buring, 1998 however). Coindexation could then be directly interpreted as identity of referential value for the relevant attitude holder, so the index k here would signal coreference for Charles (and k would not map to anything for me). The alternative would be to deny that coreference is ever involved and to treat apparent cases of coreference as involving e-type pronouns. Thus, in a sentence like:

ii. John thinks that there is a $gryphon_k$ in his back yard, and he says that it_k is grouchy

We would treat it_k as e-type, standing for *the gryphon that John thinks is in his backyard*.

may be a CP, a vP, or a DP with subject (very roughly, TP, VP and NP, respectively). Concomitantly, Charnavel (2013) or Charnavel (2019b) shows that LOG operators can be found at the edge of the spell out domain of each of these phases. The embedded clause in (33b) now expresses the perspective of Charles. We thus expect that Conditions A and B will have to be satisfied in Charles' s doxastic alternatives. These predictions can be showed to be fulfilled for Condition A and Condition B.

(34) Context: Looking at a picture showing several buildings, Charles takes one of them to be his house casting a shadow only on the adjacent church. He points at the shaded part, which he takes to be the church and says: See, my house but not the neighbor's is casting a shadow on it. He has correctly identified his house but not the shaded building: the shaded part in fact is a portion of his house. I can truthfully report (34a) or (34b) but not (34c):[17]

a. Charles$_k$ pense que [sa$_k$ propre maison]$_m$ fait de l'ombre sur l'église
Charles thinks that his own house casts a shadow on the church

b. Charles$_k$ pense que [sa$_k$ maison]$_m$ fait de l'ombre sur elle-même$_m$
Charles thinks that his house casts a shadow on itself

c. Charles$_k$ pense que [sa$_k$ propre maison]$_m$ fait de l'ombre sur elle-même$_m$
Charles thinks that his own house casts a shadow on itself

d. Charles$_k$ pense que [e$_k$ [LOG [sa$_k$ propre maison]$_m$ fait de l'ombre sur elle-même$_m$]]

The minimal contrast is that between (34b) and (34c). In the former, the coreference relation can be read *de re*. In the latter, because of the exempt anaphor, the embedded TP must be presented from Charles 's point of view, as shown in (34d). If Condition A was not required to hold for Charles, *itself* could pick out *sa propre maison* as antecedent for me - thus satisfying the classic Condition A - but not for Charles. The sentence would mean: Charles thinks that his house casts a shadow on a building which (he wrongly thinks is the church but) is in fact his house.
But this sentence is judged false: this shows that *itself* must pick out *sa propre maison* as antecedent for Charles, that is that Condition A must be satisfied for Charles. Thus the sentence must mean: Charles thinks that his house casts a shadow on a building which he takes to be his house itself. This falsely entails that Charles is aware that a shadow is cast on his house.

We can illustrate the same pattern in a different syntactic configuration, with a different anaphor.

(35) Context: Looking at a picture showing reconstructed houses after an earthquake with soem ruins still visible. Charles thinks that they rebuilt his house, not the neighbor's house, on the ruins of the church: pointing a ruins next to his house, he says: "See, the ruins of the church. They reconstructed my house, not the neighbor's house, on top of them." But he is mistaken. In fact, it 's been rebuilt where it was.

a. Il pense qu'on a reconstruit sa propre maison sur les ruines de l'église.
He thinks that they rebuilt his own house on the ruins of the church

b. Il$_k$ pense que on a reconstruit [sa$_k$ maison]$_m$ sur ses$_m$ propres ruines.
He thinks that they rebuilt his house on its own ruins

[17] In the context, *sa propre maison/ his own house* contrasts with the neighbor's: this guarantees that *son propre* behaves like an anaphor - see Charnavel (2012). This also applies to the next few examples.

c. Il_k pense que on a reconstruit [sa_k propre maison]$_m$ sur ses_m propres ruines.
He thinks that they rebuilt his own house on its own ruins
d. Il_k pense que [e_k [LOG [on a reconstruit sa_k propre maison sur ses_m propres ruines]]]

Sentences (35a) is true and (35b), where we replaced *les ruines de l'église* by *ses propres ruines* is also true, with the PP is read *de re* in both cases. But if we replace *les ruines de l'église* by *ses propres ruines* in (35c), the syntax must be as in (35d). The inanimate *ses propres (ruines)* is a plain anaphor. If Condition A was not required to hold for Charles, *ses / its* could pick out *sa propre maison* as antecedent for me - thus satisfying Condition A - but not for Charles, yielding a true sentence. But if Condition A must be satisfied for Charles, *its* must pick out *sa propre maison* as antecedent for Charles. This entails that Charles is aware that his house was rebuilt where it was. In this context, this is, correctly, predicted false.
As for Condition B, I will discuss it in the context of Heim's examples below in in section 4.

