

# “Between Scylla and Charybdis”: The semantics and pragmatics of attitudes “de se”

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It is widely accepted that there is a huge gap between the meaning of a sentence and the messages actually conveyed by the uttering of that sentence (Huang 2007).

But why do we need clear, sharply demarcated boundaries at all, when pragmatics is in constant development, so that boundary markers, once placed, will have to be moved all the time? Maybe a “pragmatic definition of pragmatics could be found that avoids both the Scylla and Charybdis of the above alternative? (Mey 2001: 7).

## *Abstract*

*In this paper I propose that pragmatic principles and mechanisms are at play in the recovery of ‘de se’ attitudes in English (and in Italian), in cases in which grammatical and semantic information does not exclusively determine the ‘de se’ interpretation. I claim that the pragmatic processes at work in utterances reporting ‘de se’ attitudes are cases of free enrichment. In free enrichments, although there does not seem to be either an overt indexical or a covert slot in the linguistically decoded logical form of the sentence uttered, the logical form nevertheless needs to be conceptually enriched in the explicature (Huang 2007: 191). I develop my view in the relevance-theoretic framework, according to which the human cognitive system works in such a way as to tend to maximize relevance with respect to communication, the principle of relevance being responsible for both the explicit and implicit content of an utterance. However, I should acknowledge that I was also influenced by Levinson’s (2000) ideas about pragmatic intrusion. I propose to add another type of intrusive construction: attitudes ‘de se’.*

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## 1. Introduction<sup>1</sup>

Since Mill (1867), there is a convergence in pragmatics on the idea that “What a speaker intends to communicate is characteristically far richer than what she directly expresses; linguistic meaning radically underdetermines the message conveyed and understood. Speaker S tacitly exploits pragmatic principles to bridge this gap and counts on hearer H to invoke the same principles for the purposes of utterance interpretation” (Horn 2004). In the spirit of Horn’s programmatic assertion, in this paper I shall deal with utterances reporting attitudes “de se” and I shall suggest that pragmatic principles and mechanisms are at play in the recovery of “de se” attitudes, in those cases in which grammatical and semantic information does not exclusively determine the “de se” interpretation. The examples I shall consider are cases like “John believes he is clever” or “John remembers walking in Oxford”, where a subject has a thought or a memory about himself/herself (the subject of the thought) and these are contrasted with examples like “John believes he is clever” (“He” used here to refer to someone other than John, whom the speaker is pointing to), in which the pronominal has a “de re” interpretation. In cases like “John remembers walking in Oxford” I assume, following Higginbotham (2003) that PRO (the null subject of the subordinate clause) is associated with a “de se” interpretation).

I shall argue that “de se” attitude attributions are not completely reducible to pragmatic mechanisms that take input from “de re” logical forms. I propose that the pragmatic processes at work in those cases where semantics and grammar do not fully determine the “de se” reading are cases of free enrichment (John believes he\* is clever). In free enrichments, although there does not seem to be either an overt indexical or a covert slot in the linguistically decoded logical form of the sentence uttered, the logical form nevertheless needs to be conceptually enriched in the explicature (Huang 2007: 191). I cast my view in the relevance-theoretic framework, according to which the human cognitive system works in such a way as to tend to maximize relevance with respect to communication, the principle of relevance being responsible for both the explicit and implicit content of an utterance. However, it should also be said that I was greatly influenced by Levinson’s (2000) ideas about pragmatic intrusion. I propose to add another type of intrusive constructions: sentences expressing attitudes “de se”.

The article has the following structure. I initially present philosophical theories of “de se” attitudes, starting from Castañeda (1966). I then discuss a linguistic treatment of “de se” attitudes (Higginbotham 2003). In the final sections I discuss pragmatic intrusion and I distinguish cases in which “de se” inferences are cancellable and those where they are not. I propose that PRO is associated with “de se” beliefs through semantics alone (pragmatics is not involved), but that the internal dimension of PRO is a pragmatic inference. I also

propose that Higginbotham’s treatment does not do justice to the fact that “de se” beliefs involve a mode of presentation that incorporates a mental tokening of “I”. This component of meaning is on top of Higginbotham’s semantics for PRO first-personal readings. (I modify his semantic elucidations to accommodate this intuition). As Recanati (2007) says, “Indeed, the ability to entertain implicit *de se* thoughts is arguably a necessary condition for anyone to evolve the concept EGO (Recanati 2007, 177). Analogously, I propose that there can be no “de se” thought without a mode of presentation that somehow vocalizes the word “I” (albeit in thought) or some transformation of it. My proposal is that the content of this word “I” is mixture of a demonstrative and of a proper name and has to supplement Higginbotham’s treatment of the first-personal reading of PRO.

To be even more schematic, I claim that “de se” interpretations associated with the pronominal “he” (those cases for which Castañeda uses the asterisk) are pragmatic and I explain how pragmatics predicts them. Through pragmatics, I also predict a number of “de re” interpretations. The external first-personal dimension of PRO in constructions such as “John remembers going to the cinema” is semantically “de se”, following Higginbotham (2003).

Hornian, Levinsonian and relevance theories bear on the present analysis in that (1) they assume that there is a gap between the sentential meaning and utterance meaning, as is also attested in the case of “de se” intrusive constructions; 2) they provide the principles of the analysis of the pragmatic inferences which in some, but not in all cases, are responsible for “de se” interpretations. 3) These theories are compatible with Jaszczolt’s (2005) theory of merger representations, representations in which semantic, pragmatic and socio-cultural information merge to produce propositional forms that are truth-evaluable.

In my paper I consider the list of factors in Table 1 for the purpose of my pragmatic analysis.

In particular, I argue that “imagine”, and “expect”, “dream”, “know” are different from “remember” in terms of the internal dimension.

Table 1. *List of factors in ‘de se’ attitude analysis*

Expressions	Verbs	‘de se’ or ‘de re’	Internal	External
PRO	Believe	de se	Semantic	Semantic
He, him	remember	de re	Or	Or
His	imagine		Pragmatic	Pragmatic
himself	Expect			
He himself	Dream			
	Forget			
	Know . . .			

## 2. Philosophical perspectives on “de se” attitudes and ego-like concepts

Although my treatment is a linguistic one, in that it mainly deals with interpretations of utterances and with a systematic exploration of minimal pairs, there is no denying that the topic originated in philosophy. I therefore start this paper with an orderly presentation of theories of “de se” beliefs and other (propositional) attitudes. The verbs we are going to analyze are verbs such as “believe”, “remember”, “imagine”, “want”, etc., which are usually referred to as verbs of propositional attitude. Since “de se” beliefs specifically raise doubts as to whether propositions are involved in the analysis of such verbs, it is best to use the neutral term “attitudes”. The theory of “de se” attitudes is clearly a topic within the philosophy of mind; however, here I shall be more narrowly concerned with the linguistic implications of the philosophical theories. In other words, I shall be mainly preoccupied with matters of inference and, specifically, of linguistic entailment. It is not possible, in this section, to review in great detail all the articles or books on “de se” beliefs—and I am sure there are ramifications we have to explore in the future. However, it is possible to follow the ideas on “de se” interpretations as triggered by Castañeda’s seminal article which is the basis for my pragmatic interpretation of “de se” attitudes, through the development by Perry who insists on the causal efficacy of having “de se” thoughts. The discussion of Millikan is essential to my claim that “de se” readings involve the use in thought of an indexical like “I”. Harcourt explores the view that “I” could be an implicated component of “de se” readings. This too connects with my idea that “de se” readings involve the concept of “I”.

### 2.1. “De se” vs. “de re” attitudes

According to Castañeda, there is a difference between (1) and (2)

- (1) The editor of Soul believes that the editor of Soul is a millionaire;
- (2) The editor of Soul believes that he\* is a millionaire.

