Contextualism and Minimalism on De Se Belief Ascription


Kasia M. Jaszczolt

University of Cambridge

‘The indexical fact may have to be taken as primitive.’

Chalmers (1996: 85)

1. Introduction

Early discussions of *de se* belief ascription focused on the status of the objects of attitudes and stemmed out of consolidated attempts to exorcise propositions and introduce properties and ‘relations to oneself’ instead (Lewis 1979; Perry 1979). Propositions were revindicated via various rescue plans (Cresswell 1985; Kaplan 1989a; Crimmins and Perry 1989; Schiffer 1992; Perry 2001) but the problem of compositional semantics of belief reports, including *de se* attributions, has remained a testing ground for semantic theories to this day. In this paper I propose to look at *de se* belief reports in the light of the current debate between minimalism and contextualism in semantics. I argue that the differences in the reference-securing functions between *de re* and *de se* occur on the level of semantic content itself where the latter has to be understood as on contextualist accounts. The contextualist orientation is required for the essential ingredient of self-awareness to be included in the semantic representation. This representation is regarded as compositional in the contextualist sense of compositionality of meaning. In the course of the discussion I propose some amendments to Chierchia’s (1989) claim of the systematicity of retrieval of the cognitive access to oneself from the types of grammatical expressions, and discuss the different roles that the concepts of self-ascription, self-attribution, and self-awareness play in a contextualist semantic theory of *de se* belief reports. I conclude that expression of self-awareness does not require a specific
type of grammatical marker in English such as ‘I’ in oratio recta or (coreferential) ‘(s)he’ in oratio obliqua, neither do such expressions come with guaranteed expression of self-awareness. There doesn’t seem to be lexical or grammatical ‘peg’ to hang the property of expressing self-awareness on. Sometimes the property is externalised through the grammar, at other times by default interpretations of this grammatical form, and at yet others by pragmatic resolution of the truly underspecified representation. Contextualist framework and pragmatic compositionality embraced by Default Semantics (Jaszczolt 2005, 1010) allow us to provide for this diversity.

2. Semantics vis-à-vis Intuitions on De Se

Noticing that guests are arriving at a faculty drinks reception and neither the glasses nor the drinks are in sight, I utter (1).

(1) The person who agreed to organise the drinks is to blame.

A few minutes later, I realise that at a faculty meeting a couple of months ago I agreed to organise the drinks reception. Now I correct myself, utter (2) with considerable embarrassment, and rush to remedy the situation.

(2) I am to blame. I completely forgot I was put in charge.

A semanticist of a referentialist orientation would let his/her theory pass unscathed when faced with such a social fiasco. The use of language, the things we do by employing language for acts of communication, are the business for pragmatics and sociolinguistics, possibly also for cognitive science. A semanticist is responsible for what Perry (2001) calls the referential, or ‘official’, content.

There are good arguments in favour of referentialism. Natural languages are systems with an accountable structure and a fairly stable lexicon. The main task of a theory of meaning should be to employ information available in the system, such as rules of functional application and lexical content, to explain how meaning is composed, using in the process the idea of reference to explain the meanings of the parts by means of applicable extensions (such as ‘Stalnaker-restricted’ sets of possible worlds). This approach works for a considerable number of situations where the meaning of the sentence and the intended meaning of the utterance of it do not diverge. Perry (2001: 121) surmises that referential
content could be the ‘default’ kind of content, allowing for it to be overridden sometimes. This can happen in a case where a speaker uses a 'shortcut' in the form of an indexical expression; the shortcut has to be unravelled and the referential link established.

Or does it have to be? There are two possible ways to argue that it does not. One comes from within the kind of semantics envisaged above, namely the semantics that pertains to the language system (as contrasted with the use of this system in communication). When the sentence contains an indexical expression, for example ‘I’ in (2) above, it is arguably the linguistic meaning of the indexical that such a semantics should be concerned with. If so, the referential link remains unresolved and the semantics relies on the linguistic meaning of ‘I’ (Kaplan’s (1989a) character), namely ‘the person who is uttering this sentence’. This stance comes close to the most radical form of minimalism advocated by Bach (2004, 2006) as far as the content is concerned.\(^1\) The other comes from a cognitive take on semantics. Addressees can assign different kinds of referent, and also different kinds of information, to the first-person singular pronoun. Some examples are listed in (3).

(3) a. the person who is just talking to me whoever she may be
    b. Kasia Jaszczolt (i.e. the correct referent)
    c. the person who agreed to organize the drinks reception (whatever her name is)
    d. Aly Pitts (in the case of a referential mistake)

Analogously, albeit somewhat less commonly, the speaker may think of oneself with various deficits and falsehoods incorporated in the concept of the self as in (4).

(4) a. the person who agreed to organise the drinks reception
    b. the person who agreed at the meeting of the Faculty Board that Professor Brown should organise the drinks reception

\(^1\) Unlike Bach’s account, however, it insists that the output of grammar be propositional. This can be achieved by dissociating truth conditional from conditional of verification (see Borg, e.g. 2004, 2007. For criticism see e.g. Recanati 2005b; Jaszczolt 2005b; Atlas 2006).
There have been various types of content proposed that semantics, with the help of pragmatics, can choose from (see e.g. Perry 2001; 2009), all of them with labels that have now been well established in pertinent discussions. At this point I am concerned with an issue that is orthogonal to this elaborate taxonomy of contents, namely with the fact that even one type of content can yield different interpretations on different occasions, as evidenced by referential mistakes of the type (3d). A cognitively accountable semantics not only has to distinguish between the information conveyed by, say, the definite description in (1) and the pronoun in (2), but it also has to distinguish among the varieties of informational content that can be carried by the latter. So, when we go beyond the minimalist account invoked above, there are still various options open as to how this cognitive significance of the expression used can be captured in semantics. Substituting the referent is the least attractive option as it would, of course, conflate (1) with (2) into (5).

