On referring to oneself: attitudes *de se*

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Abstract

For many years, philosophers (most notably Hector-Neri Castañeda, Jakko Hintikka, John Perry and David Lewis) have analyzed propositions that express self-reference and self-attribution. Various explanations of the contrast between truth de re, de dicto and de se have been proposed. The issue took an interesting and novel turn when the syntax and semantics of de se expressions were examined. Gennaro Chierchia (1989), James Higginbotham (1991, 2010, 2013) and Norbert Hornstein (1999) have offered convincing explanations of the special properties of expressions of possible, impossible or mandatory self-reference. Interesting commonalities and differences between different languages are presently being explored.[1] Interesting recent developments are logophoric pronouns and indexical shifting in several languages. These are briefly summarized at the end of this paper.[2]

4.7 Japanese
4.8 Mayan

TABLE OF LANGUAGE DIFFERENCES

1.1   **Introduction.** We are concerned with: The relation between thoughts and how they "come to be" what they are. Quite generally, with the semantics of expressions of self-attribution. In particular with the syntax of anaphors, PRO and first-person pronouns, explaining mandatory versus licensed versus permissible versus impossible inferences. An important consideration is whether or not the modal spectrum of a thought (truth values in all possible worlds) exhausts the content of *de se* expressions. Apparently, it does not.

1.2 A clear case (due to James Higginbotham)
John's father died before John was born.
John remembers that his father had the nickname Rufus.
Remembers that his father's friends called his father Rufus.
*John remembers **that** his father was called Rufus by his friends.* TRUE
*John remembers his father **being called** Rufus by his friends.* FALSE
This shows the special properties of the English gerund, to which we will return.[3]

1.3 A real life personal anecdote
      This literature offers ingenious, but a bit far-fetched scenarios.
      We will see some. But let me tell you about a real life, personal, case.
      After a long, long day of travel from a remote Greek island (ferries, flights, then driving from Nice to Paris) With my son Simone, then 10 years old, we stopped at a motel. It was 11pm. Simone turns on the room TV. I objected, but the TV was on. While unpacking, I could not help hearing what was on the tv and casting a casual look at the screen.
            I was instantly impressed by what was being said. Competent, right considerations. Obviously "that guy" was a cognitive scientist, saying many right things. He was in a beautiful house.
<u>Therefore</u>
At 11:00 pm sharp
(1) *The guy is in a beautiful house, he works in my field, he is saying the right things.*
      As a matter of fact: I was "the guy". An interview for a French channel, several months before, I had completely forgotten about.
(2) *Massimo thinks he is in a beautiful house, he works in his field, he is saying the right things.*
(2) is true DE RE, but not DE SE at 11pm. Not true (yet) about myself.
      After I identify myself (at, say, 11:05pm), becomes true *de se*.

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[3] A little bit of terminology
Truth *de re*: objective, "In God's eyes" so to speak
Truth *de dicto*: depending on a description
Truth *de se*: depending on conscious self-ascription
A simple example:
Mary inherited from her grand-grand-mother a ring with an emerald. She is very affectionate to that ring, but believes it has very little commercial value. Unbeknownst to her, that emerald is the best in the world. Therefore
Mary believes that the best emerald in the world has very little commercial value. TRUE DE RE
But FALSE DE DICTO. She does not believe this under that description.
We will see many examples of TRUTH *de se* in what follows.

1.5 Interesting questions:

Is there any work that looks at the psycholinguistics of the semantics of de se? What kinds of experiments have been or could be done that would measure something like "cognitive access to self" and how that's encoded in some linguistic system?

There are psycholinguistic studies of self-"indexicals" in the sense of deixis, but with uncertain results. (Gillihan and Farah 2005)[4]

2.1 Some history

Hector-Neri Castañeda's (Castañeda 1968) famous case: (pp.446-447)

The war hero Quintus was wounded in battle. A brain injury and then a delicate brain operation causing retrograde amnesia. He remembers perfectly everything ***after*** the operation, but nothing that happened ***before*** the operation.[5]

Quintus Goes to the library, day after day, for hours on end. Reads everything concerning World War II. Learns of a war hero called Quintus, who was wounded 100 times in battle. Develops a huge admiration for that hero and becomes the world's greatest expert on Quintus.

Starts writing the biography of Quintus, but does not know that *he himself is* Quintus. No one else knows that! He wrote the biography, and he is the greatest expert on Quintus. *De Re* (as a matter of fact) he is writing [his] [auto-]biography, but it's not the case that:

The war hero wounded 100 times knows that he* (himself) is the war hero wounded 100 times.

Castañeda suggests that we introduce a different pronoun *he** (he star). There is a logic of knowledge referring to oneself *de se.*

We are here concerned with the nature of such knowledge.

2.2 Castañeda's solution:

"a peculiar and irreducible mechanism of reference to persons"

Contra Hintikka (Hintikka 1962) who reduced such cases to plain existential quantifiers over persons, Castañeda's theory *"requires, besides, that the persons over whom the quantifiers range be known to the persons to whom knowledge is attributed."*

Follows a formalized approach to this. He introduces an operator K_a meaning "*a* knows". $K_a(p)$ means "*a* knows that *p*" where *p* is a sentence. And a special kind of starred pronouns I*, he*. In such cases, something "has to click", in order to license a *de se* interpretation. The discovery in question involves indexicals (this person, this very person - *pointing to himself*), self-attribution and self-identification. *Not just further true propositions.*

In no book there is the sentence "That war hero is *you*!" In a sense: there is nothing "out there" for Quintus to learn (surely not from books).

2.3 Enter John Perry

Perry's sloppy customer (Perry 1979)

"I once followed a trail of sugar on a supermarket floor, pushing my cart down the aisle on one side of a tall counter and back the aisle on the other, seeking the shopper with the torn sack to tell him he was making a mess. With each trip around the counter, the trail became thicker. But I seemed unable to catch up. Finally it dawned on me. I was the shopper I was trying to catch. I believed at the outset that the shopper with a torn sack was making a mess. And I was right. But I did not believe that I was making a mess." (page 1)

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[4] The authors conclude that "many of the claims for the special status of self-related processing are premature given the evidence and that the various self-related research programs do not seem to be illuminating a unitary, common system, despite individuals' subjective experience of a unified self"

[5] This (retrograde amnesia) can really happen: Bilateral medial occipital damage and damage to pathways linking these areas to temporal/parietal lobes;. But post-injury acquisition of new autobiographical memories is possible. (Cipolotti, Shallice et al. 2001, Ouden, Frith et al. 2005)

Perrys essential indexical (Perry 1979)

> "I argue that the *essential indexical* poses a problem for various otherwise plausible accounts of belief. I first argue that it is a problem for the view that belief is a relation between subjects and propositions conceived as bearers of truth and falsity.
>
> The problem is not solved merely by replacing or supplementing this with a notion of de re belief. Nor is it solved by moving to a notion of a proposition that, rather than true or false absolutely is only true or false at an index or in a context (at a time, for a speaker, say). Its solution requires us to make a sharp distinction between objects of belief and belief states, and to realize that the connection between them is not so intimate as might have been supposed These indexicals are essential, in that replacement of them by other terms destroys the force of the explanation, or at least requires certain assumptions to be made to preserve it. Suppose I had said, "I came to believe that John Perry is making a mess."
>
> I would no longer have explained why I stopped and looked in my own cart. To explain *that*, I would have to add, "and I believe that I am John Perry," bringing in the indexical again. The only reason "I came to believe John Perry is making a mess" seems to explain my action is our natural assumption that I did believe I was John Perry. So replacing the indexical "I" with another term designating the same person really does, as claimed, destroy the explanation.
>
> I shall use the term "locating beliefs" to refer to one's beliefs about where one is, when it is, and who one is. Such beliefs seem essentially indexical."