Specifically (1) can be true, without its being the case that (2) is true. Suppose that John has been informed of the fact that the editor of Soul has inherited a huge sum of money: then he knows that the editor of Soul is a millionaire. However, he has not been informed of a sudden change in the board of Soul and, specifically, he does not know that he himself has been appointed editor of Soul. Then he does not know that he himself is the editor of Soul, albeit he knows that the editor of Soul is a millionaire. Since the pronominal “he” is ambiguous between a “de se” and a “de re” interpretation, Castañeda uses the asterisk to disambiguate. The asterisk will turn the pronominal into an *essential indexical* (presumably it is these asterisks which are the topic of our prag-

matic analysis, a linguistic fact neglected or not brought into focus by the philosopher and his followers).

Perry (1979) develops the considerations by Castañeda, by linking the “de se” notion to the theory of action, claiming that the “de se” concept is causally active. Perry (1979) holds a line of thought similar to Castañeda’s. His story about the supermarket is an impressive attempt to connect the issue of belief (and, in particular, de se beliefs) with the theory of action. John Perry is in a supermarket and sees a trail of sugar left by what he thinks is a different shopper. He follows the trail of sugar because he wants to tell the unaware shopper about it, until it dawns upon him that he (himself) is the messy shopper. He stops following the messy shopper when he understands that he himself is the messy shopper. The belief that the messy shopper is leaving a trail of sugar in the supermarket is not causally relevant to taking action, instead the belief that he himself is leaving a trail of sugar will prompt him to take action. The mode of presentation involved in the belief state is, thus, causally involved in determining a certain action and it is important that a first-personal mode of presentation causes an action which would not be caused by a non-first-personal mode of presentation. The account presented so far is, in principle, compatible with Castañeda’s considerations.

Perry (2000) differs significantly from Castañeda’s ideas, though. He focuses on the pragmatic nature of the inference involved in a sentence such as (3)

(3) Privatus believes that he(\*) is rich.

According to him, that “he\*” is an essential indexical is due to a pragmatic process (Perry does not bother to explain the details of this process)—in fact, the inference can be cancelled. Suppose that Privatus is acting in a play and that a speaker utters (3) meaning that Privatus believes that the character he is acting out is rich. It follows that Privatus does not believe himself to be rich. Hence the interpretation of “he\*” as an essential indexical is not a semantic one (and it is optional, as indicated by (\*)). Since the interpretation is due to a pragmatic process, it can be cancelled (in this case it is cancelled by contextual assumptions).

Furthermore, Perry believes that (4) is only apparently “de se”:

(4) The dean was surprised to find that he believed himself to be overpaid.

Such a sentence can be uttered in a context in which the dean has complained that professors who publish less than ten articles per year are overpaid. (It just happens that the dean has published less than ten papers per year, but does not remember that). It is clear in this context that (4) does not mean that the dean believes himself to be overpaid. Perry reflects on some interesting cases of cancelability, thus paving the way for a pragmatic theory of belief reports (the

question whether he is simply making use of parasitic or etiolated cases of language use is not important for the time being; I hope to be able to place the pragmatic theory on a more solid footing).

Unlike Perry and others, Millikan (1990) proposes that essential indexicals are different from ordinary deictic expressions. Millikan, unlike Perry, believes that deictic expressions have nothing to do with action. In fact, only in the case in which the deictic expression identifies the first person perspective in action, is action influenced by the deictic expression, but this is the case in which the deictic expression is nothing but a mode of presentation of the ego. The author believes that there is a noteworthy difference between ordinary deictic expressions and the essential indexical. Ordinary deictic expressions have their referents identified through the context of utterance. Instead, an essential indexical is necessarily related to the first person perspective, as the thinking subject directly presents himself to conscience. For Millikan it is reasonable to use a mode of presentation (e.g., @RM) similar to definite descriptions or proper names except for the fact that its use implies the identity  $I = @RM$ . This mode of presentation is connected with dispositions to act and, in this sense, is causally active.

Harcourt (1999) too believes that essential indexicals have a first-personal interpretation and resorts to a conventional implicature analysis. Harcourt makes use of a Davidsonian theory of propositional attitudes and believes that it is useful to analyze e.g., Mario believes that Joan is in Paris as (5)

(5) Mario believes that: Joan is in Paris.

The crucial problem for Harcourt is to explain how first-personal modes of presentation interact with the theory of action, while preserving semantic innocence. In fact, changing the example, and using a “de se” case, the problem is how to relate

(6) Mario believes that he\* is happy

(7) Mario believes that: he is happy

in such a way as to preserve semantic innocence. It is interesting that Harcourt discards one move that is available to him, that of conversational implicature. If he resorted to this move, he could explain how, despite the fact that (6) can be analyzed in terms of purely extensional semantics, a first-personal perspective is conversationally implicated through the usage of a logical form such as (7). Harcourt gives up the implicature hypothesis, because, in his opinion, it is not possible to test the hypothesis due to the ambiguity of the sentence and because according to interpretationism (which is the view he accepts), the interpretation of the embedded sentence requires that the first-personal interpretation be a semantic component of the content of the embedded sentence. However, it should be said that all interpretationism requires is that the embedded

sentence be semantically interpreted as in the original utterance, (7), pragmatic increments being on top of that. The question of the ambiguity is easily resolved by resorting to Modified Occam’s razor, which enjoins us not to multiple senses if simpler hypotheses can be considered (see Grice 1989, Jaszczolt 1999, Ariel 2008).

Harcourt believes that the essential indexical implies an original context of use in which the thinking subject presented himself as “I” (I take he is invoking the notion of conventional implicature)—however, it is difficult to see how this treatment can preserve semantic innocence, given that only the character of the expression “he\*” in (6) can guarantee such an implication. Harcourt’s theory, instead, works much better in case he is willing to defend a conversational implicature analysis.

So far we have seen cases where philosophers invoked a special “de se” concept, which was said to be causally active. The philosophical treatments of “de se” attitudes include recent work by Feit (2008) and Stalnaker (2008). However, for the sake of space, I cannot deal with them.

### **3. A Linguistic treatment: PRO and “de se” attitudes in Higginbotham (2003)**

So far, we have only considered philosophical treatments of “de se” attitudes. At this stage, I propose to discuss Higginbotham’s views, because they provide an analysis which makes it particularly clear and vivid that a “de se” attitude entails a “de re” attitude, which is what we require for our analysis based on informativeness and pragmatic scales or on contextual effects and processing efforts. Higginbotham (2003) considers a range of data such as the following:

- (8) John expects to win
- (9) John expects that he will win;
- (10) John expects that he himself will win.

Higginbotham considers that (9) does not necessarily have a “de se” interpretation, while (8) and (10) necessarily have a “de se” interpretation. He also says that syntactic constructions with PRO (where PRO is anaphoric) are even more first-personal than constructions such as (10). There is an ambiguity about (9) that allows the possibility of a “de re” interpretation as well (albeit the “de se” interpretation is preferred, and this fact demands a pragmatic explanation). Higginbotham makes use of Peacock’s (1981) idea of a “de se” mode of presentation:

Suppose that there is a special mode of presentation “self” that a thinking subject *x* can use in thinking of himself, but not in thinking of people other

than himself, and that others cannot use in thinking of *x*. A “de se” thought will use an occurrence of [self<sub>*x*</sub>] indexed to *x*.

The constructions that host “de se” modes of presentation include verbs such as “imagine”, “remember”, “dream”, “pretend”, “know oneself”, etc. Higginbotham compares the following sentence types:

- (11) John remembered [his going to the movie];
- (12) John remembered [him going to the movie];
- (13) John remembered [himself going to the movie];
- (14) John remembered [PRO going to the movie].

Unlike the other cases, (13) and (14) report “de se” thoughts.

Given these facts, Higginbotham shows that the validity of the following deductive argument crucially depends on the presence of PRO, if a pronominal was substituted for PRO, it would become invalid:

Only Churchill gave the speech.

Churchill remembers [PRO giving his speech]; therefore

Only Churchill remembers [PRO giving his speech].

If we replace “Only Churchill remembers giving his speech” with “Only Churchill remembers his giving his speech”, the argument is not valid.