(5) \( \lambda x \) [to-blame(x)] (kasia jaszczolt)

In short, when we opt for a ‘pure’ semantics whose aim is to explain meaning construction in a system of natural language, Kaplanesque characters may arguably suffice. When we opt for a ‘cognitively real’ semantics and intuitive truth conditions, the referent (correct or incorrect) is just one component of the meaning of the first-person pronoun. Even recognising the indexicality and thereby the special status of first-person reference, it appears that reference \( de se \) opens up problems for a meaning theory that go far beyond the identity of reference, both for first-person expressions of belief as discussed above and for \( de se \) belief attributions addressed in what follows.

Kaplan’s content-character distinction is therefore best regarded not as affording a choice between minimal linguistic meaning of ‘I’ and the referent. Instead, it is best regarded as availing the dual perspective on content itself: the referent is fixed for the context, understood as an index consisting of various pertinent parameters, but it can also be fixed otherwise for a different index and different values for the parameters. The indexical
expression brings with it two kinds of cognitive significance: availability of the referent and the potential availability of other referents for different indices. Both are equally important for semantic representation. This idea is further exploited in two-dimensional semantics and in particular Stalnaker’s (e.g. 1978, 2011) propositional concept: the proposition that is true at a world and context if and only if what is expressed in this context and world is true there. In addition, it acquires there an intentional perspective. While Kaplan’s context (index), at least as presented in Demonstratives (1989a), is a metaphysical concept, Stalnaker’s context is founded on presuppositions that underlie intentional communication; context is understood as common background, the so-called context-set, that is a set of those possible worlds which are compatible with what is presupposed by the speaker in a situation of discourse. Normally the presuppositions in the speaker’s context-set coincide with those in the addressee’s context-set, the context is nondefective and discourse proceeds on the justified understanding of shared mutual assumptions. In what follows I attempt to give due credit to both of these aspects of meaning of indexicals, the constant and the variable, the linguistic and the referential. I provide some arguments in support of the view that the concept of de se, pertaining to belief expressions and attributions alike, is ineliminable from any kind of approach to meaning, be it minimalist or contextualist. In Section 3 I present a contextualist approach to de se ascription that is compatible with deriving the default assumption that self-awareness has been expressed from the grammar of the relevant expression, and make a case for a contextualist analysis of a Default-Semantics type. Section 4 assesses the utility of minimalist accounts of de se and concludes with pointing out that de se is entrenched in both minimalist and contextualist enterprises, irrespective of the status of their represented objects and their aims. Section 5 offers an example of a representation of de se reports as well as de se self-attributions in the radically contextualist framework of Default Semantics and makes a case for a ‘post-contextual’ grammar and thereby for contextualist compositionality. I conclude with observations on the persistence of self-awareness and the plausibility of a semantically ineradicable de se.

3. Contextualist Perspectives on De Se


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2 NB, in Afterthoughts, Kaplan’s (1989b) idea of context undergoes a transformation in view of the introduction of the directing intention. See Perry 2009 and Jaszczolt forthcoming a,b.
Firstly, by contextualism I shall mean the broadly understood idea that a semantic representation, or at least the truth-conditionally evaluable representation if the controversial label ‘semantic’ is to be avoided, comprises diverse aspects of utterance meaning. It is in this light that the title of this section has to be read to avoid a seeming oxymoron. For the purpose of this paper, let us focus on two orientations in contextualism: free, top-down modulation, allowing for unarticulated constituents (e.g. Recanati 2004, 2005b, 2010; henceforth FM for ‘free modulation’) and the hidden-indexical theory according to which the additions to the sentence meaning are traceable to the logical form (e.g. Schiffer 1977, 1992, 1996, henceforth HIT; also e.g. Crimmins and Perry’s 1989 ‘notion’). The latter has clear affinities with Jason Stanley’s (e.g. 2002; Stanley and Szabó 2000) more radical view that all truth-conditional effects of context can be traced to logical form, and what Recanati calls unarticulated constituents can in fact obtain an explanation through binding on the level of logical form. Belief ascription triggered by sentence (6) and represented in (7) obtains the representations in (7a) and (7b) respectively on these contextualist accounts.3

(6) John Perry: I am making a mess.

(7) John Perry believes that he is making a mess.

(7a) FM: John Perry believes of himself that he is making a mess.

(7b) HIT: There is a contextually salient mode of presentation $m$ of a type $\Phi^*$

and John Perry believes of John Perry that he is making a mess, under $m$.

$\rightarrow$ John Perry believes of himself that he is making a mess.4

It is evident from the above that as far as the truth-conditional content is concerned, (7b), after filling in the $m$ argument, collapses to (7a). But what is it exactly that makes $m$ adopt the value of a self-referring type? It seems that the simplest solution is to rely on the semantic properties of the first-person pronoun and instead of, as it is common practice in a variety of referential semantics, granting it a role of a slot-holder for a referent, endow it with the

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3 It has to be pointed out that my definition of contextualism is more inclusive than Recanati’s (e.g. 2004, 2005b) who excludes all accounts that trace pragmatic aspects of meaning to the logical form.

4 See fn 18 for a summary of the relevant scenario from Perry (1979).
special self-referring semantic function. If we do so and thereby endow the pronoun with this particular ego-centered function, we find that we can represent the meaning as it is normally ascribed to utterances of this type by speakers and addressees. Attempts at cancelling this self-attribution for situations where (6) does not apply are indeed rare and cumbersome as exemplified in (8).

(8) John Perry believes that he is making a mess but he doesn’t realise it is him.