2.4 Enter David Lewis (Lewis 1979)

Attitudes *de se* subsume attitudes *de dicto*, but not vice versa. Time-slices rather that "continuants". Centered possible worlds. Relations of acquaintance and identity. Follows an analysis of criteria for attributions of properties, and on *de re* versus *de dicto.* He introduced here the expression *de se,* adopted and widely used ever since.

Propositional attitudes

Expecting, believing, wanting, desiring an object (generic or specific), an action, a state of affairs
"Those [logical] *relations will be hard to describe if the assigned objects are miscellaneous. Uniform propositional objects, on the other hand, facilitate systematic common-sense psychology"*

The relation is to **properties** not to **propositions**

(1) When propositional objects will do, property objects also will do. (2) Sometimes property objects will do and propositional objects won't.

Moving to properties

Lewis will ignore here the difference between propositions and sentences (with a syntax). He wants to focus on **properties**
A very general notion of properties.
A one-to-one correspondence between propositions and properties
"To believe a proposition is to self-ascribe the corresponding property. The property that corresponds to a proposition is a locational [sic] *property: it is the property that belongs to all and only the inhabitants of a certain region of logical space."*
"These beliefs are attitudes whose objects might better be taken as self-ascribed properties than as believed-true propositions."

3. Enter semantics and syntax

3.1 Higginbotham on Lewis

Lewis's two assumptions:
  (1) Internalism: common-sense psychology demands an internalist conception of belief. What one believes is determined by what is in one's mind (and not, in addition, by who one is).

(2) The in-principle correctibility of belief in the impossible, leading to the conclusion that belief about oneself cannot be represented simply as belief about an object that is in fact oneself.

"[…] the conditions under which normal human beings can have thoughts about objects are sensitive, among many other ways, to <u>whether those objects are those human beings themselves</u>. So there is after all something semantically special about thoughts about oneself, but it is reflected not in the nature of those thoughts (in Lewis's system, in their irreducibly *de se* character, for instance), but rather in <u>the conditions that have to be satisfied in order for one to have them</u>." (emphasis added)

> *John expects that the person who trained hardest will win.*
> Even if he does not appreciate the fact that it so turns out that he, John, is the person who trained hardest.
> Therefore:
> *John expects that he will win.* TRUE DE RE
> But *he does not know* that he is the person who trained hardest
> Therefore:
> *John expects to win.* IS FALSE DE SE

3.2 Something semantically special. De re, de dicto and de se. (Chierchia 1989)
(1a) *Pavarotti believes that whoever can sing Tosca without mistakes is a musical genius.*
(1b) *Domingo is the only singer that can sing that opera without making mistakes.*
(1c) *Pavarotti believes that Domingo is a musical genius*.

(1a) is ambiguous: it can have a purely conceptual interpretation (whoever that singer turns out to be); this is a *de dicto* interpretation
Or a perceptual familiarity with that singer: this is a *de re* interpretation.
If Pavarotti's belief is *de dicto*, then (1c) can be false even if (1b) is true.
If Pavarotti's belief is *de re*, then (1c) is true *de re*, if (1b) is true
Regardless of Pavarotti's awareness of (1b)

Sloppy versus strict reading (ever since (Williams 1977))
(2) *John likes his brother and Mary does too.*
Sloppy reading: Mary likes her brother.
Strict reading: Mary likes John's brother.
How to get the sloppy reading?
Pronoun Rule: The pronoun in the antecedent in (2) is a variable bound by a λ-operator attached to the VP
[$_{VP}$ likes his brother] O$_i$ [$_{VP}$ likes his$_i$ brother]
The operator O is adjoined to the VP. Resulting in λx[x likes x's brother].
The sloppy interpretation.

Strict vs sloppy reading for PRO (Hornstein 1999)
John expects PRO *to win and Bill does too.*
Mandatory sloppy interpretation (Bill expects himself to win)
PRO is anaphoric
John thinks that PRO *getting his resume in order is crucial and Bill does too.*
Both readings possible. PRO can be pronominal. The dual nature of PRO has been questioned by Hornstein in terms of Obligatory versus non-obligatory Control.

It being so
The operator O can have scope also at other admissible sites, especially at a clausal level, giving a *de se* reading.
(3a) *Mary$_i$ believes that she$_i$ is in danger.*
(3b) *Mary believes to be in danger.*
In the co-referential interpretation of the pronoun in (3a) we have equivalence with the infinitival construction (3b)
Notice the mandatory *de se* interpretation of (3b)

Infinitivals and gerunds
The "*try*" category of verbs

(4a) *Pavarotti tried/practiced/began everything that Domingo tried/practiced/begun.*
(4b) *Domingo tried/practiced/begun singing Rigoletto.*
(4c) *Pavarotti tried/practiced/begun singing Rigoletto*
The argument is impeccable.

ALSO with ellipsis
(5a) *Domingo practiced singing Rigoletto.*
(5b) *Pavarotti practiced it too.*
(5c) *Pavarotti practiced singing Rigoletto.*

Only the sloppy reading is allowed. Pavarotti does not practice Domingo's practice

The "*want*" verb category
(6a) *The cat wanted to eat the cheese.*
(6b) *The mouse got what the cat wanted.*
(6c) *The mouse got to eat the cheese.*

We do not get the interpretation of (6b) as
*What the mouse got is that the cat eat the cheese.
Part of the special properties of PRO.

Essential co-referentiality of PRO
The cat$_i$ wanted PRO$_i$ *to eat the cheese.*
The mouse got what the cat wanted.
The mouse$_j$ got PRO$_j$ *to eat the cheese.*
Subordinate infinitivals and gerunds headed by PRO are not "really" propositions, they are ***unsaturated structures***, with a λ-abstractor.
And are analyzed as ***properties.*** The cheese-eating property is predicated, respectively and disjointly, of the cat and of the mouse.
All the implications follow naturally.

In essence, we have
PRO *to eat cheese = λ*x[x eats cheese]
The reference of x is given by the main clause
No other reference is admissible. Infinitivals and gerunds are interpreted as properties. PRO is a ***property-abstractor***
The mandatory co-reference with the subject of the main clause generates the mandatory *de se* interpretation.
This is explained in the Control Theory.