An important linguistic fact noted by Higginbotham is that gerundive complements of “remember” are associated with particular interpretations, according to which the remembered event is a *perceived* event. Thus, there is a difference between

- (15) I remember giving a lecture at the University of Messina on 3<sup>rd</sup> November 1988;
- (16) I remember that I gave a lecture at the University of Messina on 3<sup>rd</sup> November 1988.

I remember the event of the lecture through my *direct experience* of the event, given the semantics of (15); instead, I may merely remember that the event as described in the complement of “remember” in (16) through someone else’s assertion, given the semantic import of (16).

To corroborate the considerations above, Higginbotham uses the example below:

- (17) My grandfather died before I was born. I remember that he was called “Rufus”. But I do not remember his being called “Rufus”.

If “remember that” and “remember + gerund” had the same semantic import (if they contributed in the same way to truth conditions), then (17) would have to be a logical contradiction. But it is not. Hence the two constructions are associ-



ated with different truth conditional import. Higginbotham draws our attention to the following minimal pair:

- (18) I used to remember that I walked to school in the fifth grade, but I no longer remember it;
- (19) I used to remember walking to school in the fifth grade, but I no longer remember it.

Unlike (18), (19) is acceptable for Higginbotham. (18) reminds us of Moore’s paradox (Of course, to see why there is a problem in (18) one needs to stress that “remember” is factive and that the assertion amounts to something like “I walked to school in the fifth grade but I no longer remember it”). (19) is acceptable, provided that we enlarge the scenario to include someone who said “You used to remember walking to school in the fifth grade”. The speaker of (19) says that he no longer remember the event in question, while he implicitly attributes responsibility for the truth of his remembering the event in the past to someone else who can report such an event of remembering.

A referee (personal communication) has stated that this example (which, I want to stress, belongs to Higginbotham, not to me) has problems, since it is not acceptable. S/he says that, if the utterance is acceptable, then one tends to read it (in terms of its internal dimension) as a direct experience of someone the memory of which can fade away with time.

I quite agree with the referee that one can have doubts on the grammaticality of (18), and thus propose, to remedy the problem, to consider it a loose usage (see Burge 2003 on loose uses of “remember”). In any case, the possibility “I used to remember walking to school in the fifth grade but I no longer remember it well” is perfectly grammatical. This usage points to the fact that the internal dimension of PRO can be more or less fine-grained, a point which will be of use when I specifically deal with the internal dimension of PRO in terms of pragmatics.

Another point Higginbotham makes is that “de se” constructions seem to involve immunity to error through misidentification (see work by Shoemaker). In other words, a person who says (20)

- (20) I remember walking in Oxford

may be wrong on the place of the walking but not on the fact that it is his own walking that he remembers (leaving aside quasi-memories, cases in which someone else’s memories are implanted in a person’s brain).

Let us now see how Higginbotham characterizes “de se” attitudes semantically. He does that by making use of theta-roles as well as the Davidsonian idea that verbs have a hidden argument for events in logical form. Basically, Higginbotham’s idea is to identify the external argument of the verb of the complement clause with the external argument of the verb of propositional attitude. So

the idea is that if I remember walking in Oxford, the agent of the walking is identical with the agent of the remembering. There is no such identification if the construction does not express a “de se” concept as in “John remembers that he walked in Oxford”. Consider the two cases:

- (21) John expects to win;  
 (22) John expects that he will win.

Since there is no identification between the external argument of “win” and the external argument of “expect” in (22), we will represent (22) as

- (23) (For John =  $x$ )  $(\exists e)$  expect [ $x, e, \wedge (\exists e'')$  win ( $x, e''$ )].

(The approach considers propositions as sets of possible worlds à la Stalnaker;  $\wedge$  signals intentional abstraction over possible worlds).

Instead, (21) will be represented as (24)

- (24) (For John =  $x$ )  $(\exists e)$  expect [ $x, e, \wedge (\exists e'')$  win ( $\sigma(e)$ ),  $e''$ ].

Example (23) represents a Russellian proposition as embedded in the matrix verb; (24) represents a mode of presentation that is first-personal in the sense of Peacock (1981). Since the identification of thematic roles has implications for reference as well, the Russellian proposition of (22) is expressed as a logical implication of (23) (in other words we expect (24) to entail (23)).

According to Higginbotham PRO in control structures embedded in verbs such as “remember” also signals an internal dimension. When I say that I remember that I fell downstairs, there is no implication that my memory comes from my experience as the person who undergoes the falling downstairs. Someone else may have told me that I fell downstairs. However, if I say that I remember falling downstairs, I imply that I experienced the event and that I was involved in the event say as patient, the person who is affected by the event (we skip the issue of quasi-memories). This is the internal dimension of the remembering—I remember the event from the inside, as the person who was affected by the event. (So if the event caused me some pain, I remember the pain. It is not like remembering the event through the external perception of the event, say in case it was possible to connect my perceptual system to a camera and annul all other perceptions. In case it was possible to annul all my perceptions except for the visual images coming from a connected camera, it would not be true to say that I remember falling downstairs, but one could report that by saying that I remember that I fell downstairs. I take up this point in a critical discussion later on).

In order to represent the internal dimension of PRO, Higginbotham represents (25) as (26):

- (25) John remembers falling downstairs;

- (26) For John = x) ( $\exists e$ ) remember [x, e,  $\wedge (\exists e'')$ ] fall downstairs ( $\sigma(e) \& \theta(e'')$ ), e’’)].

In other words, the falling downstairs is remembered as an event undergone by the person who remembers as a thematic role affected by the event of falling downstairs.

Consider now the case of the mad Heimson who believes to be Hume (Lewis 1979). We wonder if Heimson and Hume numerically have the same beliefs. Consider “Heimson believes that he is Hume” and “Hume believes that he is Heimson” according to Higginbotham.

- (27) (For x = Heimson), ( $\exists e$ ) believes [x, e,  $\wedge (\exists e'')$ ] be identical ( $\sigma(e) = \theta(e'')$ ),  $\langle\langle$ Hume, e’’ $\rangle\rangle$ ]  
(28) (For x = Hume, ( $\exists e$ ) believes [x, e,  $\wedge (\exists e'')$ ] be identical ( $\sigma(e) = \theta(e'')$ ), Hume, e’’)]

According to such readings, Heimson and Hume do not have numerically the same beliefs (given the identification of the believer and the bearer of the internal perspective, it has to be excluded that Heimson can be both the believer and the bearer of the internal perspective of the person identical with Hume).

#### 4. Pragmatic intrusion into truth-conditional semantics

Although various authors have talked about the role played by pragmatic inference in constructing a propositional form (e.g., Bach 1994, Levinson 2000, Recanati 2004, Stainton 1998, Bezuidenhout 1997, and Powell 2001), in this paper I shall concentrate on the position of Relevance Theory on the semantics/pragmatics debate (mainly Carston 2002 and Wilson & Sperber 2002). As Horn points out (2004: 18) “taking the lead from work by Atlas (1979), relevance theorists have argued that the pragmatic reasoning used to compute implicated meaning must also be invoked to flesh out underspecified propositions in which the semantic meaning contributed by the linguistic expression itself is insufficient to yield a proper accounting of truth-conditional content”. Carston’s and Wilson & Sperber’s idea of pragmatic contribution to the proposition expressed has something distinctive because, unlike Bach, they believe that pragmatics contributes to what is said and, unlike Levinson (2000), they believe that the inferences that develop logical forms into propositional forms are explicatures, not implicatures. Carston’s and Wilson & Sperber’s ideas are similar to Stainton’s and Recanati’s, but they differ as to detail. For a review of intrusionist perspectives, see Capone (2006, 2009).

In this paper I propose to use Relevance Theory (Sperber & Wilson 1986; Carston 2002) as a background to my treatment of attitudes “de se”. However,

given that I have already exposed the framework in other papers (e.g., Capone 2008), I will not say much about this framework apart from the consideration that it is now widely believed that semantics is radically underdetermined and that pragmatics must supply information necessary to the completion of a logical form. The Principle of Relevance guides inferential interpretation since one must bear in mind that an input is optimally relevant if the contextual effects it provides are greater than the processing costs.