In other words, ‘he’ functions here by default as what Castañeda (1966, 1967) called a ‘quasi-indicator’ and what became to be known as a ‘quasi-indexical’ or ‘indirect reflexive pronoun’. Analogously, on Jason Stanley’s (e.g. 2002) account, logical form will be indexed with this ego-centered function. We obtain in this way context-dependent propositions and at the same time a compositional semantic structure.\(^5\)

To sum up the argument so far, FM and HIT give the same overall rich result for the truth-conditional content whereby self-ascription is its part and parcel. But these are not the only ways to arrive at the rich content that incorporates information about self-awareness. We could attempt to ascribe the self-reference in (6), as well as, arguably, expression of self-awareness in \textit{de se} ascription in (7) to the grammar, and acknowledge that it is the grammar that produces the self-referring function. However, there is a difficulty with this option that was already pointed out by Kratzer (2009), namely that pronouns can be ambiguous between a referential and a bound-variable interpretation as in (9) or, even more conspicuously, in (10).

(9) I’m the only one around here who can take care of my children.

(from Kratzer 2009: 188).

\(^5\) See also King 2007 on the defence of context-dependent propositions as values of sentences.
This difficulty, however, is not widespread in that bound-variable uses are rare, restricted, and differ substantially from language to language. For example, in Polish, the bound-variable ‘I’ (‘ja’) would normally be signalled by adding ‘sole’ (‘jeden’) as in (11).

(11) Tyłko ja jeden przyznałem się do błędu.

\[
\begin{align*}
\text{only } & \text{ISg } \\
\text{soleSgMNom } & \text{admitISgPastM Refl } \\
\text{to } & \text{mistakeSgMGen}
\end{align*}
\]

Similarly, in (9), ‘my children’ becomes translated by a reflexive ‘own children’ (‘swoje dzieci’) as in (12).

(12) Tylko ja jedna tutaj potrafię zajmować się swoimi dziećmi.

\[
\begin{align*}
\text{Only } & \text{ISg } \\
\text{soleSgFNom } & \text{here canISgPres careInf Refl } \\
\text{ReflPronPlInstr} & \text{childPlInstr}
\end{align*}
\]

Kratzer tentatively suggests that bound-variable pronouns may underlyingly be referential pronouns whose meaning can be accounted for through context-shifting. Alternatively, they are unspecified and obtain the meaning through feature transmission from their binders in functional heads. So the theory of the grammatical foundation of self-reference can still be defended, at least as the default meaning assignment. An even stronger line of defence would be to point out that it may not be self-reference but rather information about self-awareness that grammar conveys. In Kratzer’s examples (viz. 9), self-awareness is conveyed by a relation between a parent (whoever this may be) and his/her own offspring. Any attempts to

\[6\] NB the bound-variable use is more pronounced in the following example with the second-person pronoun, in that the first instance of ‘you’ is normally interpreted as ‘one’ or ‘a person’:

‘Only you can eat what you cook.’

meaning that when one cooks food, only the person who cooked it can eat it (from Kratzer 2009: 188).
cancel this relation in a discourse would be cumbersome. Similarly, although more contentiously, (7) reports on self-awareness in view of the anaphoric link between ‘he’ and ‘John Perry’ that can be defended as a universal tendency realised by using different devices and with various degrees of predictability in various languages, to witness only logophoric pronouns and what is analysed in generative grammar as an empty category PRO. This argument gained a lot of support in the literature. I come back to it in Section 3.2.

The main argument of this section is this. Truth-conditional content can be construed generously or sparingly; it can be contextualist or minimalist. But it is a mistake to conflate contextualism with free contextual modulation and minimalism with the output of grammar that is indifferent to the de se/de re about oneself alternation. Both contextualism and minimalism may allow for construals on which grammar provides information about self-awareness as a component of the semantic content. The discussion between the defenders of free modulation unconstrained by grammar and the indexicalists of various orientations is of no particular interest to the semantics of de se belief expressions and de se belief reports; it is the absence or presence of the component of meaning that signals self-awareness that is of interest. Its allocation to grammar is a matter of an agreement as to what we want the grammar to do: capture strong tendencies or capture patterns that underdetermine meaning. Arguably, grammar is post-contextual, just as concepts are post-contextual. There is increasing experimental evidence to the effect that the concepts are constructed for the purpose of a particular exchange, in what late Wittgenstein (1953) would call a language game. Larson et al. (2009), for example, demonstrated that what subjects consider to be literal meaning has no clear reflection in the categories of sentence meaning or generalized conversational implicatures but is instead a matter of gradation that cuts across Gricean components of meaning. What it means is that the lexicon gives rise to a variety of context-dependent concepts and it is plausible to hypothesise that these concepts already contain the pragmatic elements that would otherwise have to be ascribed to free modulation or to hidden indices of the logical form. If word meaning is indeed as free as late Wittgenstein has it, then the onus is on grammar to generate the default anaphoric links and default ‘characters’ for contents. De se ends up as a default interpretation that is horrendously difficult to override in conversation, both in self-ascriptions (6) and in third-person ascriptions (7): ‘but I didn’t know that it was me’ and ‘but he didn’t know it was him’ for (6) and (7) respectively are notoriously marked and best regarded as repair strategies.
Naturally, one has to account first for the possibility of non-coreferential readings. But there is a strong tendency for coreference and this can be explained via van der Sandt’s (1992) heuristics for local accommodation that lay down strict principles for the search for an antecedent along the projection line, whereby ‘she’ in (13) repeated below picks up the closest suitable antecedent.

(13) Kasia believes that she is to blame.

Such ‘contextual binding’ is of course cancellable, but again, it is cancellable with some difficulty, not unlike the cancellation of the presumed conveyance of self-awareness in the case of first-person singular pronoun. Non-self-awareness ‘he’ in (7) is, on the other hand, natural but marked and always triggered by context. While extending the concept of grammar to cater for such strong tendencies, and for detaching binding from c-commanding, is perfectly legitimate, there do not seem to be good arguments for such an extension. I shall therefore proceed having given this observation the status of a theoretical assumption. In short, on the hypothesis entertained and defended here, grammar delivers contextualist default contents.