The "*make, force, succeed in, be nice of*" category:
(7a) *John persuaded Mary to be fired.*
(7b) *John persuaded Mary to bring about a situation where she is fired.*
(7a) entails (7b), but not vice versa.
(7b) may be true also when Mary *does not realize* that the situation she was persuaded to bring about is such that she is fired.
(7a) has an unambiguously *de se* interpretation.
The "*make, force, succeed in, be nice of*" category
CONTRAST WITH
(8a) *John forced Mary to leave.*
(8b) *John forced Mary to bring about a situation where she leaves.*
Now (8a) and (8b) entail each other.
(8a) has an unambiguously *de re* interpretation.
Causative verbs are like that.

Therefore:

De se readings need two hypothesis, not just one:

(1) certain constituents (notably infinitivals and gerunds) denote properties;

(2) the entailments associated with the relevant constructions interact predictably with (1)

We saw *persuade* versus *force*

And *to be fired* versus *leave*

Mary may not realize that the situation she was persuaded to create is such that she is fired, but she cannot not-realize that the situation forced on her is such that she leaves.

NPs versus pronouns

(9a) *John ate a ham sandwich.*

(9b) *Mary ate what John ate.*

(9c) *Mary ate a ham sandwich.*

She ate the same **kind of** stuff. We do not conclude that they were jointly biting one and the same piece.

CONTRAST IT TO

(10a) *John ate a ham sandwich.*

(10b) *Mary ate **it** too.*

Now we preferentially conclude that they were jointly biting one and the same piece

NOW COMPARE IT WITH

(11a) *Domingo practiced Rigoletto.*

(11b) *Pavarotti practiced it too.*

Now we do not conclude that they were singing together the same arias

BUT

The syntactic constructions are exactly the same, but Chierchia stresses that lexical entailments are different.

Relations that can be lexicalized in all languages (Chierchia 1989)

A. Propositional 1-place predicates taking S-complements

Be likely…

*it is likely to love Mary

Cannot express attitudes *de se,* because they do not express attitudes of an agent to a proposition.

No property denoting complements, no infinitivals or gerunds.

B. Relations of agents to propositions.

Believe, know, remember etc.

They express properties. Can have tensed S and infinitivals and gerunds as complements. Can express attitudes *de se.*

C. Relations of individuals to properties, tenseless

Try, practice, begin, etc.

They express properties. Have infinitivals and gerunds as complements

Purely *de se* relations*.* We have a markedness scale.

Anaphora in *that*- clauses

(12a) *Domingo believes that he is a genius.*

(12b) *Pavarotti believes it too. (Believes what Domingo believes).*

(12b) has a sloppy readings and a strict reading.

Sloppy: Pavarotti believes that he himself is a genius ("it" is anaphoric to a property)

We have a *de se* interpretation.

He would assent to: *I am a genius.*

Strict: Pavarotti believes that Domingo is a genius ("it" is anaphoric to a proposition)

No *de se*

He would not assent to: *I am a genius*

VP anaphora (Reinhart 1983)

(13a) *John wants to become a doctor.*

(13b) *but his mother doesn't want to.*

(13c) *but his mother doesn't want that.*

(13b) has only the sloppy reading (she does not want herself PRO to become a doctor)

(13c) has both a sloppy and a strict reading.

"*want*" takes both PRO-headed infinitives and infinitives with an overt lexical subject. Therefore both properties and propositions as complements.

Accordingly, the pronominal "*that*" has an ambiguous interpretation in (13c)

Now look at the "*try"* ver*b* category

(14a) *John tries to become a doctor.*

(14b) *but his mother doesn't try to.*

(14c) *but his mother doesn't try that.*

(14c) has **only** the sloppy reading (she does not try herself PRO to become a doctor)

It cannot mean that she does not try for John to become a doctor.

The pronominal "*that*" now has a non-ambiguous interpretation.

This confirms that lexical entailments need to be considered

And that the propositional theory has problems.

Long distance reflexives (Sells 1985; Chierchia 1989)

Are systematically linked to *de se* interpretations.

Explanation (Chierchia's explanation):

"Self" items (like the Italian *proprio/propri/proprie*) are bound by means of a property abstractor operator O. *Self* expressions are overtly marked.

Pronominals associated with a *de se* interpretation

Italian *proprio, propri*

(15a) *Massimo crede che le proprie dichiarazioni sono giuste*

M believes that *self* declarations are right

Mandatory *de se*

(15b) *Massimo crede che le sue dichiarazioni sono giuste*

M believes that his declarations are right

Possible *de re* interpretation

M does not realize it's himself on the screen.

Italian *proprio, propri/proprie*

(15a) *Massimo crede che le proprie dichiarazioni sono giuste*

*(15d) ma non si e' accorto che le dichiarazioni sono le sue

*but M does not realize that it's himself making those declarations

Impossible to have a *de re* interpretation with Italian *proprio/proprie*

It behaves like ***a phonologically realized PRO***

Believe (M, λx[x's declarations are right])

M_i believes O_i[that proprie$_i$ dichiarazioni are right]

The abstractor operator O

Adjoins to an S' or to a VP. The resulting abstract is predicated of the subject of the S' or the VP, licensing long distance anaphora.

The abstracted pronoun is not subject to island constraints

(16a) *M crede che il fatto che i propri libri abbiano tanto successo sia un miracolo*

M believes that the fact that *self* books are so successful is a miracle

M_i crede O_i [che il fatto che i propri$_i$ libri abbiano tanto successo sia un miracolo]

Constraints on possible antecedents

A reflexive like *proprio* embedded in an adverbial clause cannot have as antecedent the subject of the sentence immediately containing it.

(16a) **Gianni non verra' a meno che non inviti la propria moglie*

Gianni will not come unless (I) invite *self* wife

propria cannot have *Gianni* as antecedent

BUT it's perfectly OK to say

(16b) *Gianni pensa che sia bene non venire a meno che non inviti la propria moglie.*

Gianni thinks that it would be good not to come unless (I) invite *self [i.e Gianni's]* wife.

Look at the following:

(17) *Nessuno studente verra' a meno che non lo inviti personalmente.*

No student$_i$ willl come unless (you) invite him$_i$ personally.

The antecedent C-commands the pronoun and binding of (non-reflexive) pronouns by quantified NPs is OK.

(18) *Gianni non verra' a meno che Mario non inviti la propria moglie*

Gianni will not come unless Mario invites *self* wife

 Gianni non verra' a meno che Mario$_i$ non inviti la propria$_i$ moglie

Chierchia's conclusions

The cognitive access that we have to ourselves is semantically special. Excluded from the interpretation of (non-pronominal) referential expressions. Present in the interpretation of overt pronouns. Systematically associated with the interpretation of PRO. Associated, under constraints, with the interpretation of long distance reflexives (at least in some languages). Properties are subject-less incomplete structures whose completion results in a proposition.

That-clauses with a pronoun can be interpreted as derived predicates.

Patterns of validity of inferences for the different verb categories and their subcategorizations are fundamental (*try*-type versus *believe*-type verbs, for instance)

4. Differences between languages

Special syntactico-semantic properties of the English gerunds and infinitivals. Of Infinitivals, but not gerunds, in other languages (in Italian, French, Spanish). Of a kind of subjunctive, identified by the conjunction *să* (in Rumanian). Complex predicates and light verbs (in Persian)

Italian has PRO, but not the same syntax of the gerund (and has *pro*, unlike English)

De se contexts are introduced by infinitivals with the mandatory COMP preposition *di* (literally *of*) (Kayne 1999)

John remembers eating that cookie. ENGLISH

Gianni ricorda di aver mangiato quel biscotto.