### 5. Beliefs “de se” and pragmatic intrusion

In this section I consider “de se” readings of attitude constructions and, in particular, constructions like “John remembers walking in Oxford”, “John remembers he walked in Oxford”, “John remembers his walking in Oxford”, “John remembers he himself walking in Oxford.” My analysis starts with control structures like “John remembers walking in Oxford” and then proceeds with the remaining constructions. Control structures in their “de se” construals are determined through the semantics (I assume the truth of a story like Higginbotham’s but I then slightly modify it). The remaining constructions are discussed in terms of pragmatics.

Since this is a rather complex and intricate section, we need sign posts for readers here, to make sure that the analysis is taken for what it is, and not for what it is not. What I want to show in this section is that in some cases, but not in all cases, it is possible to derive the “de se” interpretation through pragmatics.

As far as constructions with PRO (such as “John remembered going to the cinema”) are concerned, I accept Higginbotham’s story and claim that the external interpretation of PRO is semantic and first-personal. I want to distinguish, however, the concept of first-personal from the concept of using modes of presentation like “I”. A thought can be first-personal even if the speaker in talk with himself uses a mode of presentation like “You”, where by “You” he, of course, means “I”. I present some arguments against the semantic analysis of the external interpretation of PRO, but conclude that these do not stand. PRO is first-personal. In particular, I use an argument by Feit (personal communication) to show that PRO must be first-personal and that Higginbotham’s semantic analysis probably needs further tightening up.

I argue that the cases where Castañeda used the asterisk are cases where a pronominal, which is not PRO, is assigned a “de se” interpretation. A pragmatic story is used for sentences like “John remembered his going to the movie”—with the difference that here I argue that “his” is not assigned an asterisk à la Castañeda.

The internal dimension of PRO is a separate question from the external first-personal interpretation of PRO. While the implicature analysis has very limited effects on the external dimension of PRO, since I have accepted that PRO is first-personal through semantics, I argue that the internal dimension of PRO is conveyed not through semantics, but through implicature (or explicature).

The pragmatic analysis has the following structure:

- a. Analysis of inferential enrichments amounting to “de se” interpretations;
- b. Analysis of pronominals used instead of PRO in control structures;
- c. Analysis of reflexives used in control structures;
- d. Apparently “de se” uses of pronominals with attributive construals.

In each of this section I will substantiate the claim that “de se” constructions are intrusive ones and that pragmatics serves to resolve interpretative ambiguity and to determine a full proposition.

### 5.1. *Mode of presentations of first-personal readings: semantics or pragmatics?*

Before we proceed with our pragmatic story, it will be important to characterize “de se” pragmatic interpretations in greater depth. What kind of representation must be part of the explicature when a “de se” thought is involved? Presumably, when the speaker says:

(29) *Giovanni crede di essere felice* (John believes he is clever)

there is an inference that the speaker has the following mental representation:

“I am clever”.

This is on top of the semantics provided by Higginbotham for controlled clauses of attitude verbs<sup>2</sup>. In fact, it would be possible, strictly speaking, for the semantic interpretations by Higginbotham to be accessible to the believer without his using a mental occurrence of “I”. Higginbotham’s story could be true even if the believer thought of himself as the believer of his thought, without ever pronouncing (or using a mental occurrence) of the word “I”. However, it is reasonable to suppose, accepting the considerations by Millikan, that “de se” readings involve a mode of presentation that somehow incorporates “I”. Sentences such as (30)

(30) John thought he was clever

are “de se” in the sense of incorporating mental linguistic materials such as “I” when it is clear in context that the evidence for the thought comes from the believer having uttered a statement about his/her belief.

But is there a sharp difference between this additional pragmatic component and Higginbotham's semantics? It is true that Higginbotham does not explicitly consider utterances of "believe" in connection with PRO, but since in Italian belief-constructions obligatorily involve PRO (in the "de se" interpretation) we must assume an extension of Higginbotham's story. Higginbotham's extended treatment would have to amount to including a use of the "believer of his/her thought" in a belief attribution (e.g. John believed that the believer of his thought was happy)—strictly speaking it involves usage of temporal variables as in (31),

(31) *Giovanni credeva di essere felice* (John believed he was happy)

John believed at *t* that the believer of this thought at *t* was happy,<sup>3</sup> which presupposes that if John believes at *t* thought *x*, he cannot believe at *t* a thought *y*, *y* distinct from *x*. (Can one have two distinct thoughts at the same time? Presumably not.)

My own addition to his treatment says that on top of Higginbotham's semantics, there is an inference to the effect that the believer makes use of a mental occurrence of the word "I"—he says "I" in his mental sentences (provided that the context is the right one). Now, if the mental occurrence of "I" were identical with Higginbotham's contrived solution "The believer of his/her thought at *t*", obviously there would be no reason for having this additional pragmatic component. A cogent reason for opting for my own treatment is given by Feit (2009, personal communication):

Another reason that I do not think Higginbotham's account can handle "de se" cases adequately is this. It seems possible that somebody could believe (correctly or mistakenly, it does not matter) that he is not the only thinker of a certain thought, for example he might believe that God is thinking it too. More generally, he might think that he is not the only thinker of any of his thoughts. But, even with this, it seems he could have a "de se" belief. But on Higginbotham's view—and other similar views—such a belief amounts to "the believer of this thought is F." This cannot be what the belief amounts to however, since he does not think there is a unique believer, the believer, of his thought. Moreover, if someone else (God perhaps) really is having the same thoughts, then all Higginbotham-style beliefs are false, but he could surely have some true de se beliefs nonetheless.

Thus a minimal requirement for making sense of "de se" attitudes is to say that the mental occurrence of "I" (say in mentalese, see Feit 2008 on this) must be a demonstrative along the lines of Gareth Evans (1982) and Perconti (2008). As Evans says, the demonstrative identification does not go through the recognition of any property<sup>4</sup>. But is there something that the word "I" can refer to? Evans argues that there is substantive content to our "I"-ideas. While for philosophers such as Strawson to the judgment that I am in pain there does not

appear to be anything corresponding to the identification of something that is in pain (the judgment might as well be expressed by “There is pain”), for Evans by using “I” we must identify with an element of the objective order. (See also Grush 2002, for the exegesis of Gareth Evans).

Now suppose Higginbotham replies as follows: “All you have shown is that the first-personal interpretation of PRO needs to be grafted to the semantics I proposed, and one obvious way to do this is by placing in the semantics the further constraint that the mode of presentation of the agent of the believing or remembering a certain thought is in the first person.” (This move is reminiscent of Harcourt and Millikan).

Presumably, we have to modify Higginbotham’s elucidations for an utterance of, say, “John believes he fell downstairs” in the following way:

- (32) (For John = x) ( $\exists e$ ) believes [ $x, e, \wedge (\exists e'')$ ] fall downstairs ( $\sigma(e) \ \& \ \theta(e'')$ ) & the mode of presentation of  $\sigma(e) =$  “I” ,  $e''$ ].

After all, this is still a completely semantic meaning elucidation.

Summing up, the sentence “John believes he fell down” needs to be represented in the following way:

(For John = x) ( $\exists e$ ) believes [ $x, e, \wedge (\exists e'')$ ] fall downstairs ( $\sigma(e) \ \& \ \theta(e'')$ ) & the mode of presentation of  $\sigma(e) =$  any pronominal or mode of presentation that is a suitable transformation of “I” and ultimately reducible to “I” ,  $e''$ ].

One further reason for adhering to a semantic story of PRO and for not wanting to say that PRO conversationally implicates or is associated via an explicature to its first-personal reading is that in some constructions the first-personal reading of PRO seems obligatory.