4 Back to the initial puzzles

Let us now return to Heim's puzzles.

4.1 The initial puzzles

Turn now to the original cases in (3) repeated below separating the reflexive case from the pronoun case.

(36) a. Oedipe_k espère qu' [$_{localdomain}$ il_k se_k/le_{*k} punira]
Oedipus_k hopes that [$_{localdomain}$ he will punish himself_k/him_{*k}]
b. Oedipe espère [$_{localdomain}$ PRO_k se_k punir]
Oedipus_k hopes [$_{localdomain}$ PRO to punish himself_k]
c. Oedipe espère [$_{localdomain}$ PRO_k le_{*k} punir]
Oedipus_k hopes [$_{localdomain}$ PRO to punish him_{*k}]

Because sentence (36b) with the reflexive involves a PRO which must be read *de se* in such contexts,[18] PRO functions like 'I' in the direct discourse paraphrase of (36b) *Oedipus hopes 'I will punish the killer'.* As a result, for Oedipus, PRO (like 'I' in the paraphrase) denotes who Oedipus thinks he is (in each of his bouletic alternatives) and PRO denotes Oedipus for me the speaker. This means that, although PRO and the reflexive are not covalued for Oedipus (that is *de dicto* for Oedipus), they are covalued for me (that is *de re*, or equivalently *de dicto* for the speaker).[19] This is sufficient to satisfy Condition A. So this puzzle disappears.

[18] As mentioned earlier, Sportiche (2019) proposes that the *de se* requirement observed here (as well in fact as all cases of control) is a reflex of a broader property - the *de dicto omnibus* requirement - which holds of all control relations, obligatory or not, whether in attitude contexts or not, including cases of inanimate controlled PROs. In the present instance, this requirement imposes that Oedipus and the denotation of PRO share all properties that the speaker attribute to any of them, including a property true of all attitude holders that has as effect that PRO is read *de se*. Briefly, this is a self-centering property that must be attributed to any attitude holder π. According to it, π attributes *to* π *the property of being the center of his modal alternatives de se*, hence attributes to the denotation of PRO *the property of being the center of* π*'s modal alternatives de se.*

[19] Note that even if the content of the infinitive is presented exclusively from Oedipus's point of view, PRO still refers to Oedipus for the speaker: this is one case of *de re* ascriptions leaking from under

Turn to the case (36c) with the pronoun. For the sentence to satisfy Condition B, it must be possible to construe the sentence so that PRO and the pronoun are not covalued for anyone relevant. Given the above discussion, PRO must refer to Oedipus for the speaker. Given that the pronoun is meant to refer to the killer *de re* but not *de dicto*, there should be a Condition B violation. But in some contexts, the Condition B effect weakens. This would mean that the star in (36b) (which Heim actually rates ?*, possibly for this reason) requires discussion. Indeed, Sharvit (2011, p. 63-64) writes:

> "As is well known, Condition B may often be obviated in special circumstances... Another case where Condition B may be obviated is when the preceding discourse makes it possible to interpret the pronoun as a paycheck (or E-type) pronoun..."

Sharvit (2011, p. 63-64) provides the following sentence with the indicated minimal pair of contexts:

(37) a. Context: McCain visits three different female politicians Sarah Palin, Hilary Clinton, and Caroline Kennedy. He knows that they suffer from severe memory loss. He wants to guarantee that Palin's ballot says Sarah Palin, Clinton's ballot says Hilary Clinton, and Kennedy's ballot says Caroline Kennedy, so he gives each one of them a picture of herself. None of them recognizes herself in the picture. After he leaves, we ask each of them who she will vote for. Each one of them, while pointing at her own picture, says: Certainly not for this woman. So we know he failed with all of them.
* McCain didn't convince any amnesiac female politician to vote for her, because by the time he gave each one of them a picture of herself and said: You should vote for this woman, it was already too late to influence any of them.

b. Context: McCain showed every amnesiac female politician a picture of a woman, namely, herself. Still,
✓He didn't convince any one of them to vote for her.

Why does condition B arise in the first case? The female politicians are attitude holders. From their point of views, there is no coreference between the subject and the object in the infinitive. And Mc Cain need not know that he is showing each woman a picture of herself. Condition B arises due to the speaker's belief that in each case the politician is shown herself. In particular the context is such that no other way is given in the context to pick out which woman is shown in each case.
In contrast, the second case is fine. The context does provide an explicit way (the formal link) to identify which woman is shown in each case, namely 'the woman in the picture Mc Cain showed her'. While PRO and *her* are actually coreferential, the existence of such a description makes it possible to understand *her* as picking out that woman - who in fact may or may not have been "herself". This allows the speaker to present the content of the sentence from the point of view of someone (noted e_s here) who shares all his beliefs with the exception of knowing who the picture represents in each case, that is as if there was no coreference.