Gianni ricorda [di [PRO aver mangiato quel biscotto]].

Gianni remembers "of" having eaten that cookie

No uncertainty about who ate the cookie

BUT

There is no "re-living" that experience.

The evidence may well be indirect or vague.

The Italian infinitivals do not convey the sense of "reliving" the experience in the way English gerunds do.

But there is a circumlocution in Italian that is close to rendering the English gerund.[6]

I remember giving the lecture.

Best translates into Italian as:

Ricordo me che davo la lezione.

(I$_i$)remember me$_i$ who$_i$ gave the lecture.

4.1 Kayne's analysis of prepositional complementizers (Kayne 1984, 1999, 2000)[7]

Take infinitive phrases in French and Italian to be nominal in the sense of sharing a feature with NPs, without taking French/Italian infinitive phrases to be DPs. Taking infinitive phrases to be parallel to NPs makes immediate sense of the fact that they can (sometimes) be embedded under a definite article.

Assuming that syntactic case is needed by DPs but not by NPs, we can allow for no case at all to be assigned to the infinitive phrase […] Syntactic case would be assigned to the containing DP, but not to the infinitive phrase proper. A further question is then whether syntactic case of the sort required by DPs is ever required by French/Italian infinitives.

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[6] I am grateful to Gennaro Chierchia for suggesting this.

[7] For greater clarity, I am reproducing Kayne's 2000 Chapter 14 numbering.

I [Kayne] will instead take *di* (and other complementizers) to play a licensing role with respect to sentential phrases that is not identical to DP case.
This is supported by the basic fact that has led to the use of the term complementizer:

> The infinitival IP is merged with the main verb, not with *di* (Italian) *de* (French)
> *di* attracts the infinitival IP to its Spec, *di* then raises to an immediately higher head W.
> Finally (*di+*)W attracts VP to its Spec
> *Gianni ha tentato di cantare*
> Gianni has tried *di*-INF sing
> *...tentato cantare* ➔ merger of *di*
> *...di tentato cantare* ➔ attraction of infinitival IP by *di*
> *...cantare$_i$ di tentato t$_i$* ➔ merger of W and attraction of *di* by W
> *...di$_j$+W cantare$_i$ t$_j$ tentato t$_i$* ➔ attraction of VP to Spec,W
> *...[tentato t$_i$]$_k$ di$_j$ +W cantare$_i$ t$_j$ t$_k$*

Problems with Case
> The preposition *di* with infinitivals is not a Case assigner. Accusative is assigned straightforwardly by the verb *mettere, dimenticare*. The obligatory *di* cannot assign Case.
> Reminder: PRO has no Case.
> In fact, with infinitivals of other verbs it cannot be there:
> *Detesto (*di) andare al cinema.*
> *Conto sui suoi soldi*
> I trust (*on) to get his money
> *Conto (*su) di avere i suoi soldi*

English *to*
> Similarities and differences with *di/de.*
There are some similarities between English *to* and *de/di* (in addition to the basic fact that all are incompatible with a finite IP.)

(89) John tried to sing.
(90) . . . tried sing —> merger of *to*
. . . to tried sing —> attraction of infinitive phrase to Spec,*to*
. . . *sing$_i$ to tried* t$_i$—> merger of W and raising of *to*
. . . *to$_j$ +* W sing$_i$; t$_j$ tried t$_i$ —> movement of VP to Spec,W
. . . [tried t$_i$]$_k$ to$_j$ + W sing$_i$ t$_j$ t$_k$
The deviance of (88) is a result of the fact that this kind of derivation will not produce it:
(91) . . . *considers win possible* —> merger of *to*
. . . *to considers win possible* —> attraction to Spec,*to*
. . . *win$_j$ to considers* t$_j$ *possible* —> merger of W and raising of *to*
. . . *to$_j$ +* W *win$_i$* t$_j$ *considers* t$_i$ *possible* —> movement of VP to Spec,W
. . . [*considers* t$_i$ *possible*]$_k$ *to$_j$ +* W win$_i$ t$_j$ t$_k$
Rather than (88), what is produced is:
*John considers possible to win.

English *to* differences
To is compatible with a preposed Wh-phrase, unlike *de/di*:
(95) *John knows where to go*.
(96) **Jean sait ou' d'aller.*
        Jean sait ou' aller
(97) **Gianni sa dove di andare*.
        Gianni sa dove andare.
The derivation of (95) must be:
(98) . . . *knows go where* —> Wh-movement
. . . *knows where go* —> merger of *to*

. . . to knows where go —> attraction of subpart of infinitive phrase to Spec,*to*

. . . go$_i$ to knows where t$_i$ —> merger of W and raising of *to*

. . . to$_j$ + W *go*$_i$ t$_j$ *knows where* t$_i$ —> movement to Spec,W

. . . [knows where t$_i$ *]*$_k$ *to*$_j$ + W *go*$_i$ t$_j$ t$_k$

The key point here is that, to derive (95), we need to let *to* attract not the whole infinitive phrase but rather the infinitive phrase minus the Wh phrase in its high Spec position.

Such subextraction (stranding the Wh phrase) is not allowed in French or Italian.

Then the ungrammaticality of (96) and (97) follows.

Notice that if *to* in (98) could have attracted the whole infinitive phrase including the Wh-phrase, we would incorrectly have derived:

(99) *.*Iohn knows to where go*.

(100) **Jean sait d'ou' aller*.

To and negation

The impossibility of having a lexical subject or a Wh-phrase between *to /de/ di* and the infinitive verb in (107-109) and (99-101) contrasts with the following, in which a negative morpheme or morphemes can be so placed:

(110) *John promised to not do it.*

(111) *Jean a promis de ne pas le faire.*

John has promised de neg not it do-inf.

(112) *Gianni ha promesso di non farlo.*

John has promised di neg do-inf.-it

It seems clear that to derive the correct word order, what must move to Spec,*to/de/di* is the infinitive phrase, including negation (i.e. *not do it, ne pas le faire, non farlo*),

for example:

(113) *... promis ne pas le faire* —> merger of *de*

. . . de promis ne pas le faire —> movement to Spec,*de*

. . . [ne pas le faire]$_i$ *de promis* t$_i$ —> merger of W and raising of *de*

. . . de$_j$ + W [*ne pas le faire*]$_i$ t$_j$ *promis* t$_i$ —> movement to Spec,W

. . . [promis t$_j$]$_k$ *de*$_j$ + W [*ne pas le faire*]$_i$ t$_j$ t$_k$

If this is so, then the (nominal) feature attracted by *de* must remain visible in the presence of negation. This means that, if the presence of *ne pas* indicates the presence of a NegP, and if attraction can see only the highest projection, the relevant infinitival feature must raise to Neg^0.

In English:

(114) *John promised not to do it.*

In French and Italian, on the other hand, placing the negation before the *de/di* results in ungrammaticality:

(115) **Jean a promis ne pas de le faire*.