One way of out of the problems for a view that attributes the understanding of an ego-like concept in “de se” constructions to pragmatics is to say that an explicature is not cancellable and that, therefore, the ego-like concepts of “de se” constructions are present in the constructions albeit through a pragmatic increment. Higginbotham’s original treatment is the basis for the pragmatic scales  $\langle$ de se, de re $\rangle$ , the ego-like concept NOT being needed in such scales. A pragmatic treatment of the ego-like concepts must be preferred on the grounds

of parsimony (Modified Occam's razor), being also a reflection of Jaszczolt's idea (Jaszczolt 1999) that referential readings are preferred and default, as well as also being a consequence of the stereotype that when one thinks of himself one uses the first-personal pronominal. The path to the claim that ego-like concepts in "de se" constructions are furnished pragmatically seems to be opened up by such-like considerations. That the ego-like concept is part of the explicature is easily shown by using Feit's reasoning (personal communication) above, as without such an ego-like concept, then Higginbotham-like "de se" beliefs would come out as false. This is a problem analogous to the problems that led Carston to postulate the notion of explicature in the first place. An explicature is a theoretical notion whose aim is to liberate potentially problematic utterances from potential contradictions or falsehoods.

One further reason for opting for the pragmatic explanation of ego-like concepts in "de se" constructions is that the possible repair of Higginbotham's elucidations along the lines of (32) runs into problems when the context mandates an attributive, rather than referential, interpretation, as in "Any believer of this thought would think that the believer of this thought would be lucky in having this thought".

This thought is clearly "de se" but does not involve an ego-like concept. Presumably this involves the semantic elucidation (32) without the component: "and the mode of presentation of  $\sigma(e) = 'I'$ ".

## 5.2. *Toward pragmatics: Castañeda's example*

Let us now consider Castañeda's influential example:

(33) The editor of *Soul* believes that he\* is a millionaire

Unlike the philosopher's language, ordinary language has no asterisks. I agree that the preferred interpretation is one according to which the editor of *Soul* believes that he himself is a millionaire, but this is not a matter of semantics, as there is an alternative reading according to which the interpretation is not "de se". Suppose, for example, that the editor of *Soul* believes of the person (himself) he sees in the mirror that he is a millionaire (while, for some reason, he does not recognize his familiar face). A sentence such as (34)

(34) The editor of *Soul* believes that he is a millionaire

is suited to expressing the speaker's meaning—however, no "de se" reading is intended in this case (We agree, the example is contrived, and is based on philosophical sophistication, however it is not an impossibility). The interpretation in (34) where an asterisk is used to signal pragmatic disambiguation must not be taken for granted, but is the result of cognitive processes at work.



We may also want to explain Perry’s example:

- (35) The dean was surprised to find that he believed himself to be overpaid.

In a situation in which the dean believes that all professors who publish fewer than ten papers per year are overpaid (but forgets that he himself has published fewer than ten papers), a speaker may utter (35). Linguists may have reservations about such an example. They may feel it is contrived or that this is a loose or etiolated language use<sup>5</sup>. Whether the use is correct or illegitimate (strictly speaking), we have to explain such a use as well by resorting to a pragmatic theory. While in the case of (34) we must explain why a “de se” reading accrues to the utterance, in the case of (35) we have to explain why a sentence/utterance which is typically associated with a “de se” reading is divested from its ordinary interpretation. Obviously, while the pragmatic process at play in (34) is a case of a standard conversational implicature, the process involved in (35) is a case of a particularized implicature. The implicature overrides the usual semantic interpretation associated with the sentence (“de se” reading) (see Dascal 2003 on the divergence between sentence and speaker’s meaning). I assume that the world knowledge against which the utterance of (35) is processed promotes the non-first personal reading. Given that we assume that the Dean thinks highly of himself and would never say of himself that he thinks he is overpaid, we assume that the interpretation of (35) is not a “de se” one. The utterance comes to be interpreted as ironic, because, on the one hand, the speaker says that the dean believes that he himself is overpaid, on the other hand we know that the Dean would never think that of himself. The utterance is “echoic” in that pragmatic interpretation construes it as what the Dean would have to say of himself if he were to accept what the other people believe of him. The “de se” reading is a reading which expresses what the Dean would think of himself in a possible world in which he conforms to what other people think of him.

Anyway, I should say I am puzzled a bit by Perry’s example. I think that what he wants to say requires a different example, such as “The dean would have been surprised to find out that he believed himself to be overpaid”.

I guess that what Perry wanted to prove with this example is that “de se” readings are in all cases pragmatic and not semantic. Could there be a pragmatic interpretation that is not founded on a semantic concept? In theory it is possible—as Recanati (2004), Carston (2002) and Wilson & Sperber say in their articles and books - that pragmatics furnishes new concepts on the basis of existing ones (a phenomenon called “modulation”). So we should not discard a priori the possibility that “de se” readings are only pragmatic interpretations, which make their way into language through grammaticalization (see Ariel 2008). However, it cannot be excluded that what started as pragmatics

ended up as semantics or grammar (Levinson 2000). We shall explore possibilities open-minded.

How should a relevance-theoretic treatment of (34) proceed? I assume that the interpretation according to which the speaker attributes a belief “de se” to the subject (of belief) is more informative than the “de re” interpretation. We can reasonably assume that an interpretation that excludes a greater number of states of the world (see Levinson 2000; see also Huang 2007) is more informative. It is reasonable to think that on a relevance-theoretic treatment this is true as well. What is to provide information, in fact? To provide information is to provide input to inferential processes, among which there is the strengthening of existing assumptions or the elimination of current assumptions or the creation of cognitive effects that would not derive from existing assumptions alone. A proposition that eliminates a greater number of states of the world is, ipso facto, more informative than a proposition that eliminates a fewer number of states of the world, because it either eliminates existing assumptions or interacts with existing assumptions in such a way as to provide a greater number of cognitive effects than the ones that would derive from existing assumptions alone. Suppose one knows that all students have arrived, rather than that some students have arrived. Suppose one furthermore knows that all students who have arrived will receive a present. Then one knows more if one knows that some students have arrived. If all students consist of A, B, C, D, E, one derives greater cognitive effects from knowledge that all students arrived, since one will be able to say that all of A, B, C, D, E will receive a present. Instead, having only knowledge that some students have arrived, it will not be possible to say which of A, B, C, D, E will receive a present.

Now let us go back to our “de se” interpretation in (34). We have to ask ourselves which is more informative: the “de se” or the “de re” interpretation? Matters of entailment may decide the issue. Consider again Higginbotham’s analysis of the “de se” reading and of the non-de se reading:

- (36) (For John = x) ( $\exists e$ ) expect [ $x, e, \wedge (\exists e)$  win ( $\sigma(e)$ ),  $e$ ]].  
 (36) Represents the “de se” reading of “John expects to win”  
 (37) (For John = x) ( $\exists e$ ) expect [ $x, e, \wedge (\exists e)$  win ( $x, e$ )]].

Example (37) represents the non “de se” reading (that is, the “de re” reading) of “John expects that he will win”. The person who is committed to the logical form (36) is committed to logical form (37), but it is not true the other way round. This means that the “de se” reading entails the “de re” reading. Since “de se” readings entail “de re” readings they are more informative.

We do not need to go through the entailment (or deduction) step to argue that the “de se” reading is promoted by pragmatics to default interpretation, though. All we need to show is that the “de se” reading has greater cognitive effects than the “de re” reading, processing efforts being the same. I think we can

concoct a philosophical story. Suppose that Mary believes she has to take a tablet at 9 in the morning (the usual tablet she takes daily). Suppose that such a tablet has an undesired effect *m*, which can be eliminated by taking tablet *b* (the same person who takes tablet *a* must take tablet *b* to avoid an unwanted effect *m*): Then the “*de se*” reading of the sentence “*Maria* believes she must take the tablet *b*” has greater cognitive effects, since only in case *Maria* thinks of herself as herself she is interested in preventing the consequences of taking tablet *a*. Since the “*de se*” reading has greater cognitive effects than the “*de re*” one, which offset the processing costs incurred, it will be promoted by the Principle of Relevance.