(38) [e_s [LOG [He didn't convince [any one of them]$_k$ [PRO$_k$ to vote for her$_m$]]

This removes the Condition B violation since k≠m for each woman. What matters is not what is actually the case, what matters is the perspective that the speaker takes regarding

logophoric operators.

what is the case, choosing to ignore certain identities. This is harder to do in the first case (although I think it is not completely impossible) because the use of a reflexive in the context skews it towards identifying the pictures as of these women.
Returning to the case (36c), it seems to me that the sentence is fine if we modify it as follows:

(39) Quant au tueur, Oedipe espère [PRO le punir]
As for the killer, Oedipus$_k$ hopes [PRO to punish him]

Even though the speaker knows that Oedipus and the killer are the same person, referring to the killer as "the killer" favors a construal of the adopted point of view as one in which this identity is ignored. Because of the availability of this option, I will now report the judgments with pronouns as #*, to indicate that whether condition B is violated or not depends on whose point of view is adopted.
It should be clear how this discussion generalizes to cases like (7) essentially without modification.[20]

Consider next the case of (8) repeated below:

(8) Oedipus has learned that Laius had a son without realizing that he himself is this son. He now thinks that Laius's son, who he of course does not imagine is Laius' killer, should take revenge by punishing Laius's killer. Oedipus says/thinks: 'Laius's son should punish Laius's killer'
I can truly report:

Amusant! Oedipe$_k$ pense qu' il$_k$ devrait se$_k$/le$_{\#*k}$ punir
Funny! Oedipus$_k$ thinks he^1_k should punish himself^2_k / him$_{\#*k}$

In this scenario, in Oedipus's mind (that is in his doxastic alternatives), *he*^{1} and *himself*^{2} do not corefer and neither refers to him. However, they are read as coreferential for me the speaker, that is as Oedipus in fact. Indeed, while Oedipus could truthfully utter his thought as: "Laius's son should punish Laius's killer", I could truthfully report his thought as "Oedipus actually thinks that Oedipus should punish Oedipus". The reasoning is the same as in the previous case. If we understand the embedded clause to be presented from my point of view, (8) meets the RB Condition A since I take these two pronouns to be covalued for me. The #* diacritic on the pronoun case is meant to encode that it is easy enough to remove a condition B violation by construing the pronoun *de dicto* only, as in *[As for Laius's killer]$_k$, Oedipus thinks he should punish him$_k$*.

Examples similar to (8) are already discussed in unpublished work (from 2009) by Simon Charlow to motivate a proposal concerning anaphor binding equivalent to the present one in (8) and similar cases but not generally. Charlow's proposal assumes that anaphor binding only cares about what the speaker thinks, that is about the values that DPs have when evaluated outside the scope of any intensional operators. This proposal is insufficient as Sharvit (2011) points out: it cannot handle cases where what non-speakers think matter, a point Sharvit (2011) makes by discussing FID cases to which we return. This point is also made by the logophoric context cases we discussed above.[21]

[20] There is substantial literature discussing the possibility of obviation of Condition B, see Lakoff, 1972, Evans, 1980, Reinhart, 1983, Grodzinsky and Reinhart, 1993, Heim, 1993, Roelofsen, 2008, Schlenker, 2005, i.a. Given the text, it is tempting to extend the treatment proposed here to more cases condition B case types, as well as some Condition C cases, perhaps in future work.

[21] The case can be also be made by "embedding" the *de re* cases in (8).

So we fundamentally agree with Sharvit (2011).[22] Where we differ with Sharvit's 2011 proposal is that we take the FID (or more generally the logophoric) cases as illustrating the general case, covering Heim's basic cases without the need to appeal to intermediate *de se* binders.

Overall then, what seems to matter for the binding conditions to be satisfied is whether covaluation is correctly reported to hold in at least one person's thoughts (this is why indirect discourse is crucially different from direct discourse), where this someone may be but need not be the speaker. This is the gist of the present proposal.

4.2 Some other cases of Heim's

Let us now turn to some cases Heim actually discusses, namely dream scenarios where we can, as Heim does, take *dream* to mean 'believe in a dream'. Suppose, inspired by a real life story, that the American actor Sean Penn (SP) dreams that he is El Chapo (EC, reportedly a drug kingpin), someone who he (SP) met in Mexico and interviewed.