3.2. Reports De Se: A Contextualist Syntax-Pragmatics Mix

Under the umbrella problem of the semantics of self-referring there is a more specific issue of the relationship between de se and de re belief reports. The most radical and at the same time the most counterintuitive view comes from what we can call the syntactic ambiguity faction. According to this orientation, sentence (13) can have different logical forms, depending on whether the holder of the belief holds a belief de se, as in (2) above, or merely de re about oneself, as in (1) above.

(13) Kasia believes that she is to blame.

According to Percus and Sauerland (2003: 238), the logical form contains the so-called ‘variables over concept-generators’. On the de re reading, the complement of ‘believes’ in
(13) denotes a function from such concept-generators to a proposition. On the de se reading, following Chierchia (1989), they propose that the complement of ‘believes’ denotes a function from concept-generators to properties, achieved via type-shifting. This brings the proposal in line with Lewis’s (1979) and Perry’s (1979) seminal concept of belief de se as self-ascription of properties. Or, as Abbott (2010: 189) puts it, the meaning of ‘believe’ subsumes the indexicality of these cases and we can represent (13) simply as (14).

(14) \( \text{Bel (k, } \lambda x [\text{to-blame (x)]} \)\)

The main reason for proposing this rather complicated move involving type-shifting is to bring the de se interpretation of pronouns like ‘she’ in (13) in line with the behaviour of other referring expressions. Chierchia (1989: 28) points out that the cognitive access to oneself is systematically excluded from the interpretation of (non-pronominal) referential expressions. It is systematically present in the interpretation of overt pronouns. It is systematically and unambiguously associated with the interpretation of PRO the null subject of infinitives and gerunds. It is associated with the interpretation of long-distance reflexives (at least in some languages).

This evidence leads him to the hypothesis that the cognitive access to the self is present in the semantics of English. But in order to endorse the irreducibility of de se, one has to win some other arguments as well. First, there is the methodological principle of Modified Occam’s Razor (Grice 1978) which provides a good reason for searching for unary accounts and resorting to ambiguities as the last resort. Next, cognitive access to oneself is not, contrary to

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7 Where a property is understood as a class of centered worlds – the idea also used in DRT accounts discussed below.
8 See also Schlenker, forthcoming who addresses the question as to whether ‘she’ can have a de se reading.
9 Long-distance reflexives, such as Chinese ziji, Japanese zibun, or Korean caki, are not specified for person, number of gender (have no φ-features) and can have many functions such as subject, object, indirect object, or possessor. For example,

Takasi-ga zibun-ga tensai da to omotteiru.
Takasi-SUBJ self-SUBJ genius is COMP think
Takasi, thinks that he is a genius.

(adapted from Huang 2000: 191)
what Chierchia says, so ‘systematically’ excluded from the interpretation of non-pronominal expressions. Referring to oneself by means of a description or a name is not uncommon, and is attested as a natural stage of language development in children, utilised in parent-child speech, as exemplified in (15)-(16).

(15) Sammy wants a biscuit.
(16) Mummy will be with you in a moment.

Moreover, the boundary between pronominal and non-pronominal expressions is blurred in languages with honorifics where a common noun (e.g. Thai ‘mouse’) may evolve into a grammatical function of the first-person pronoun, but retaining the sense of self-denigration which clearly comes from some of the features associated with the concept of that small, insignificant rodent. ¹⁰ Further, the ‘systematic presence’ of the access to the self in the interpretation of pronouns also yields to fuzzy intuitions and fuzzy boundaries in that it is not, to use Chierchia’s words, ‘systematic and unambiguous’. It is possible to come up with scenarios on which one can report on one’s beliefs de re about oneself using first-person pronoun, and thereby use it without the cognitive access at the base level of beliefs, but only with cognitive access at the higher level of reflecting on the belief in the report. This is exemplified in (17) and, indeed, is often exploited in sitcoms that commonly use the model of quid-pro-quo. The subscripts $t_1$ and $t_2$ stand for the time of the speaker noticing that there were no drinks prepared and the time of realisation by the speaker that she herself should have prepared them, respectively. Normally, first-person pronoun does not relativise to times, as predicted by Kaplan’s account. On some heavily marked occasions, however, this relativisation seems possible and $t_n$ becomes dissociated from other temporal indices as in the case of $t_1$ below.

(17) $I_{t_1+t_2}$ believe $I_{t_1+t_2}$ should have prepared the drinks party. In a way $I_{t_1}$ also believed that $I_{t_1+t_2}$ should have done it when $I_{t_1}$ walked into the room. The fact is, the person

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¹⁰ This honorific is used by women, the, alas, still underprivileged part of society.
appointed by the Faculty Board should have done it and as I$_{t1}$ later realised I$_{t1+t2}$ was this person.

So, juxtaposing two temporal perspectives suffices to blur the intuitions on the access to the self that is arguably encoded in ‘I’. This access has been assumed without questioning by direct reference theorists with Kaplan at the forefront. But although Kaplan (1989a: 491) is right in pointing out that uttering ‘I’ and pointing at someone else is ‘irrelevance or madness or what?’, he does not allow for the uses in (17) which superimpose the brain state of the ego as the reporter onto the brain state of the ego as the holder of the belief. This is quite a different kind of a ‘monster’ context.$^{11,12}$

Example (17) demonstrates that the distinctions we have been operating with so far are insufficiently finely-grained. The concept of the self enters the debate in several different guises; there is self-reference (reference to oneself), self-attribution (of mental states, used here interchangeably with self-ascription$^{13}$), and self-awareness (the mental state of first-person awareness). The concept of self-reference is of limited use in the current considerations in that it is so malleable that it will not serve the necessary explanatory function; one can refer to oneself without consciously ascribing properties to oneself, or, alternatively, we can construe a theoretical term of self-reference as necessitating self-awareness. All depends here on our theoretical assumptions. But self-attribution and self-awareness are crucial in the discussion, and so is a differentiation between them. (17)

$^{11}$ NB, the Polish equivalent of (17), adjusted for sociopragmatic adequacy (i.e. made to sound natural in a Polish conversation), is also feasible albeit strongly marked:

\[
\text{Wiem$_{t1+t2}$, że to ją$_{t1+t2}$ powinnam był$_{t1+t2}$ przygotować te dranki. W pewnym sensie, wtedy też wiedziałam$_{t1}$, ponieważ miała je przygotować osobą wybraną przez Radę Faculty$_{t1+t2}$ byłam ta osobą.}
\]

$^{12}$ See also Schlenker 2003 for ‘monster contexts’.