5.3. *De re interpretations: the pragmatic interpretations of pronominals, as used instead of PRO*

Let us see what happens if a full pronominal is used instead of *PRO*. So consider again the minimal pair from Higginbotham (2003):

- (38) John remembered [his going to the movie];  
(39) John remembered [*PRO* going to the movie].

Higginbotham says that *PRO* is associated with a “*de se*” interpretation, while (38) is not. We ask why it should be the case that “*John* believes he\* is clever” is typically associated with a “*de se*” reading, while (38) is not. Neo-Griceans (e.g., Huang 2000, 2007; Levinson 2000) have an easy explanation at hand. Suppose that ⟨his, *PRO*⟩ form a Horn-scale, such that the two forms are from the same semantic field. Since *PRO* is associated with the “*de se*” reading, it is more informative than the “*de re*” reading. Thus *PRO* ends up entailing “his”. Use of “his” at this point will implicate that the “*de se*” interpretation does not obtain. (The only problem for this analysis is the equal lexicalization constraint: should we say that *PRO* and “his” are equally lexicalized? This is a problematic choice).

Alternatively, one can say that the full pronominal is more marked than *PRO* and therefore triggers an M-implicature to the effect that the interpretation complementary to that of *PRO* takes place. (Remember, the M-Principle says that the usage of a marked expression instead of an unmarked one will trigger a complementary implicature: the problem here is that *PRO*, if what Higginbotham says about the first-personal reading is correct, is not coextensive with the full pronominal—as required by the M-Principle (see Levinson 2000; Huang 2007, and references therein). Both routes are not devoid of problems that need to be addressed somehow.

Now, we want to find a plausible alternative relevance theory story. Suppose we say that the overt pronominal requires greater processing efforts than “*PRO*”. Then we require additional contextual effects to counterbalance the

gratuitous processing efforts. There will be compensatory contextual effects if the interpretation is complementary to that of PRO (or even if it is distinct from that of PRO. Thus, the “de re” interpretation, which is complementary to the “de se” one, gets through.

#### 5.4. *The internal dimension of PRO: “remember” and other verbs*

In this section I shall discuss verbs such as “remember”, “imagine”, “expect”, “dream”, “forget” in terms of the internal dimension of PRO. Since such considerations are sparked by Higginbotham’s reflections on the internal dimension of PRO in connection with “remember”, I will start with “remember”, on which there is a wealth of philosophical considerations.

In particular, I will discuss what Higginbotham (2003), based on ideas by Martin and Deutscher (1966) and Shoemaker (1970) calls “remembering from the inside” associating it with control structures (“John remembers falling down the stairs). Following Norman Malcom (1963), Shoemaker distinguishes between the semantics of “John remembers that Caesar invaded Britain” (factual memories) and “John remembers falling down the stairs”, the latter sentence being associated with something which one remembers happen, as a result of observation or experience.

Shoemaker (1970) discusses only cases like “John remembers walking in Oxford” and says: “It is a necessary condition of its being true that a person remembers a given past event that he, the same person, should have observed or experienced the event, or known of it in some other direct way, at the time of its occurrence. I shall refer to this as the ‘previous awareness condition’ for remembering” (269). He adds that “When a person remembers a past event there is a correspondence between his present cognitive state and some past cognitive and sensory state of his that existed at the time of the remembered event and consisted in his experiencing the event or otherwise being aware or its occurrence (271).

I infer that the awareness condition and the correspondence condition for Shoemaker are entailed semantically by a sentence such as “John remembers falling down the stairs” and they correspond more or less to what Higginbotham calls the internal dimension of PRO. Now, while my aim in this section is to argue that the internal dimension of PRO is conversationally implicated by sentences such as “John remembers falling down the stairs”, I want to do justice to the importance of Shoemaker’s considerations and suggest that the internal dimension of PRO may be more or less fine-grained and that conversational implicatures may be responsible for the more fine-grained dimension of the internal dimension, while we can assign semantics the task of doing justice to the considerations by Shoemaker, which seem to me to be not implausible. In particular, I think we can accept that in uttering a sentence such as (40).

(40) John remembers falling down the stairs

The awareness condition needs to be satisfied, and John’s memory needs to be caused by a perception of his experience of falling down. Furthermore, the correspondence condition, whereby there must be a correspondence between the memory and the experience or sensory state that existed at the time of the event, must be satisfied. If John remembers falling down, then there must be an experience that has triggered his memory—there is a rough correspondence between the experience and the memory. However, how fine-grained the correspondence ought to be has not been specified by Shoemaker. Is it not possible that only part of the experience has been recalled, thus making it possible that there is a correspondence between the sensory state of the event and the memory, even if we can admit that the fully articulated dimension of the sensory state has been communicated in a more fine-grained way through pragmatics?

I think it is not unreasonable to propose that the full internal dimension of PRO is communicated via pragmatic intrusion. When we say (41)

(41) John remembers falling downstairs

we surely mean that the John is remembering the event from the inside, that he was at the same time the perceiver of the event and the participant affected by the event (he did not just see the blood on his face, but he also felt the pain and the event of remembering the pain could occur only through the experience of the pain (his feeling his pain)). However, it is not necessary to place all burden of both first-personal and the internal dimension of PRO on semantics. The burden can be divided between semantics and pragmatics. After all, it is not unnatural to say:

(42) John remembers falling downstairs, but he does in an incomplete way.  
He does not remember the pain he felt. The memory is to him like a film he is watching.

Notice, in this case, both the awareness and the correspondence conditions proposed by Shoemaker are satisfied, even if some fine-grained aspects of the internal dimension have been lost.

The statement (42) could be justified, in case John has partial amnesia or has (voluntarily or involuntarily) erased parts of his experience, namely those memories which are more painful.

Also we can think of the case in which a memory is so painful that, although the person in question does remember the event (say, an accident), s/he does not want to recall it. By failing to recall its most painful parts, the memory will be partial.

After all it is not so unreasonable to assume that memories can fade away and that parts of them can be erased. So, the idea that the internal dimension of a memory can be erased (removed) is not so outlandish. Psychologists often

say that women who gave birth to a child remove the pain from their memories—this is why they are willing to give birth to a second child, without much thought about it. Furthermore, going back to Higginbotham’s example, partially modified.

- (43) I used to remember walking to school in the fifth grade, but I no longer remember it very well

This example can also be understood as saying that the speaker had an exhaustive memory of the event of walking to school in the fifth grade, but now he no longer has this exhaustive memory (he has a partial memory)<sup>6</sup>. Memories can be partial—as parts of memories can be removed. However, in the typical case, the internal dimension of the memory does not disappear. So, if a person says “I remember falling downstairs” the full internal dimension is communicated as well, but by pragmatics. Through a pragmatic increment, we build up the explication.

Let us consider how Relevance Theory can deal with similar examples. Consider example (44).

- (44) I remember falling downstairs.

If one falls downstairs, in the prototypical case, one feels pain. It is, therefore, reasonable to assume that in addition to visual memories, the speaker has other types of memories: tactile memories for example (scratches, pain in his bones, etc). It is, therefore, probable that he is remembering the event from the inside. However, it is not implausible that the “internal dimension” can be (partially) cancelled, probably because the memory can be as painful as the real experience which one is re-living. To put things in the words of Carruthers (2006), when one remembers an event, one rehearses the event in mind, thus evoking motor-sensory schemata that are broadcast to central/conceptual modules and may generate real pain and frustration.