(40) Reconstructing what Sean Penn says about this dream, at some point in this dream, El Chapo invites Sean Penn. Later El Chapo describes El Chapo to Sean Penn in

(i) Scenario: We are in scenario (1) to which we add that Oedipus' daughter Antigone is in the same epistemic state as Oedipus, but Tiresias the blind prophet knows the truth. Oedipus states: I hope I will punish the killer' and both Tiresias and Antigone say they believe he does. I report:

a. Oedipus$_k$ espère [$_{localdomain}$ PRO se$_k$/le$_{\#*k}$ punir]
Oedipus$_k$ hopes [$_{localdomain}$ PRO to punish himself$_k$/him$_{\#*k}$]

b. Antigone pense que le fils de Laius$_k$ espère [$_{localdomain}$ PRO se$_k$/le$_{\#*k}$ punir]
Antigone thinks that the son of Laius$_k$ hopes [$_{localdomain}$ PRO to punish himself$_k$/him$_{\#*k}$]

c. Tirésias pense que le fils de Laius$_k$ espère [$_{localdomain}$ PRO se$_k$/le$_{\#*k}$ punir]
Tiresias thinks that the son of Laius$_k$ hopes [$_{localdomain}$ PRO to punish himself$_k$/him$_{\#*k}$]

Paying attention to covaluation for the speaker works for the first two examples. In (i-a), Oedipus hopes 'I will punish the killer'. As far as I am concerned, PRO denotes the actual Oedipus. This last property makes PRO qualify as an antecedent for the reflexive: they are covalued for me. Similarly, in (i-b), *the son of Laius* is read *de re* (as Antigone thinks Laius had no son) hence the judgements (at least as long as I, the speaker, believe that the killer is the son of Laius; if not, the sentence is simply false).
But consider (i-c) and suppose now that *I* think Laius had no son, I am merely reporting what Tiresias said (namely 'the son of Laius hopes to punish himself). Since Tiresias also takes PRO to refer to Oedipus, binding is local. The judgments remain as indicated even though there is no covaluation for me the speaker: what matters is not what I think, what matters is what Tiresias thinks.
Similarly consider (ii):

(ii) Suppose further that Tiresias is under the mistaken impression that Oedipus is the king of Athens, whereas I know that Athens has no king. Tiresias says: the king of Athens hopes to punish himself. I have no idea who he means by *the king of Athens* and so who Tiresias means by *himself*, yet I can truthfully report:
Tirésias pense que [le roi d'Athènes]$_k$ espère [$_{localdomain}$ PRO se$_k$/le$_{\#*k}$ punir]
Tiresias thinks that [the king of Athens]$_k$ hopes [$_{localdomain}$ PRO to punish himself$_k$/him$_{\#*k}$]

The anaphor is fine and the pronoun is not. Yet, there is no *de re* option available since there is no king of Athens: what derives these facts is that the antecedent of PRO, hence PRO, must be read *de dicto* only relative to Tiresias, like the reflexive. Once again, requiring coreference for the speaker is too strong.
Finally, modify this very last scenario and assume now that Tiresias does not know that Oedipus is the killer and says: the king of Athens hopes to punish himself. Now the judgements in (ii) for the reflexive is reversed. The reason is that there is no thinker for whom covaluation holds.

[22] Sharvit also notes that this proposal does not handle Condition B effects, but it seems to me that it could be generalized to Condition B cases.

detail. Suppose I the speaker report:
According to Sean Penn, in this dream (d'après Sean Penn, dans ce rêve)

a. A un moment, il (EC) se/#*le (SP) s'invite au Mexique
   At some point, he (EC) invites himself/him (SP) to Mexico
b. Plus tard, il (EC) se/#*le (EC) décrit en détail
   Later, he (EC) describes himself/him (EC) in detail

(40) works as expected: El Chapo inviting Sean Penn is fine because from my point of view, El Chapo in the dream is in fact Sean Penn, so Condition A is satisfied for me. El Chapo describing El Chapo is fine too as this is what El Chapo does: Condition A is satisfied 'in the dream'. So the reflexive is ambiguous.[23] If we replace the reflexive with a pronoun (in the same context), the pronoun gives rise to a #* Condition B effect: there a is condition B effect (since Sean Penn actually talks about Sean Penn), unless we relie on descriptions made available by the context, where *he* means El Chapo (who Sean Penn thinks he is in the dream) and *him* means Sean Penn in the dream.

But Heim notes for German, and Pearson (2015b) reports for English, that things are different in case the speaker is Sean Penn himself. Indeed, judgments differ from the third person case. So suppose now that Sean Penn himself is speaking.

(41) Sean Penn can say: I dreamt that I was El Chapo and that
   a. At some point, I (EC) invited *myself/ ✓me (SP) to Mexico
   b. Later, I (EC) described ✓myself/ *me (EC) in detail

The judgements are different from what is observed in (40): in (41) why is it that
(i) there is no condition B effect (English *me* is fine)
(ii) the 1st person reflexive is unambiguous (while the third person reflexive was).