$^{13}$ Strictly speaking, it seems that an even more finely-grained classification is possible whereby self-attribution refers to attributing mental states to oneself, while self-ascription refers to the property of linguistic expressions of ascribing such properties.
exemplifies the latter distinction perfectly: self-ascription can go ahead with the index limited to $t_1$, whereas self-awareness cannot; ‘I didn’t realise that I was that person’ shows how we can attribute certain states to oneself without attributing self-awareness at the time. The question that remains is, which one of these concepts does grammar help us reach as the default scenario: the ‘self-awareness $I$’ or the ‘self-ascription $I$’?\textsuperscript{14} Further discussion of Chierchia will suggest that it is likely to be the first alternative.

Chierchia also uses an argument from PRO with gerundive and infinitival constructions. From the perspective of a pragmatics-rich, contextualist semantics, his claims deserve a closer scrutiny. In (18), the father can report that 11-year old Lidia wants to be a scientist because he observed her on various occasions playing with her ‘crazy science’ kit or attending events for kids at the Cambridge Science Festival.

\begin{quote}
(18) Lidia wants to be a scientist.
\end{quote}

The fact that the child herself has never considered the question of her future profession does not seem to invalidate the utterance and thereby, on the contextualist construal, does not seem to make (18) false. In other words, there is no (19) in the context, either as an utterance or as a propositional thought, and therefore no ‘$I$’-reference, that underlies (18) on this scenario.

\begin{quote}
x(19) Lidia: I want to be a scientist.
\end{quote}

Equally, the most natural interpretation of (21) is that Lidia’s mother wants her daughter (rather than, implausibly, herself) to be the smartest kid. Analogous to (18)-(19), the self-reference and self-ascription of the kind ‘I want to be the smartest kid’ do not necessarily figure behind (20). Neither do they carry through to (21), while the assigned referent does.

\begin{quote}
(20) Lidia wants to be the smartest kid in the class.
\end{quote}

\begin{quote}
(21) Lidia’s mother wants what Lidia wants and that’s why she is buying her lots of academic books.
\end{quote}

\textsuperscript{14} Small capital ‘$I$’ stands for a concept (ego).
At the first glance examples of this kind make a fairly strong case against Chierchia’s and Percus and Sauerland’s claims that the special status of *de se* is encoded in the semantics. If that were the case, the above examples would have to rely on some mechanism that makes *de se* attribution independent of self-ascription associated with the standard use of first-person singular pronoun. This would not, however, carry through to the possibility of dissociating *de se* from *self-awareness*: while Lidia may not have formulated a propositional thought to the effect of her being a scientist, there is no ambiguity in the ‘want PRO’ case analogous to that between *de re* and *de se* cases of Perry’s spilt sugar scenario, or of my forgotten drinks scenario of (1)-(2). In other words, there is no ‘that person wants to be a scientist’ vs. ‘I want to be a scientist’ alternative; there is merely a strongly or weakly articulated awareness of one’s own wants. Self-awareness thus seems to be the concept that we should pursue as semantically relevant, in preference to self-ascription/self-attribution.

There are ample possibilities of construing an adequate contextualist representation of the self-awareness reading of first-person belief statements and, of the FM type, corresponding *de se* reports. A *de se* belief is then construed as a *de re* belief about oneself that includes conscious awareness of the self’s identity with the *res*. The standard underdetermination view holds that syntax generates logical forms that are underspecified as to the *de re* or *de se* sense, while pragmatics provides the missing aspects of intended/recovered\(^{15}\) meaning. A version of this idea is for example used in Discourse Representation Theory by Maier (2009) who makes use of van der Sandt’s (1992) presupposition as anaphora to derive the *de se* reading. Preliminary DRSs are underspecified as to *de re, de dicto* or *de se* reading and pragmatics completes the representation.

But here is where the proponents of the syntactic *de se* can rejoin. *De se* readings of (13) are common and taken for granted. *De re* that lacks self-awareness is cumbersome and heavily marked in that it normally requires a disclaimer, hedging, or a repair mechanism as in (17). Would it not be methodologically more judicious to assume that grammar produces standard readings? The supporting evidence comes from the conceptual universal of self-reference. The omission of the pronoun in pro-drop languages without introducing ambiguity as in Polish (22) supports this argument.

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\(^{15}\) Intended by the speaker or inferred by the addressee, depending on the post-Gricean orientation. See e.g. Saul 2002 and Jaszczolt 2005a.
On the other hand, the insertion of the pronoun points to the lack of coreference as in (23). Resuming the anaphoric link can then be achieved pragmatically by the addition of an emphatic demonstrative as in (24), thereby showing that coreference is not the default reading of (23).

Further, the unequivocal assessment of PRO as syntactically de se\textsuperscript{16}, along with logophors, which Maier (2009) is happy to accept, also points in the direction of the strong syntactic foundation of the semantic representation of de se at large, as a universal conceptual category\textsuperscript{17}.

Let us sum up the facts so far.