At this point, let us follow Cimatti (2008), with the idea that the subject is constituted through speech and let us make use of the psychotherapy situation as a hypothetical situation. Suppose that the speaker says (44) in the course of psychotherapy. The patient, who was pushed down the stairs by his mother, removes all sensations of pain. The aim of the therapy is to help the patient relive the situation and recuperate the important parts of the memory he has removed—say what, modifying slightly Higginbotham’s terminology, we could call the full internal dimension of the memory. Then this is a case in which the internal dimension of PRO has been partially suppressed and one tries to recuperate it. Thus, at the end of the psychotherapy the same sentence can be uttered having a different meaning including the full internal dimension as well. If the same sentence can be uttered at different moments by the same patient, thus rehearsing an experience and broadcasting motor/sensory sche-

mata to the central/ conceptual systems, and can broadcast different schemata at different moments, thus provoking different corporeal sensations, this can be taken as proof that the full (or fully articulated) internal dimension of PRO is not associated with sentence meaning, but, at most, with utterance meaning, and, in particular, with the speaker’s meaning.

The story above can show that the full internal dimension of PRO has greater contextual effects. By recuperating the internal dimension of PRO, the speaker can recuperate feelings that have consequences on parts of his personality. Alternatively, he can recuperate beliefs that, in conjunction with other beliefs, can produce further beliefs.

See in fact the following deduction:

John remembers falling downstairs.

If John remembers the event (fully) from the inside, he remembers feeling pain.

John remembers the event (fully) from the inside (premise furnished through pragmatics)

If he felt pain, he hated his mother who pushed him.

. . . .

John hated his mother

Since the premises added by pragmatic inferences (in particular, the internal dimension of the memory) lead to further contextual effects through deduction, it is reasonable to accept that such inferences are motivated by the desire to be relevant, to create abundant cognitive effects with minimal cognitive processes<sup>7</sup>. As Wilson & Sperber (2004) say: “The most important type of contextual effect is a CONTEXTUAL IMPLICATION, a conclusion deducible from input and context together, but from neither input nor context alone. For example, on seeing my train arriving, I might look at my watch, access my knowledge of the train timetable, and derive the contextual implication that my train is late. . .” (608). This topic seems to have intrigued an influential linguist like John Lyons, who notices a difference between

(45) I remembered closing the door

(46) I remembered myself closing the door. (These examples are numbered as (3) and (4) in Lyons’ paper).

Lyons (1989) writes:

As to the difference between 3) and 4), this is explained, *intuitively* at least, by saying that what is being reported in 3) is the illocutionary agent’s reliving in memory—his or her memorial re-experiencing as the agent—of the act of closing the door; and in 4) the quite different mental act of perceiving or witnessing this act, as he or she might perceive (i.e. see, hear, etc.) from the outside as it were, a situation in which he or she was not, or had not been involved as the agent (176).



Now, the real point is the contrast between (45) and (46). If my intuitions are correct, the contrast is not semantic (as Lyons seems to imply) but pragmatic. It is easy to explain the contrast in terms of pragmatics, as the reflexive is more marked than PRO, and thus tends to trigger M-implicatures, if one listens to Levinson (2000) and Huang (2007). The M-implicature in question is that the perspective from which the action is remembered is complementary to that implied in (45). If the (45) was associated by implicature to an internal dimension, (46) is associated by implicature with an external dimension. In terms of a relevance theory explanation, we can reason on why the more marked lexicalized pronominal is preferred to the null pronominal PRO. Since the more marked item involves greater processing efforts, it needs to be associated with greater contextual effects, such as (I claim) the complementary interpretation to (46), in particular a not internal dimension (In fact, the external one).

Varela Bravo (1993), in a paper that comments on Lyons' paper, attempts to explain the difference "I remember closing the door" and "I remember that I closed the door" through conditions of use, as summed up below:

*(I remember) closing the door*

1. Acknowledgement of the speaker's communicative intention: I/somebody did something;
2. Evaluation of the action as true/false. That is true: You/somebody did it.
3. Acknowledgment of the action from the point of view of the hearer: Yes, you/somebody did it.
4. Positive/negative evaluation in context: You did well/wrongly.

The utterance would interact with the context and would be functional in the conversational exchange.

*(I remember) that I closed the door*

1. Acknowledgment of the speaker's communicative intention: something happened:
2. Evaluation of the fact as true/false. That is true.
3. Acknowledgment of the fact from the point of view of the hearer: Yes, that happened.
4. Positive/negative evaluation in context: That was fortunate/unfortunate.

The utterance would interact with the context and would be functional in the conversational exchange.

Varela Bravo basically thinks that an utterance of "I remembered that I closed the door" presents a fact and focuses on a fact, thus in a tag like "I remembered that I closed the door. Didn't I?" the pro-verb is "close" and not "remember". Instead, "I remembered closing the door" focuses on an action



done and not on a fact; hence in the tag question “I remembered closing the door. Didn’t I?” the pro-verb is NOT “close” but “remember”.

Varela Bravo makes it appear (albeit he does not use this term) that a (distinct) conventional implicature is triggered by use of each construction. It is easy to see that his considerations give independent support to Harcourt (1999), even if it should be clear that Harcourt and Varela Bravo are making different claims. Harcourt is making a claim about the first-personal mode of presentation, while Varela Bravo is making a claim about whether the context of statements such as “John remembers that P” and “John remembers doing X” restricts the kind of replies one such statement can obtain as a function of the purpose with which the “remember” statement has been made. It is possible that the distinction between a fact being reported and an action being reported is what leads to Higginbotham-like interpretations of PRO (in “John remembers walking in Oxford”, as, after all, remembering an action requires being involved in the action as an actor (or agent) who has direct access to the action (and its consequences) through consciousness. Of course, the thing remembered in “John remembered falling down the stairs” need not be an action, but merely an event, but even in this case the memory is causally connected to the event and, thus, the experience of the event is somehow involved in the memory.

Before closing this section, I want to briefly consider “imagine”, “expect”, “dream” and “forget”. For these verbs, I argue that world knowledge is responsible for the explicated content. In fact, the interpretation of the internal dimension of PRO, and in particular the degree of granularity of this internal perspective, depends on the speaker’s and the hearer’s knowledge of the world. As pointed out by a number of authors such as Huang (1991), (1994), Clark and Marshall (1981), Clark and Carlson (1992), Levinson (2000), Blackwell (2000, 2001), and Capone (2000, 2001, 2003, 2006), implicatures aimed at enriching utterance interpretations are often determined by the suppositions that are shared by the speaker and the hearer, that is, their “common ground”.

If I say “I imagine falling down the stairs” is PRO also associated with an internal dimension? And if I say “I expect falling down the stairs (if . . .)”, is PRO associated with an internal dimension? What made a semantic association between PRO and an internal dimension in the case of “remember” was what Shoemaker called the awareness condition. If John remembers falling down the stairs, then he was aware of some experience which caused the memory. “Remember” also involves a correspondence condition: there must be a correspondence between the event remembered and the event experienced. Now, this compelled me to say that “Remember” is associated semantically with an internal dimension, but I still proposed a partial pragmatic analysis by saying that the full details of the internal dimension or, to use a terminology from the theory of propositional attitudes, a fully fine-grained internal dimension was provided through explicatures.

Now we have to ask the question whether “imagine” and “expect” also involve an awareness condition. If they do not, then the internal dimension of PRO will not be a semantic one, but a pragmatically conveyed aspect of communication. “Imagining” or “expecting” seem to be verbs involved in simulating actions or events mentally (to use terminology by Goldman (2006), who explicitly discusses “imagining” in the context of simulation theories of mind-reading).

When John imagines falling down the stairs, he is probably using information about events that happened to someone else in the past. Perhaps he has seen Peter fall down the stairs, and he remembers how Peter felt pain. Thus he may use the information that Peter experienced pain to form a psychological theory about what it feels like to fall down the stairs and concludes that if one falls down the stairs, one experiences pain. So when he imagines falling down the stairs, John runs a simulation of an experience that he saw happen in the past and he recalls that Peter cried, thus evincing pain. John also has access to a psychological law: if one falls down, one feels pain. As a result of the simulation taking as input a pretend state “Suppose I fall down the stairs” and some general beliefs, he arrives at the conclusion that he will feel pain. And this conclusion is what authorizes us to conclude that when he imagines falling down the stairs, John also imagines feeling pain. The internal dimension is grafted on top of the semantics by pragmatic reasoning. (Since imagining the pain of an experience has consequences on behavior, RT predicts that the enriched interpretation has greater contextual effects). Of course, John could have run the simulation in a different way. Suppose he is a scientist and he wants to make some generalizations about the physics of falling down the stairs. Then he is not interested in the internal dimension of the experience. John imagines falling down the stairs having an ulterior purpose in mind, that of simulating a physical experience. Thus, the internal dimension is completely missing in this simulation. However, unless aspects of the context do not specify that the simulation is being run for scientific purposes, John will be attributed a state of mind that simulates the internal dimension of one who undergoes that experience, hence pain.