(116) * *Gianni ha promesso non di farlo*.

The derivation must be:

(117) *... promised not do it* —> merger of *to*

. . . to promised not do it —> movement to Spec,*to*

. . . [do it]$_i$ *to promised not* t$_i$ —> merger of W and raising of *to*

. . . to$_j$ + W [*do it*]$_j$ t$_j$ *promised not* t$_i$ —> movement to Spec,W

. . . [promised not t$_i$]$_k$ *to*$_j$ + W [do it]$_i$ t$_j$ t$_k$

As in (98) and (105), what is moved to Spec,*to* is a subpart of the infinitival argument of the matrix verb. *Do it* is moved, stranding *not*.

Assuming, then, that such subextraction is not available in French or in Italian, we have an account of (115) and (116).

As for the question why English should differ from French and Italian in precisely this way, there may be a link with the fact that of the three only English allows VP-Deletion with *have* and *be* (and *to* itself.)

Within English, on the other hand, there is an intriguing link with VP-preposing. VP-preposing can strand sentential negation, as shown
in (119):

(118) *He said he would do it and do it he will*.

(119) *He said he wouldn't do it and do it he won't.*
Consider now what is often called 'constituent negation', that is, the second negation
in:
(120) *He won't not do it.*
VP-preposing does not seem to be able to strand constituent negation:
(121) **He said he wouldn 't not do it and do it he won't not*.
Now the *not* of (114) feels like sentential (ordinary) negation, while the *not* of (110) feels like constituent negation. In derivational terms, we see furthermore that the sentential negation of (114) is stranded by movement to Spec,*to* (of *do it*), as indicated in (117). Whereas the constituent negation of (110) is carried along by movement
to Spec,*to* (of *not do it*), as indicated implicitly in (113).

At variance with *di/de* (see above)
The English prepositional Complementizer *to* attracts the infinitival IP to Spec, *to*
John promised not to do it.
**Gianni ha promesso non di farlo.*
Gianni ha promesso di non farlo.
**Jean a promis ne pas de le faire.*
Jean a promis de ne pas le faire.
With NegP, attraction can only see the highest projection, then the relevant infinitival feature must raise to Neg^0
        (See Kayne 1984, 1999 and especially 2000 Chapter 14 for details).

        Kayne's conclusion:
The prepositional complementizers *de/di/to* in French, Italian, and English enter the derivation above the VP, and not as sister to the IP they are associated with. The relation between complementizer and IP is expressed by having the IP move to the specifier position of the complementizer. Subsequent raising of the complementizer (to a head W), followed by phrasal movement to Spec,W, produces the observed word order in these languages [....]. Many syntactic relations that could at first glance be expressed in terms of merger (sisterhood) turn out to be better expressed in terms of attraction (Spec-head).

4.2 Higginbotham (2003; 2010)
Contrast
Only Churchill remembers giving the famous speech. TRUE DE SE
*Only Churchill remembers **his** giving the famous speech.* FALSE
Millions may well remember **his** giving that speech
ALSO
Only Churchill believes that PRO *giving that speech was momentous.*

Events (stressed by Higginbotham)
Gerundive complements have an event-like rather than a proposition-like complement. And we can speak of ourselves as remembering, knowing, imagining etc. ***as*** engaged in those events. Distinct from complements "that-so-and-so". PRO presents the subject as the subject (or experiencer) of the event or state ***as given in the higher clause.***
        Higginbotham's operator symbol σ(*e*)
        John expects PRO *to win.*

(for John = x) (ᵼ(*e*)) expect [x, *e*, ^(ᵼ(*e'*)) win (σ(*e*), e')] [8]

John expects PRO *to win.*   ***De se***

(for John = x) (ᵼ(*e*)) expect [x, *e*, ^(ᵼ(*e'*)) win (σ(*e*), e')]

Contrast with

John expects (that) he will win. ***De re***

(for John = x) (ᵼ(*e*)) expect [x, *e*, ^(ᵼ(*e'*)) win (x,e')]

John may not have realized that he himself is the one who trained hardest. No sigma.

The subject σ(*e*) of *e*

Cannot fail to be known as the thing x that is *that* subject (or experiencer).

The link between

I expect that I (myself) will win

And

I expect PRO *to win*

Is strong

BUT the thought

^(ᵼ(*e'*)) win (σ(*e*), e')

Is different from the thought

^(ᵼ(*e'*)) win (x,e')

Even if they are not intensionally different

Application to the war hero

The war hero thinks that he is a hero.

No sigma

The war hero thinks that he himself is a hero.

With sigma

There are no grounds upon which the intensionally individuated contents may be distinguished. They coincide in truth value in any factual or counterfactual situation. But they are not the same thought! Possible worlds semantics fails, in these cases.

The dual role of PRO

Predicates of a language are classifiers of events

Their arguments are selected as participants in the events so classified

Two cases:

(1) an object α in a predication φ(*e*,α) is given through some description external to its participation in *e*;

(2) α is given simply as θ(*e*), where θ expresses the thematic role that α bears to *e*.

Something like the "undergoer" of *e*.

In essence (according to Higginbotham)

PRO ➔ σ(*e*)&θ(*e*)

In words: PRO is the subject of the infinitival (or gerund) clause, presented *as being the same as the subject of the matrix clause.*

MOREOVER:

Its role in the event is assigned as the one proper to the agent (undergoer) of the event itself, as classified (presented) by the predicate. This is the explanation of de se interpretations and of immunity to errors of mis-identification.

4.3 Other Italian *de se* examples

Imperative

*Ricordati [di [*PRO *scrivere alla mamma]]*

Remember-you-to-self to write to mother.

"You" will be doing the writing.

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[8] The circumflex caret ^ taken from Montague indicates lambda abstraction over possible worlds.

Present tense
Tento [di [PRO scrivere un saggio]]
I try to write an essay

Subcategorization counts
*Detesto (*di) [PRO scrivere alla mamma].*
I detest (*to) write to mother

Italian infinitivals are NPs
Cos'e' quel guardarmi cosi'?
What is that-the looking at me in that way?
Il mio parlare lo infastidi'
The my to speak irked him
Il mangiare pesce ogni Venerdi'
The to-eat fish every Friday

BUT they are not DPs
Gianni ha dimenticato i guanti
G forgot the (his) gloves
Gianni ha dimenticato di mettersi i guanti
G forgot *di* wear-self (his) gloves

4.4 Romanian *de se* (Folescu and Higginbotham 2012)
Two types of subjunctive
Subjunctive 1: introduced by the conjunctive *sä*
It triggers the *de se*
Subjunctive 2: introduced by the conjunctives *ca sä*
Does not trigger the *de se*
Romanian does not have PRO (but has *pro*)
De se contexts are introduced by a kind of subjunctive, identified by the conjunction *sä*
Not by gerunds or infinitives. It cannot be the case that Maria does not realize that she is the one wanting and the one eating.
The subordinate has a silent subject (*pro*) that cannot be anyone but Maria.
It would be a contradiction to add: but she does not realize it's her wanting to eat the cookie.
IEM (immunity to error of misidentification)

Maria vrea [să mănânce fursecul]
Maria wants-3sg [eat-3sg cookie-the]
Maria wants to eat the cookie.