1. The essence of de se is self-awareness, the epistemic concept of one’s conscious access to oneself.
2. De se is either the only interpretation or the strongly preferred, unmarked interpretation of the sentences that attribute it, depending on the language, expression, and structure (cf. anaphoric pronouns, PRO, logophors).
3. Cancelling this preferred reading is a cumbersome conversational strategy.

\textsuperscript{16}See Chierchia (1989: 15) on PRO as a λ-abstractor, to handle examples such as ‘The cat wanted to eat the cheese’ & ‘The mouse got what the cat wanted’ \rightarrow ‘The mouse got to eat the cheese’.

\textsuperscript{17}For an introduction to logophors see Huang 2000. For a discussion on logophors and ‘monster’ contexts see Schlenker 2003.
These are to be juxtaposed with more tentative proposals argued for above:

4. Grammar plays a significant role in conveying information about self-awareness in \textit{de se} belief expressions and belief reports.

5. Contextualist approaches to truth-conditional content are compatible with deriving some of the optional aspects of meaning, such as \textit{de se} reading of third-person pronouns in belief reports (their ‘quasi-indicators’ meaning), from the grammar.

5. FM, hidden-indexicality and other forms of annotating the logical form render the same (enriched) output as far as the truth-conditional content is concerned.

It appears that if the grammar can be argued to throw up the \textit{de se} readings, the onus of proof is on those contextualists of the FM orientation who consider self-awareness to be a free, structure-independent enrichment. Such enrichment would by the logic of the argument have to be optional. Therefore, its default status would remain conspicuously unexplained. And so would the cross-linguistic and cross-structural discrepancies in attributing \textit{de se} thoughts.

Further, it seems to be the case that self-awareness persists across self-attribution and third-person attribution, namely reports on someone’s beliefs about themselves. In situations exemplified in (2), there is only the self-awareness reading. But when uttered with past- or future-time reference, shifted from the epistemic certainty of the ‘here and now’, self-awareness weakens to a mere strong preference. Third-person reports share this property of a strong tendency for expressing self-awareness. It seems that this pattern pertaining to strong preferences has to be captured in the semantics of expressions of self-awareness.

What remains to be explored is this. Firstly, the contextualist outlook that has been assumed so far has to be confronted with the options available in minimalist semantics so as to assess whether the combination of syntactic foundations of \textit{de se} with contextualism is the right way forward. This is attended to in Section 4. Next, in Section 5, I return to the favoured view that \textit{de se} is part of the semantic content, being at the same time (i) grammar-driven and (ii) optional and thereby pragmatic, along the lines proposed for a sub-set of generalized conversational implicatures by Chierchia (2004). I resume the discussion on the default status of \textit{de se} and propose how it can be represented in a contextualist approach of Default Semantics. I also comment on the implications for compositionality of adopting this perspective.
4. Minimalist Standpoints and *De Se*

Minimalism comprises three related but distinct views: Borg’s (e.g. 2004, 2007, 2012) version with the so-called ‘liberal truth conditions’ (henceforth MS for ‘minimal semantics’); Cappelen and Lepore’s (e.g. 2005) view founded on the recognition of a ‘basic set’ of context-sensitive expressions (henceforth IS for ‘insensitive semantics’); and Bach’s (e.g. 2004, 2006, 2007) radical semantic minimalism (henceforth RSM) which entails the rejection of propositionalism from semantics. Merging RSM and MS allows for a version of minimal semantics that allows for the truth conditions to be fuelled by logical forms that are unresolved as to the referents or lexical concepts, for example in the case of the use of indexicals and imprecise predicates as in (25).

(25) He cut the sun.

‘Liberating’ truth conditions from the status of conditions of verification allows for this move. Minimal semantics so construed accounts for the meaning possibilities offered by a language system but at the same time is perfectly compatible with a rich, contextualist semantics in view of their differing objectives. The objective of the latter is to represent the primary message intended by the speaker and/or inferred by the addressee – depending on which contextualist camp we adhere to.18 Cappelen and Lepore are much less ‘minimalist’ in their construal in that they identify a list of expressions that require attention from pragmatics before the minimal proposition is recovered. This minimal proposition can then give rise to a plurality of speech acts performed with its help. Borg follows the same line on content, restricting, however, pragmatic ‘filling in’ to overt indexicals in her earlier arguments (2004, 2007, as contrasted with 2012). Finally, Bach advocates a strict syntax/semantics parallelism, denying the need for propositions or truth conditions alike, placing them strictly outside *what is said*.

In the case of the first-person indexical, the phenomenon of *de se* reference is present in the semantic representation on all three accounts as it is generated by the default prediction of the grammar itself through the phenomenon of sentential anaphora specific for the first-

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18 See Perry 2009 and Jaszczolt forthcoming a,b on the need for both perspectives.
person singular pronoun. The character of the first-person indexical is sensitive not only to context (in the sense of Kaplan 1989a) but also to the grammar itself and ‘survives’, so to speak, through the second stage of processing recognised in two-dimensional semantics, namely through the route from circumstances of evaluation to extensions. Sentence (26), pertaining to the well-quoted situation discussed in the opening passage of Perry (1979: 3)\textsuperscript{19}, secures the self-attributive reading via the default output of grammar in the sense of Chierchia (2004). It also secures by default the self-awareness reading. To repeat, cancellation of the default conscious self-attribution is a heavily marked conversational strategy. One can envisage for example a scenario on which the speaker watches a film of him/herself and utters (26) with a shift of temporal reference to that of the action in the film, adding a disclaimer as in (26a). But such cases are marked and uncommon. From the semantic perspective, they can also be analysed as a form of a grammar-semantics mismatch, with the first-person pronoun used for a third-person concept. The temporal reference is represented by subscripts $t_1$ and $t_2$, where $t_1$ is the time on the film and $t_2$ is the time of speaking. The subscript $t_1+t_2$ reflects the identity of the referent arrived at through the accepted permanence of first-person reference. The subscripts $t_1$ and $t_2$ reflect the possibility, albeit heavily marked (as reflected in the disclaimer ‘in a sense’), for dissociating the first-person indexical from self-awareness. The oddity of ‘I$_{t_1}$ don’t know it is me$_{t_1+t_2}$’, reflected in the lack of co-indexing and denial of the epistemic state normally associated with it, signals this markedness.