Granting the latter, the former follows from Rule I. Rule I (originally due to Grodzinsky and Reinhart, 1993, but subsequently modified, e.g. in Reinhart, 2006, or Heim 2007) (to which I refer for discussion) overrides a Condition B effect, if it yields a reading not otherwise available. Rule I would apply here because the pronoun (instead of a reflexive) yields a reading otherwise not available (not the one with the reflexive), as in e.g. well formed cases (slightly modified from what Heim, 2007 e.g. discusses, to avoid an irrelevant confound): *every devil$_{j,k}$ believes that only he$_j$ thinks that he$_j$ likes him$_k$*, where *him* is not most locally bound. Even though *he$_j$* and *him$_k$* are covalued, no Condition B arises because this indexing yields a reading not otherwise available (namely the reading where every devil x believes that nobody else y thinks that y likes x). This leaves us with the question why the reflexive is not ambiguous.
In (40), the speaker (me) and the attitude holder (Sean Penn) are clearly different. But in (41), Sean Penn the speaker and Sean Penn the dreamer are identical: they both are the very same Sean Penn with the same thoughts and beliefs about everything relevant. In the

[23] A third option, Sean Penn inviting El Chapo to Mexico is pragmatically odd but reportedly excluded, the *Oneiric Reference Constraint*, an example of a *de re* blocking effect discussed in Percus and Sauerland (2003b), Anand (2006) and Sharvit (2011) (but see Cappelen and Dever, 2013 for a different view). Thus the claim is that if at some point in the dream, Sean Penn invites El Chapo to a movie set, the following report is not allowed:

(i) In this dream, il (SP) s'(EC) invite sur un plateau de tournage
   In this dream, he (SP) invite himself (EC) to a movie set

reading that obtained before, Condition A was satisfied for the speaker only. But since the speaker and the dreamer are identical, If Condition A is satisfied for the speaker, it cannot fail to be satisfied for the dreamer. Or to put it differently, the embedded clause cannot fail to be presented both from the point view of the speaker and of the dreamer. Given the latter, we expect (41) to behave as in its closest intuitive direct discourse counterpart, namely:

(42) Sean Penn says: 'I invited myself'

which must be interpreted as self-inviting.
Now if we modify the context and assume that Sean Penn reports a dream he had when he had had different thoughts and beliefs, we introduce a distinction between the actual present day Sean Penn and his earlier self and their points of view. In such a case, the judgments in (41) change:

(43) Two years ago, right after interviewing El Chapo, I had an accident. For some time after it, I thought I was El Chapo's best childhood friend. During that time, I had a dream in which I was El Chapo and:
I (EC) had invited ✓myself (SP) to dinner

Here the reflexive *myself* is again ambiguous because the point of view of the speaker (present day Sean Penn) is different from the point of view of the attitude holder (deluded Sean Penn) much like what we had with third person. As a result, *I invited myself* can be seen from the point of view of present day SP only and the resulting meaning is that in the dream, EC invites his best childhood friend. This type of effect is illustrated in some FID cases from Sharvit (2011) discussed later in which the same person is involved but with different beliefs: see the discussion of (54).

For independent reasons, it is not possible to illustrate these effects in French with identical examples as Condition B basically only arise with clitic pronouns, and the first (or second) person clitics are ambiguous between a reflexive and a pronoun. The non ambiguity of the reflexive can be illustrated with non clitics:

(44) Sean Penn can say: in this dream last night I was El Chapo and
a. A un moment, je (EC) parle de moi(∗-même) (SP)
'At some point, I (EC) talk about me/∗ myself (SP) '
b. A un moment, je (EC) parle de moi(-même) (EC)
'At some point, I (EC) talk about myself/me (EC)'

Adding a deluded Sean Penn perspective:

(45) Two years ago, right after interviewing El Chapo, I had an accident. For some time after it, I thought I was El Chapo's best childhood friend. During that time, I dreamt I was El Chapo and that: A un moment, j' (EC) ai parlé de ✓moi(-même) (present day SP)
'At some point, I (EC) talked about me/ myself (present day SP) '

5 Free Indirect Discourse Cases

All the cases but a couple (namely (53) and (55)) in this section are discussed in Sharvit (2011) from which the text in this section extensively and **literally** borrows. I also modify

some examples slightly to be able to make the point in French. The point here is to illustrate that the RBC as stated in (31) can handle them, in particular the contrast between first and third person in F(ree) I(ndirect) D(iscourse).

Sharvit (2011) brings some complex examples involving FID to bear on the proper formulation of the binding theory to show that a variety of proposals face challenges, in particular that of Charlow (2010) according to which the binding theory cares only about the speaker's beliefs. As mentioned, the current proposal is equivalent to proposals taking the point of view of the speaker only in simple examples. However, it allows paying attention to attitude holders other than the speaker and this is relevant in FID.

F(ree) I(ndirect) D(iscourse) is a form of reported speech or thought that seems to be a hybrid of S(tandard) I(ndirect) D(iscourse) (embedding by an attitude verb such as *say, believe, convince, suggest, dream*, etc.) and quotation, as illustrated below (for discussion, see Banfield (1982), Doron (1991), Schlenker (1999), Sharvit (2008), and references therein).