The subordinate subjunctive verb shows third-person features, so it's a third-person pronoun. The embedded silent subject cannot be anyone else but Maria.
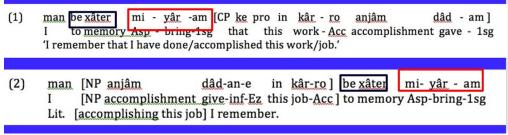
4.5 Persian
The case of Persian (courtesy of Simin Karimi)
Persian does not have PRO, it's like Romanian, but has small *pro*, like Italian and Romanian. Infinitives function as noun phrases in Persian, similar to Arabic, Italian, French and many other languages. They appear in argument positions, can be pluralized, take the Accusative marker demonstrative, etc.
'to remember' and 'to do, accomplish' are complex predicates in Persian, consisting of a non-verbal element and a light verb each.[9]

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[9] Light verbs are similar to the English *do*

(1) man be xâter mi - yâr -am [CP ke pro in kâr - ro   anjâm   dâd - am]
     I   to memory Asp - bring-1sg   that   this work - Acc accomplishment gave - 1sg
     'I remember that I have done/accomplished this work/job.'

(2) man [NP anjâm   dâd-an-e   in kâr-ro] be xâter   mi- yâr - am
     I   [NP accomplishment give-inf-Ez this job-Acc] to memory Asp-bring-1sg
     Lit. [accomplishing this job] I remember.

ENGLISH: *I remember doing this work*
The case of Persian
(1) has a *de se* interpretation. But not (2), where the job may have been done by anyone.

4.6 Iraqi Arabic (courtesy of Mohammed Al_Sammak)

Ɂatðakər   lamən ʧɑn-oʊ isˤiħ-u:n   l-abu:-ja   Ɂħməd
remember   when was-pl calling-pl   to-dad-my   Ahmed
'I remember when they called my dad Ahmed.'

The above sentence has one interpretation, which is that the speaker has *witnessed* other people call his dad *Ahmed*.

Ɂatðakər   ʧɑn-oʊ isˤiħ-u:n   l-abu:-ja   Ɂħməd
remember   was-pl calling-pl   to-dad-my   Ahmed
'I remember that they called my dad Ahmed.'

The above sentence carries two interpretations: the first is that the speaker has *heard that* other people used to call his dad *Ahmed*. The second interpretation is that the speaker has witnessed other people call his dad *Ahmed*; however, this interpretation is not supported by evidence (such as *lamən* 'when' in the first sentence).

4.7 Japanese (courtesy of Koji Arikawa)

One Japanese sentence that obviously means de se
watashi$_i$-wa [$_{TP}$ PRO$_i$ Tokyo-ni ik-i]   ta-i.
   I-top   Tokyo-to go-infinitive want-nonpast
'I want to go to Tokyo.'

One Japanese sentence that allows but does not impose de se
Mary$_i$-wa [$_{CP}$ [$_{TP}$ pro$_{i/j}$ Tokyo-ni it-ta hoo-ga ii]   ka]   nayan-de   i-ru.
Mary-top   Tokyo-to go-past way-nom good whether be.worried-infinitive be-nonpast
'Mary is worried about whether she/the person had better go to Tokyo.'

One Japanese sentence that excludes de se
Mary-wa [$_{CP}$ [$_{TP}$ pro Tokyo-ni ik-u]   daroo to] omot-te   i-ru.
Mary-top   Tokyo-to go-nonpast probably that think-infinitive be-nonpast
'Mary thinks that the person will probably go to Tokyo.'

The small *pro* appears when the tense is finite, as shown above. In contrast, the big PRO appears when the tense is infinitive, as shown above.

In essence, syntactically, PRO requires *de se* reading in Japanese, whereas *pro* does not. Semantically, Ohno (2018) concludes that a verb as *nayam-u* 'be.worried' requires *de se* interpretation in Japanese.

See (Ohno 2018)

Kaqchikel Mayan language (Courtesy of Robert Henderson)
These languages have pro. You can drop both subject and object.

pro x-0-u-löq'   pro
    ASP-A3s-E3s-buy
'S/he bought it.'

The language also has big PRO, but only in nominalized predicates, which do not bear aspect—e.g.,

X-0-w-aj   kuna-x-ik
ASP-A3s-E1s-agree cure-PAS-NMLZ
I agreed to be cured.

Co-reference with the subject is required, and Henderson says he would be astonished if this example could be read any other way than De Se.

So far, everything is like Japanese. What is interesting about these languages is that a lot of attitude predicates take full clauses, not infinitives like in English, especially want, desire, etc.

So, if you want to say, I wanted to buy it, you have to say "I wanted I bought it"

X-0-inw-ajo'   x-0-in-löq'
ASP-A3s-E1s-want ASP-A3s-E1s-buy

What is interesting is that, supposedly, if you put a complementizer between the clauses the subjects must be disjoint (or so say grammars), and so you can't put a complementizer here above between the two clauses because we have first persons and so they must be coreferential, but in 3rd person, Henderson is nearly certain the issue is not coreference, but De Se.

That is, the following must have the De Se reading, he wanted to buy it, while literally being "He wanted he bought."

X-0-r-ajo'   x-0-u-löq'
ASP-A3s-E3s-want ASP-A3s-E3s-buy

But if you use the complementizer you lose the De Se reading and can either have a non-coreferential subject (but Henderson is certain also a coreferential subject where the matrix clause subject doesn't realize he is the one wanting to buy it)—e.g.,

X-0-r-ajo' chi   x-0-u-löq'
ASP-A3s-E3s-want that ASP-A3s-E3s-buy
"He$_i$ wanted that he$_j$ bought it"

So, here we have the presence of the complementizer conditioning *De Se*. In all cases, we have agreement on both verbs and so Henderson would assume we have little pro, yet still *De Se*.

Language differences. Little summary:

	pro	**PRO**	*de se*
ENGLISH		✔	**Infin. & gerunds**
ITALIAN	✔	✔	**Infin + *di* COMP**
ROMANIAN	✔		**Prepos+subjun1**
PERSIAN	✔		**Non-V + light verb**
JAPANESE	✔	✔	**Infin with PRO**
Kaqchikel	✔	✔	**Complementizer**

5. Lessons from all this

Languages with different historical origins (English versus Italian, Rumanian versus Persian) have interesting, deep commonalities and differences to express similar meanings. Silent, unpronounced, un-written elements (such as PRO and *pro*) are present, or are absent, with many crucial syntactic and semantic consequences. This is **a** fascinating issue for language acquisition. Since these elements are tacit, in-expressed, how can the child understand that they are present/absent in the local language? Surely by means of linguistic input, in very interesting, complex ways.

6. Logophoric pronous

An interesting component of self-reference are logophoric pronouns, in some languages. The term, derived from Ancient Greek, means "carrying discourse". It was introduced by the French linguist Claude Hagège in 1974 (Hagège 1974) and is well, simply explained by Philippe Schlenker in his book (Schlenker 2022), especially in Chapter 3, with examples from the languages Gokana of Nigeria, Zazaki of Eastern Turkey, Amharic of Ethiopia, Ewe of Niger-Congo and Gokana of Rivers State Nigeria.