(26) I$_{t_1}$ believe there, in a sense, that I$_{t_1+t_2}$ am making a mess.

(26a) Look, I$_{t_1}$ believe in this scene, in a sense, that I$_{t_1+t_2}$ am making a mess but I$_{t_1}$ don’t know it is me$_{t_1+t_2}$\textsuperscript{20}.

Now, on this reasoning, acknowledging the marked, marginally acceptable status of differential indexing scenarios, (26b) normally acquires the content in (26c)-(26e) in the respective versions of minimalism. In other words, ‘he’ and ‘she’ are normally quasi-indicators.

\textsuperscript{19} ‘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.’ Perry (1979: 3)

\textsuperscript{20} One could also propose a different method of differentiation in indexing, such as a three-way distinction between $t_1$, $t_2$, and $t_1+t_2$. Nothing depends on the choice of the vantage point.
(26b) I believe that I am making a mess.

(26c) RSM+MS: The contextually salient speaker believes of himself/herself that he/she is making a mess.

(26d) IS, MS: John Perry believes of himself that he is making a mess.

(26e) RSM: The speaker, believes that he/she, is making a mess.21

Leaving the issue of self-awareness aside for a moment, (26c)-(26e) reflect what we want a minimalist account to reflect, namely self-attribution. On the other hand, the sentences (27) and (28) can only receive the self-attributive interpretation contextually and hence this interpretation is absent on the minimalist accounts which don’t allow for this contextual enrichment to be present in the semantic content.

(27) I believe the person spilling the sugar is making a mess.

(28) I believe that (non-demonstrative) man is making a mess.

It seems that (27) and (28) demonstrate that IS lands half-way between what semantics aims to achieve. (27) ends up having the semantics of the attributive reading and pragmatics of either attributive or referential, while (28) necessitates reference assignment but does not express self-reference. These examples clearly acts in favour of RSM+MS and RSM and against MS and IS in that the latter demonstrate that IS goes part of the way towards enrichment but can never go the whole way. Methodological grounds for such a construal of semantics are very dubious indeed.

What is required of an adequate minimalist account of meaning is delivering the principles of meaning construction that are based on the language system alone. What is required of a contextualist account of meaning is delivering the principles of meaning construction that capture the primary message intended by the speaker, and normally, if all goes well, recovered by the addressee. Any account that falls short of either objective is by definition defunct. Contextualism that embraces de se awareness passes the test. The

21 My intuitions on Bach’s RSM are unclear: for him semantic content is not propositional and so his idea of how semantics is a by-product of syntax seems to be equally murky as that of Chomsky. See Ludlow 2003 and Chomsky’s response (Chomsky 2003).
question as to how much this contextualist construal attributes to grammar is an independent object of inquiry. Next, minimalism that remains within the confines of the language system, and therefore does not make predictions about the reference of the third person pronoun in (7) repeated below, also passes the test.

(7) John Perry believes that he is making a mess.

Only RSM+MS, and possibly RSM\textsuperscript{22}, pass the test.

The follow-up question is this: having established that some versions of minimalism are true to the objective of a kind of semantics that is to be geared to the language system, how does such a minimalist outlook fare with what grammar can actually accomplish? In other words, we seem to have arrived at a mismatch. There are two ways in which semantics can be construed, listed as (A) and (B) below.

A. Semantic theory accounts for the intended meaning and takes the intended meaning as the truth-conditional content of the utterance

or

B. Semantic theory accounts for the array of meanings that the lexicon and syntax of a language are capable of providing.

At the same time, we have suggested that the \textit{de se} awareness that is either explicitly present in PRO or logophors, or strongly present in anaphoric pronouns as the well-entrenched default reading, is best ascribed to the output of grammar. In order to reconcile this line of argument with the A/B alternative, it seems that the strongly preferred option is a kind of semantics that does not ‘split’ the power of grammar into that pertaining to the system and that pertaining to how grammar functions \textit{in situ}. In other words, \textit{de se} belief ascription appears to provide strong support for a contextualist construal; grammar can trigger default interpretations but if it is so, then confining semantics to the output of, so to speak, ‘less than the grammar can do’ would go against the requirement of psychological reality. If \textit{de se} is the norm, then semantics should acknowledge it \textit{tout court}. To repeat, our definition of

\begin{footnote}{22 See fn 21.}

contextualism emphasises the availability of extra-sentential information in the truth-
conditional content without making commitments concerning its exact provenance.

To sum up, it is evident from this analysis that in the example of *de se* attributions
minimalism on the IS, and to a lesser extent also MS, version collapses to a rather poor
version of contextualism in virtue of sitting mid-way between contextualism and minimalism
and hence, for the kinds of examples confined to the filling in of expressions from the basic
set such as personal pronouns, becomes indistinguishable from contextualism.23 The
RSM+MS and (possibly) RSM versions of minimalism, on the other hand, fulfil their raison
d’être with respect to the language system but at the expense of misrepresenting the power of
grammar in that they do not lead to the default *de se* interpretation, stopping at self-ascription
but short of guaranteeing the expression of self-awareness. The grammar-pragmatics
interface does not allow for a theoretical divide in that when we attribute strong tendencies to
grammar, there has to be an option for them not to be realised in a particular situation of
discourse. It is on the basis of this argument that we pursue a contextualist construal of *de se*
in what follows, but a contextual construal that acknowledges grammar as a possible source
of pragmatic information in preference to generalizing the role of free, top-down enrichment.