(46) 'Do you love me?' asked Flora.
   a. FID: Elie answered with great passion. Yes, he loved her, and he would definitely marry her, if not today then tomorrow.
   b. SID: Elie answered with great passion that he loved her, and he would definitely marry her, if not that day then the next day.

The sequence *Yes he loved her and he would definitely marry her if not today then tomorrow* is FID. We infer from it that Elie said 'Yes, I love you, and I will definitely marry you, if not today then tomorrow'. If we wanted to report this using SID, we would say something along the lines of 'Elie confirmed that he loved her and said that he would definitely marry her, if not that day then the following day'. In some respects (e.g. the fact that the speaker-oriented *yes* and the time adverbials *today* and *tomorrow* reflect Elie's point of view), the FID sequence resembles the corresponding quotation. In other respects (e.g. the fact that the third person pronouns *he* and *she* take the place of *I* and *you* in the corresponding quotation), the FID sequence resembles the corresponding SID sequence.

FID-Control constructions license third person reflexives in *de se* situations but not in *de re* situations. Thus, (47a) is a well-formed continuation of Flora wishing she could go back to her singing days that uses quotation, (47b) is a well-formed continuation that uses SID and (47c) is a well-formed FID continuation. All three continuations report a *de se* thought.[24]

(47) Flora wished she could go back to her singing days and be proud of herself again.
   a. She thought: 'Ah! To hear myself sing and be proud of myself again!'
   b. She wanted to hear herself sing and be proud of herself again.
   c. Elle était pleine de nostalgie. Ah! s'entendre chanter et être fière
      She was filled with longing. Ah! To hear herself sing and be proud
      d'elle-même de nouveau!
      of herself again!

By contrast, the FID *To hear herself sing again* is unacceptable as reporting a *de re* thought,

[24] As mentioned, almost all of the following examples come from Sharvit (2011). I adapt them to French: in French, *me* can stand either for a 1st person pronoun or a reflexive. To make the difference conspicuous, I use the complement of an adjective (here, *fier/proud*), where the pronoun *elle, lui, moi* and the reflexive *elle-même, lui-même, moi-même* are different.

as shown by (48c); but the corresponding SID in (48b) is acceptable.

(48) Flora was listening to an old recording of hers on the radio, not recognizing her own voice. The radio suddenly stopped playing, and she was disappointed that she couldn't make it play again.

a. She thought: 'Ah! To hear this woman sing again!'
b. She wanted to hear herself sing again.
c. Elle était frustrée. *Ah! S'entendre chanter encore!
She was frustrated. *Ah! To hear herself sing again!

Why do we find this pattern? To address this question, we need some preliminaries:

Preliminary #1 We assume with Sharvit (2008) the mandatory presence of a silent intensional operator, the FID operator, that scopes over all the FID string. In fact, we take this silent operator to be a special case Charnavel's 2013 LOG operator, and thus to be syntactically represented, with its subject interpreted as referring to the FID attitude holder.

Preliminary #2 Unlike what happens in SID, the FID operator blocks all *de re* descriptions as noted as early as Reinhart (1975), but following Sharvit (2008) here, with one exception to be detailed below: the speaker's thoughts about the content of the FID are not accessible, only descriptions by the FID attitude holder and in the FID attitude, *de dicto* descriptions relative to the FID attitude holder, are. This is what we expect from the presence of LOG: the content of the FID is presented from the FID attitude holder point of view only.
The one exception is that person features on pronouns referring to the speaker or their adressee(s) or to the attitude holder reflect the speaker's beliefs, not the FID attitude holder's. Following Doron (1991), we can illustrate that the reference of first person pronouns or of second person pronouns (unlike that of third person pronouns) does not shift (to the FID attitude holder or his addressee) in FID (italicized), as illustrated in (49).[25,26] We also see, as earlier, that the attitude holder refers to himself by using a first person pronoun, but the speaker refers to him with a third person pronoun.

(49) I say: As Elie looked at my picture (me= Lydia) and your picture (you = Charles, Lydia's addressee), his mind filled with sad thoughts. *Yes, yes, I would probably leave him soon to be with you and we would travel to the Far East.*

Elie's reported thought (while he is looking at (Lydia's =) the speaker's picture) is: 'This woman will probably leave me soon to be with Charles, and they will travel to the Far East.'

Preliminary #3 is a subcase of preliminary #2: As Sharvit (2008) discusses, the number and gender ϕ-features on third person pronouns in FID, unlike third person pronouns in

[25] According to (Sharvit, 2011, fn 19, p. 86), there is some disagreement in the literature regarding the interpretation of first person pronouns in FID, specifically, between Banfield (1982) and Doron (1991). In what follows, I accept Sharvit's reported judgments who states 'those speakers for whom an unbound first person pronoun always refers to the speaker/author of the utterance context, also accept an unexpected Condition A effect with *myself*, this effect being discussed below, as I am one of these speakers.