Of particular interest is Ewe, in which the logophoric pronoun *yé/yewo* appears to have a complex interpretation, allowing, but not forcing, a *de se* interpretation (see work by Clements, Hazel Pearson, Bimpeh 2019, Schlenker 2003, 2022, Anand 2006. Especially Chapter 7 of Pearson 2013 (Pearson 2013, 2015, 2022) Peaerson concludes (page 510):

"(i) *yè* is restricted to attitudinal environments: canonically, embedded clauses introduced by attitude predicates.
(ii) *yè* obligatorily picks out the attitude holder associated with an attitude predicate that introduces it.
(iii) The attitude holder that serves as the antecedent of *yè* may but need not be the most local attitude holder in cases of multiple embedding.
(iv) The antecedent of *yè* should be in the third person.
(v) *Yè* and the plain pronoun *e* are not in complementary distribution: *e* can also occur in the scope of an attitude predicate and denote the attitude holder."
The issue, however, is complex and not all authors agree.

An analogy between logophoric pronouns and the silent pronoun PRO in English and other languages has been suggested by several authors, notably by Philippe Schlenker.

7. Indexical shifting (IS) (Anand 2006, Anand and Nevins 2004)

In essence, consider the following sentence:

John$_i$ said that he$_i$/I$_{*i}$ left.

In English , "*he*" refers to John, while "*I* " cannot refer to *John*, but there are languages in which the same construction is such that *I* refers (or at any rate can refer) to *John*. This is the phenomenon of indexical shift.

Kyrill Schklowsky and Yasutada Sudo have analyzed the phenomenon of indexical shifting in the language (Modern) Uyghur of Turkey, North China and Kazakhstan. (Shklovsky and Sudo 2014), but (as they say) analogous phenomena are also found in Amharic, Navajo, Zazaki, Slave, Catalan Sign Language, Nez Perce and Turkish.

David Kaplan classic theory of indexicals (Kaplan 1977/1989, 1978, 1990, 1997), suggests that indexicals (like *I, you, here, now, they, it*) are obligatorily dependent on the actual context of utterance. He claimed that there is no operator in natural language that shifts the context. He called such (allegedly) nonexistent operators "monsters". In a paper significantly entitled "The Syntax of Monsters", Schklowsky and Sudo offer cases of the existence of such "monsters", contrary to Kaplan's suggestion. Philippe Schlenker reinforces this hypothesis in a paper entitled "A plea for monsters" (Schlenker 2003).

In essence, IS is sensitive to structural positions of the indexicals, and, as a consequence, can be partial. Indexicals, under the scope of these (allegedly) nonexistent "monster" operators are interpreted under non-actual contexts and can refer to somebody other than the speaker of the sentence.

Indexical shifting in Uyghur is confined to attitude report constructions. Attitude reports in this language can appear in one of two syntactic forms: nominalized complement clause (2a) and finite complement clause (2b).

Their example:

(2) a. Ahmet [profesor-ning kit-ken-lik-i-ni]   di-di.

Ahmet [professor-GEN leave-REL-NMLZ-3-ACC] say-PAST.3

'Ahmet said that the professor left.'

b. Ahmet [profesor   ket-ti]   di-di.

Ahmet [professor.NOM leave-PAST.3] say-PAST.3

'Ahmet said that the professor left.'

These are synonymous, but, "although nominalized and finite complement clauses can be used to convey similar meanings, they exhibit different characteristics with respect to the interpretation of indexicals: in nominalized complement clauses, nominative subjects and verbal agreement are interpreted relative to the context of the matrix utterance (the *nonshifted* reading), whereas in finite complement clauses, indexical subjects and verbal agreement are interpreted relative to the reported context (the *shifted* reading)" (Schklowsky and Sudo (2014) page 383).

They offer this other example:

(50) a.   Ahmet [meni   ket-ti]   di-di.

Ahmet [1SG.ACC leave-PAST.3] say-PAST.3

*'Ahmet said that he himself left.'

'Ahmet said that I left.'

b. *Ahmet [meni   ket-tim]   di-di.

Ahmet [1SG.ACC leave-PAST.1SG] say-PAST.3

'Ahmet said that he/I left.'

And conclude: (page 399)

"In (50)a the embedded agreement is third person, but the pronoun that it agrees with is not shifted and is first person. Descrictively speaking, then, third person agreement and a first person pronoun refer to the same entity, but belong to shifted and nonshifted domains. Note that the verbal agreement with an accusative subject is not always third person, as showed by [the following] (51a,c) example, and hence it cannot be said that the agreement in (50a) is default agreement."

(51) a. Ahmet [Aygül-ni   nan   ye-isen]   di-di.

Ahmet [Aygül-ACC bread eat-IMPF.2] say-PAST.3

'Ahmet said to Aygül, ''You eat bread.'' '

b. Ahmet [meni   nan   ye-isen]   di-di.

Ahmet [1SG.ACC bread eat-IMPF.2] say-PAST.3

'Ahmet said to me, ''You eat bread.'' '

c. Men   [peqet öz-em-ni-la   nan   ye-imen]   di-dim.

1SG.NOM [only   self-1SG-ACC-FOC bread eat-IMPF.1SG] say-PAST.1SG

'I said that only I eat bread.'

"Pronoun/agreement mismatch is a regular phenomenon in embedded finite clauses in Uyghur."

Schlenker so concludes his "plea for monsters": ((Schlenker 2003) Page 99)

"(i) Why do monsters exist? Because Frege's insight was in fact correct: even when indexicality is brought into the picture, the same semantic object is responsible for the cognitive significance of a matrix sentence and for the truth-conditional contribution of a clause embedded under an attitude verb. In a possible-worlds framework this object can be identified with a property of contexts, as was suggested originally in Lewis 1979 REF. The implementation of this insight requires a system which has at least the expressive power of full quantification over contexts, but this technical fact is not so special to indexicality, since the grammar of tense and mood also requires the apparatus of full quantification over times and possible words.

(ii) Why are some indexicals (e.g English 'I') unshiftable? Thie turned out to be the complement of the question: Why do some indexicals (namely the logophoric pronouns) have to be shifted? While the problem can be treated either in syntactic terms (with richly annotated logical forms) or with semantic stipulation, the latter solution appears preferable, among others because it derives certain puzzling asymmetries in the use of logophoric pronouns and of logophoric mood."

(iii) How are the agreement facts with De Se readings to be accounted for? For person no special mechanism is needed if one is willing to change slightly the semantics of De Se readings, and to posit a somewhat stipulative LF syntax for Quantifying In. In the case of tense, however, this only accounts for part of the data, and some Sequence of Tense rule is still needed in the end".

Conclusion:

There is, indeed, something special in the syntax and semantics of expressions that refer to oneself. Castañeda (Castañeda 1968) has tried with a special knowledge operator K and special starred pronouns. Perry (1979) has recommended "essential indexicals"; Lewis (1979) has persuasively advocated self-assigned properties instead of believed-true propositions. I have followed Higginbotham (2003, 2010) with his plea for classifiers of events and his original characterization of PRO as a conjunction of two operators $(\sigma(e)\&\theta(e))$.