Similar considerations are applicable to “John expects to fall down the stairs”. The psychological dimension is accentuated, when sorrow rather than pain is involved in the internal dimension as in “John expected being sacked”. If what Carruthers (2006) says about mental rehearsal is accepted, John, in expecting to be sacked, rehearses the state “being sacked” and thus produces an emotive response to the situation “being sacked” and this is constitutive of the internal dimension of PRO. But the internal dimension of PRO in the case of “expect” is the result of running a simulation of the simulation John may run of another person’s experience. However, “expect” can also be used in a simulation run for scientific purposes, in which focus is on physics rather than on

psychology. Admittedly, such a case is rare, but not impossible. In any case, the internal dimension of expecting something is added only as a result of running a simulation of what it is like to experience the event expected on the part of the person who expects the event, and this is enough to show that the internal dimension of “expecting” is a pragmatic phenomenon.

Two further verbs ought to be considered: “dream” and “forget”. “Dream” is in all respects like “remember”. If I dreamed about murdering Mary, it is implicit that I remember murdering Mary in a dream—hence all considerations I applied to “remember” are applicable to the case at hand. In dreams we usually have sensations in addition to visual images, but it is not clear that the internal dimension has something to do with semantics. In fact, there is no awareness condition or correspondence condition attached to dreaming. It is not the case that if I dream about murdering Mary, the dreaming was caused by the awareness of murdering Mary or there was a corresponding state of murdering Mary. All this militates against the internal dimension being incorporated into the semantics. On the contrary, it is reasonable that pragmatics is responsible for the internal dimension. If one dreams about murdering Mary, one typically has experiences of fury, sadistic pleasure, contempt for the victim, etc. But this is only part of a typical scenario—it is not impossible to have just visual images with no accompanying emotions. It is world knowledge that drives the inference, rather than semantics.

Concerning “forget” one can say things like “I forgot to close the door”, but sentences such as “I forgot opening the door” (meaning I forgot the event: opening the door by myself) may sound weird in English. In Italian this type of sentence is fine, but only with a normative interpretation (“*Mi sono dimenticato di chiudere la porta*” (I forgot closing the door) → I had to close the door but I forgot to do so). The internal dimension of PRO, therefore, even in Italian where it is more certain that this type of sentence is acceptable, is not involved at all.

However, consider cases of “forget” where no PRO is involved. Consider for example the sentence “Mary forgot how she felt during her pregnancy”. Here the speaker may very well include both the internal and external dimension among the parts of the event forgotten (There was an internal dimension to the memory of her pregnancy but Mary forgot all details of it). Analogously, if a speaker says “John forgot how one feels during an operation,” what is at stake is both the internal and the external dimension. However, if one considers the sentence “John forgot how he was snoring after the operation” on the basis of knowledge that John watched a film of his state after the operation, there is no implication of an internal dimension to the memory described as forgotten. All these variations seem to prove that the full internal dimension of memories, knowledge, forgetting, etc. is communicated pragmatically. Consider now constructions with PRO, such as “John forgot how to ride a bicycle” or “John

forgot how to smoke”. There is no internal dimension implication here. (We cannot exclude that one can have corporeal sensations or at least a sensation of happiness when one uses a bike, but it does not appear as though the utterance focuses on these). However, if we change the scenario a bit, as in “John forgot how to put up with torture” the internal dimension is implicated conversationally. I think we can now say that my considerations are not merely tentative, but take into account a range of data. (See Huang 2007 and references therein for the treatment of inferences to stereotype based on scenarios—the operation scenario is Huang’s favorite case).

As a last case, I want to consider “know”. The construction “know that” does not exhibit the internal-dimension implication (as there is no PRO here; however, the constructions involving “knowledge-how” do exhibit the phenomena noted by Higginbotham (see Stanley & Williamson 2001). Consider initially constructions involving “knowledge-how” without control, with explicit subjects. The sentence “John knew how he felt when he was tortured” certainly implies an internal dimension, however this is far from certain when the sentence is changed a little as in “John knew how he was operated on”. Suppose that John was totally anaesthetized during the operation. Then it follows that his “knowledge how” cannot take into account an internal dimension—it is a contextual implicature that he knew how the operation was carried out by having watched the video of the operation (I am using a scenario used by Lyons 1989). In the first sentence there is no PRO, yet the internal dimension implication is present. It must be a pragmatic inference in that case. Consider now the sentence “John knows how one feels after an operation”. Of course the speaker implicates that John knows both the external and the internal dimension of the feeling. (Yet there is no PRO here). However, if one changes the verb, saying “John knows how one sleeps after an operation” on the basis of the fact that John watched a video of his state of sleeping, there is no internal dimension at stake. (Furthermore, John may know how one sleeps after an operation on the basis of inductive evidence drawn from his having seen many cases of operated patients sleeping after an operation, which would lead him to imagine how he would sleep after an operation [and if he can know how one sleeps after an operation and the kind of problems which operated patients undergo, he would be prepared to pay a private nurse to take care of him, in order to prevent himself from doing harm to his body]). By changing the situation, one can cancel the alleged implication.

## **Conclusion**

This paper explores the possibility of deriving “de se” interpretations of pronominals in attitude contexts through pragmatics. After discussing the philo-

sophical literature, by focusing on the tension between a semantic and a pragmatic analysis of *de se* inferences, I found it fruitful to utilize Harcourt’s idea that “*de se*” interpretations may involve a mode of presentation like “I” and thus, to respond to potential objections like Feit’s, I revised Higginbotham’s considerations suggesting that the first-personal dimension of PRO in constructions like “John remembers walking in Oxford” should be further characterized by making use of a mode of presentation like “I”. The more pragmatic part of the paper explains why sentences such as “John believes he went to the cinema” are “*de se*” by default, given that “*de se*” interpretations entail “*de re*” interpretations and, thus, pragmatics promotes the most informative interpretation. The paper also explains the contrast between “John remembers going to the cinema” and “John remembers his going to the cinema” or between “John remembers going to the cinema” and “John remembers he himself going to the cinema”. Perhaps the most important part of the paper deals with the internal dimension of “PRO” and claims that the internal dimension may be the result of a pragmatic, and not of a semantic, inference.

## Notes

1. I would like to thank Jacob L. Mey, Yan Huang, James Higginbotham, Neil Feit, K. Jaszczolt, D. Wilson, R. Carston and I. Kecskes for their advice and encouragement.
2. One should note that Higginbotham does not extend his analysis of “X remembers walking in Oxford” to beliefs, but the extension is required for languages like Italian, which, unlike English, has control structures embedded by “believe”.
3. It might be said that Higginbotham does not particularly discuss this example. Yet, it is natural to think that he must accept this semantic analysis of the Italian example because of his commitments concerning “John remembers going to the cinema”.
4. See Evans (1982: 170–171) on demonstrative identification based on an information-link between the subject and object as well as on the ability to locate the object relative to egocentric space and to objective space.
5. Recanati (2007: 173) also believes that “himself” is less first-personal than PRO. His example is: “John imagines himself being elected”. Presumably (I infer this from the passage in Recanati’s text), someone could say this without attributing a “*de se*” attitude to John. There is no explanation about why this should be the case, though.
6. The example has the other reading noted by Higginbotham, as well.
7. On unexpressed premises in enthymemes see Piazza (1995).

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