[26] Presumably, in a language shifting indexicals, this would not have to happen.

SID, must reflect the indirect discourse thinker's perspective regarding the gender/number of the individual denoted by that pronoun; not the speaker's.[27] This is based on contrasts such as the contrast between the SID in (50a) and the FID in (50b), concerning the italicized pronouns.

(50) Context: Elie is observing Aaron (who is wearing a dress and a wig) and mistakes him for a woman. In addition, he thinks that Aaron is attractive.
   a. SID: Elie looked at Aaron. His mind was filled with exciting thoughts about the man standing in front of him, who seemed to him to be a woman. He thought that *he* was very attractive. He also thought he ought to ask *him* out.
   b. FID: Elie looked at Aaron. His mind was filled with exciting thoughts about the man standing in from of him, who seemed to him to be a woman. Really, *she/*he* was very attractive; he should ask *her/*him* out.

Since (50a) is an instance of SID embedding under an attitude verb (*think*), *he* is appropriate: it is a *de re* pronoun, which reflects the speaker's beliefs regarding the gender of the referent of *he* (but see footnote 27 below). On the other hand, (50b) is an instance of FID; here, only *she* is the appropriate pronoun to use because it reflects the beliefs of Elie (who mistakes Aaron for a woman).
But as stated in the preliminaries above, some *de re* descriptions of material in the scope of the FID/LOG operator are available: they concern (i) who the FID attitude holder actually is (ii) who the actual speaker and speaker's addresse(s) are. These are described using the person features (but possibly not the gender features) normally used in SID. In particular, this means that the PRO subject of the infinitive in (47c) and (48c) is (and must be) seen by the speaker as the FID attitude holder (*de se* in fact).
This is not surprising as the very same properties are found in SID in the scope of a LOG operator. Thus, I must report Charles's utterance in (51a) as in (51b):

(51) a. Charles says: 'gryphons groom themselves and me but not you every morning'
   b. Charles thinks that gryphons groom themselves and **him** but not **me** every morning
   c. Charles$_k$ thinks that [e$_k$ [LOG [gryphons groom themselves and **him** but not **me** every morning]]]

Given that I do not believe in gryphons, and *gryphons* binds the object, the object in the embedded clause is reported from Charles' s point of view, that is as represented in (51c) with both *him* and *me* read *de re* as in FID.

Given these preliminaries, why is (47c) fine and (48c) out?
Sentence (47c) fine because the PRO subject of *hear* and the referent of *herself* are both seen as who Flora thinks she is by Flora. There is covaluation for Flora, which licenses the reflexive.

[27] Although it is sometimes reported that in SID, the gender features on a pronoun must reflect the speaker's perspective, I also readily accept feminine gender on the italicized pronouns in (50a), so as a *de dicto* pronoun, even if there is no contextual information that would help treat this pronoun as an E-type pronoun. I am thus more liberal than Sharvit, 2004, p. 310. Further more this is also true for me for number. Thus imagine that Leila plays tricks on people. Lydia mistakenly thinks that Leila does it with the twin sister (that she in fact does not have). I can report: 'Lydia thinks that they play tricks on people' even though I know perfectly well that Lydia is acting alone. In FID, the use of 'they' would be mandatory, to report Lydia's thoughts.

Sentence (48c) is out because the PRO subject of *hear* and the referent of *herself* are not covalued for anyone. What I may think is irrelevant since the FID is presented from Flora's perspective. And Flora take PRO to be herself *de se* but does not recognize the singer as herself. So the reflexive is counterlicensed.[28]

Sharvit (2008) remarks that first person reflexives can be used to report both *de se* and *de re* thoughts, as illustrated in (52) and (54). Begin with the *de se* case:

(52) *de se*: A month ago, I listened to an old recording of my own voice, and wished I could go back to my singing days and be proud of myself again.
   a. I thought: 'Ah! To hear myself sing and be proud of myself again!'
   b. I wanted very much to hear myself sing and be proud of myself again.
   c. J'étais frustrée. Ah! M'entendre chanter and être fière de moi-même
      I was frustrated. *Ah! To hear myself sing and be proud of myself
      encore!
      again!

This case is like (47c): there is covaluation for the FID attitude holder, who is now also the speaker: a first person pronoun is used both in direct discourse and in FID.

Let's now turn to *de re* case. Let us begin with the following case.

(53) *de re*: A month ago, when Lydia woke up from a coma, she did not know who I was anymore. she listened to an old recording of me, not recognizing my voice. Suddenly, the radio stopped playing, and she was frustrated that she could not make it play again.
   a. she thought: 'Ah! To hear this man sing again!'
   b. she wanted very much to hear me sing again.
   c. Elle était frustrée. Ah! m'entendre chanter encore
      She was frustrated. Ah! To hear me sing again!