The complex issues of logophoric pronouns and indexical shift show that differences between languages are at the same time deep and subtle. All in all, in quite a number of cases, something has to "click" (so to speak) to shift from a true De Re expression to a true De Se self attribution. Various valiant attempts have been made to express this "clicking" in terms of syntax, Logical Form and considerations of context.

A preliminary table of differences between some languages, in terms of little *pro* and big PRO is reported above. More languages will be added in a prosecution of this work. This all is in the framework of Government and Binding. A lot of the cited recent literature on De Se is also, basically, in a GB framework. For the moment, I am not able to re-analyze these data and these issues in a Minimalist framework[10]. Time will tell.

Biblio

Anand P. (2006) "De De Se" dissertation Department of Linguistics and Philosophy, MIT

Anand P. and A. Nevins (2004) "Shifty operators in changing contexts" Proceedings of SALT XIV, Cornell University, Ithaca, NY 2004 Pages: 20-37.

Bimpeh A. A. (2019) "Default de se: The interpretation of the Ewe logophor". Proceedings of TripleA 5: Fieldwork Perspectives on the Semantics of African, Asian and Austronesian Languages Tübingen Publisher: Universitätsbibliothek Tübingen, Publikationssystem   (Pages: 1-15)

Castañeda H.-N. (1966). "'He': A study in the logic of self-consciousness." Ratio **8**: pp.130-157.

Castañeda, H.-N. (1968). "On the Logic of Attributions of Self-Knowledge to Others." The Journal of Philosophy **65**(15 (August 8)): pp. 439-456.

Chierchia, G. (1989) Anaphora and Attitudes *de se.* In R. Bartsh, J.Van Benthem and P. Van Emde Boas (Eds) *Semantics and Contextual Expressions*, Foris Publications, Dordrecht – Holland pp. 2-31

Cipolotti, L., et al. (2001). "Long-term retrograde amnesia… the crucial role of the hippocampus." Neuropsychologia **39**: pp. 151-172.

Folescu, M., & Higginbotham, J. (2012). Two takes on de se. In S. Prosser & F. Recanati (Eds.) *Immunity to Error Through Misidentification: New Essays* (pp.46-61). Cambridge UK: Cambridge University Press

Gillihan, S. J. and M. J. Farah (2005). "Is Self Special? A Critical Review of Evidence From Experimental Psychology and Cognitive Neuroscience." Psychological Bulletin **131**(1): pp. 76-97.

Hagège, C. (1974). "Les pronoms logophoriques." Bulletin de la Société de Linguistique de Paris **69**: pp. 287-310.

Higginbotham, J. (1991). Belief and Logical Form. *Mind and Language, 6* (4 (Winter)), pp 344-369.

Higginbotham, J. (2003). Remembering, imagining and the first person. In A. Barber (Ed.), *Epistemology of Language* (pp. 496-533). Oxford: Oxford University Press.

Higginbotham, J. (2010). On words and thoughts about oneself. In F. Recanati, I. Stojanovich and N. Villanueva (eds.) *Context-Dependence, Perspective, and Relativity*. Berlin and New York: De Gruyter Mouton (pp. 253-282)

Hintikka, J. (1962). Knowledge and Belief, Cornell University Press.

Hornstein, N. (1999). "Movement and control." Linguistic Inquiry **30**(1): pp. 69-96.

Kaplan, D. (1978). "On the logic of demonstratives." Journal of Philosophical Logic **8**: pp. 81-98.

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[10] Noam Chomsky was in the audience when I presented a version of this study at a Rutgers University in a conference commemorating Jim Higginbotham. There and then, he was unable to suggest to me a Minimalist version. He said he had to think about it, but he has not sent to me any suggestions yet. (December 2023).

Kaplan, D. (1978). Dthat. in Pragmatics, Syntax and Semantics. P. Cole (Ed) New York, Academic Press.

Kaplan, D. (1997). Dthat. In Readings in the Philosophy of Language. P. Ludlow (Ed). Cambridge, A Bradford Book. The MIT Press (pp.669-692)

Kaplan, D. M. (1977/1989). Demonstratives. Themes from Kaplan. Almog, J. Perry and J. Wettstein (Eds). Oxford UK, Oxford University Press.

Kaplan, D. M. (1990). Thoughts on demonstratives. Demonstratives. P. Yourgrau (Ed). Oxford UK, Oxford University Press.

Kayne, R. S. (1984) Connectedness and Binary Branching. Foris. Dordrecht, Holland

Kayne, R. S. (1999). "Prepositional complementizers as attractors."Probus 11(1): pp. 39-74.

Kayne, R. S. (2000). Parameters and Universals. Oxford University Press.

Lewis, D. (1979) Attitudes De Dicto and De Se The Philosophical Review,Vol. 88, No. 4 (Oct., 1979), pp. 513-543 New Essays (pp. 46-61). Cambridge, UK: Cambridge University Press

Ohno, Yutaka. 2018. De se kaisyaku-o motomeru dooshi-nituite [On Verbs demanding de se interpretation] [Ritsumeikan Kee.ee.gaku Business Administration], vol. 56, no. 5.

Ouden, H. E. M. d., U. Frith, C. Frith and S.J. Blakemore (2005). "Thinking about intentions." Neuroimage 28: pp. 787-796.

Pearson, H. (2013). The Sense of Self: Topics in the Semantics of De Se Expressions. Dissertation Harvard Linguistics. Cambridge, MA.

Pearson, H. (2015). "The Interpretation of the Logophoric Pronoun in Ewe." Natural Language Semantics 23(2): pp. 77-118.

Pearson, H. (2022). "On testing for de se and de re construals across languages." Semantic Field Methods 4(11).(pp. 1-22)

Pearson, H. (2023). The logic of de se reports. Proceedings of Sinn und Bedeutung 28. Ruhr University, Bochum. (pp. 1-23)

Perry, J. (1977). "Frege on Demonstratives." Philosophical Review Vol 86 (4) (October) pp. 474-497.

Perry, J. (1979). "The Problem of the Essential Indexical." Noûs 13(1): pp. 3-21. Reprinted in N. Salmon & S. Soames (Eds) Propositions and Attitudes, Oxford University Press, 1988.

Reinhart, T. (1983). Anaphora and Semantic Interpretation, The University of Chicago Press.

Schlenker, P. (2003). "A plea for monsters." Linguistics and Philosophy 26(1 (February)): pp. 29-120.

Schlenker, P. (2022). What it all Means: Semantics for (Almost) Everything. Cambridge, MA, MIT Press.

Sells, P. (1985). Lectures on Contemporary Syntactic Theories. Stanford CA, University of Chicago Press.

Shklovsky, K. and Y. Sudo (2014). "The syntax of monsters." Linguistic Inquiry 43(3): pp. 381-402.

Williams, E. S. (1977). "Discourse and Logical Form." Linguistic Inquiry 8(1): pp. 101-139.