Some but not all speakers allow the first person pronoun in (53c). The reason is that it is read *de re* in a "stronger" sense than under the exception noted in preliminary #2. In preliminary #2, the FID attitude holder has thoughts about an individual who she would be ready to identify as being the speaker at the time at which she had this thought. Using a first person pronoun is true to the content of her thought, not *de dicto* but truth conditionally equivalent to *de dicto*.[29] Here the report is not true to the content of her thought at the time: even though I am the singer, she would not be ready to identify this singer as me. My using *me* to refer the singer is not truth conditionally faithful to her thought as she construes it.
Now speakers allowing (53c) also allow a reflexive first person pronoun in such cases. Assume Lydia is speaking, she now believes that she is Lydia, and she is indeed.

(54) *de re*: A month ago, when I woke up from a coma, I did not know who I was. I listened to an old recording of myself, not recognizing my own voice but recognizing

[28] It is this last fact that Sharvit (2011) notes argues against theories of anaphor binding such as Charlow's 2010 which limit covaluation requirements to covaluation for the speaker.
[29] This very much recalls the cases discussed in Kaufman (2011) or Sudo (2014) where a truth conditional equivalent *de re, non dicto* predicate can be used.

the singing style I had pioneered. Suddenly, the radio stopped playing, and I was frustrated that I could not make it play again and feel proud of this singer .

a. I thought: 'Ah! To hear this woman sing again and feel proud of her!'
b. I wanted very much to hear myself sing again and feel proud of myself.[30].
c. J'étais frustrée. Ah! m'entendre chanter encore et me sentir fier de
   I was frustrated. Ah! to hear myself sing again and feel proud of
   moi-même!
   myself!
d. J'étais frustrée. Ah! si seulement je pouvais m'entendre chanter encore et
   I was frustrated. Ah! if only I could hear myself sing again and
   me sentir fière de moi-même!
   feel proud of myself!!

Sharvit (2011) reports (54c) as well formed with respect to Condition A. In the scope of the FID operator, there is no coreference. But because the direct object refers to the speaker within the scope of this FID operator, it is possible for the speakers who accept (53c) to use first person features on the direct object. However and crucially, *PRO* subject of the infinitive refers to the speaker for the speaker, it can like all such occurrences be read *de re* (and must be read *de se*, as usual, but not relevantly here). This suffices for the reflexive to satisfy Condition A since there is local coreference for the speaker.
That this is so, is corroborated by (54d), the FID tensed counterpart of (54c) in which the subject of the reported thought is *I*, that is seen as the speaker by the speaker now. In conclusion, this *de re* case is thus accounted for as well as it now becomes like case (3b): PRO and *myself* are both seen as the speaker for the speaker in fact.

Of course, for Sharvit (2011) that *PRO* is read *de se* is crucial to the well formedness of (54c). However, we can show as we did in case (12) that it is not sufficient.

(55) Charles is a singer. He is under the delusion that he is the fifth Beatle (which he is of course not as there are only four Beatles) and proud of it and reminds everyone including himself of his rock star status by referring to himself as the fifth Beatle. A month ago, when he woke up after a head trauma, he listened to an old recording of himself, not remembering the song and not recognizing his own voice. He found the song inspiring and wanted to hear it again as it would be suitable for a star like him to perform. But his phone battery went dead and he was frustrated that he could not make it play again.

a. He thought: 'Ah! if only the fifth Beatle (that I am) could hear this man sing again!'
b. He wanted very much the fifth Beatle to hear himself sing again.
c. His mind was filled with frustrating thoughts. Ah! if only the fifth Beatle (that he was) could hear himself sing again!

Even though the expression *the fifth Beatle* picks out Charles for Charles, that is, is him *de se*, sentence (55c) is false. The reason is that there isn't anyone for whom there is coreference between *the fifth Beatle* and *himself*. The fifth Beatle is Charles for Charles, but he does not recognize himself so there is no coreference for him. Although for me, *the fifth Beatle* does pick him out - I know about his delusion - and would corefer with *himself* read *de re*,

[30] As discussed, SID also allows: *I wanted very much to hear her again and feel proud of her*, where the infinitive is presented from the point of view of who I thought I was then.

my thoughts do not matter in the scope of the FID operator.

In conclusion, treating FID as a case of logophoric context is consistent with the data discussed. But there are differences too, in particular regarding which indexicals shift and which do not. As we saw, in FID, person features are reported from the point of the speaker not from that of the attitude holder as in logophoric contexts in SID. But temporal adverbials are not, unlike what happens in SID, at least in English. Optimally this could follow from the fact that the FID operator is an unembedded type of logophoric operator but further investigation is needed.[31]

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[31] As noted earlier, it would be worth while exploring what happens in FID in languages which, unlike English, allow indexical shifts in SID.

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