5. Default *De Se*

Although a non-*de se* interpretation of reports such as (13), repeated below, is possible, there
is no need to add that it is rather uncommon, marked, and often in need of further elaboration
as for example in (29).

(13) Kasia believes that she is to blame.

(29) Kasia believes that she is to blame although she doesn’t realise that the person to
whom she refers as the organiser of the drinks party is she herself.

Maier’s (2009) analysis has no problem with this special status of *de re* about oneself.
Syntactic processing results in a straightforward *de dicto* reading: a discourse referent *x* is in

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23 Cf. remarks in Borg 2007 to the effect that IS is not sufficiently minimal.
need of a resolution of a presupposition to result in Kasia (x), and Bel\textsubscript{x} takes a DRS with the condition to-blame (y), where ‘she’ (y) is to be presuppositionally resolved. Then, following a specially proposed principle (‘equality first’), coreference between ‘Kasia’ and ‘she’ is established as a default link. Had there been an additional condition added that stipulates that Kasia does not realise that she is blaming herself (say, to follow Maier, $\neg$ recognize (x,x)), then coreference, understood as coreference with respect to discourse referents, would not have been possible and the search for the correct representation would continue.

Now, when we adopt radical contextualism, there is scope for some improvement on this solution, although the spirit will be preserved. In my 2005a and 2007, I proposed a contextualist analysis of belief reports according to which ‘believe’ takes a variable number of arguments depending on its reading and on the sensitivity to the possibility of substitution of various coreferential expressions. I employed Recanati’s (2002, 2005a) device of variadic function to explain how substitutivity salva veritate goes through unconditionally in some readings (de re), and with more difficulty or not at all in others (for this purpose I distinguished two sub-types of de dicto).\textsuperscript{24} The following analysis is conducted in the framework of the revised version of Default Semantics (Jaszczolt 2010, henceforth DS) where contextualist semantic representations, called merger representations and symbolised as $\Sigma$, merge information coming from different identified sources and the output of each source can not only interact with, but also override the output of other sources, including grammar and lexicon.\textsuperscript{25} The semantic contribution from the mode of presentation is present when substitutivity requires it and absent when it can go through without specifying $m$. Further, $m$ allows for different degrees of granularity: ‘coarser’, so to speak, for the cases of referential mistakes (de dicto\textsubscript{2}) and more finely-grained for the cases where psychological mode of presentation is required (de dicto\textsubscript{1}). In this final rejoinder, I replace the variable-adiacity merger representation of DS proposed in Jaszczolt 2005 with an analysis that derives $m$ directly from the kinds of processes that operate on the units of the utterance. The analysis accommodates the self-attribute in (1) as well as the lack of substitutivity salva veritate between (1) and (2) above.

\textsuperscript{24} See also Jaszczolt 2012 on the pragmatics of propositional attitude reports.

\textsuperscript{25} In other words, while in other versions of contextualism pragmatic inference and sometimes default interpretation develop/enrich the logical form of the sentence (the output of grammar), in DS this syntactic constraint is rejected. What is modelled in merger representation is the primary, main, intended meaning, irrespective of its relation to the output of grammar. Compositionality is understood as pragmatic compositionality – a methodological requirement that operates on the level of the merger. See Jaszczolt 2005 and Section 5.1 below.
5.1. Sources of *De Se* Knowledge and Contextualist Compositionality

Default Semantics belongs to the contextualist orientation but at the same time challenges some of its assumptions. Following Grice and neo-Griceans, its aim is to model utterance meaning intended by the Model Speaker and recovered by the Model Addressee. Its radical flavour in the contextualist camp is dictated by the rejection of what is called the syntactic constraint. DS does not recognize a level of meaning at which the logical form undergoes pragmatic modulation. In other words, what is variously known as the explicit/implicit distinction or what is said/what is implicated distinction in post-Gricean literature is construed differently in DS. The role of pragmatic sources of information about meaning is not restricted to additions to the logical form arrived at through syntactic processing. In some instances pragmatic processing may extend the logical form but in others it may also override it.

DS follows only one criterion for what the semantic representation has to be: it has to represent the main intended meaning of an utterance, be it implicit, explicit, minimal, or enriched. The syntactic restriction imposed on other contextualist accounts by the structure of the uttered sentence on the representation of the main modelled meaning is lifted, which allows DS to account for the cases of communicating the main content indirectly and revindicating this main content to the status of the object of the representation of the truth-conditional account of meaning.

Such main intended meanings are modelled in DS as so-called *merger representations*, in that they reflect the merger of the information about meaning that comes from a variety of linguistic and non-linguistic sources. The revised version of DS (Jaszczolt 2010) identifies five sources of such information:26

(i) world knowledge (WK);

(ii) world meaning and sentence structure (WS)

(iii) situation of discourse (SD)

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26 This, however, does not preclude the possibility that the sources can be construed somewhat differently, leading to the same overall resulting merger representation.
(iv) properties of the human inferential system (IS)

(v) stereotypes and presumptions about society and culture (SC). 27

WK supplies information pertaining to the physical laws, such as for example allowing for the resultative interpretation of ‘and’ in (30b).

(30a) The temperature rose above 100 degrees Celsius and water evaporated.
(30b) The temperature rose above 100 degrees Celsius and as a result water evaporated.

Next, WS is responsible for the syntactic processing of the sentence and for lexical access. It is WS that generates what is standardly understood as the logical form. SD contributes situational context. IS is responsible for standard, salient meanings that arise due to the particular structure and operations of the human brain and therefore the properties of mental states, such as the property of intentionality. For example, it is IS that secures the default referential reading of definite descriptions, or a default de re, rather than de dicto, reading of attitude reports – unless one of the other sources prevents the default from arising.28

The final source, SC, triggers interpretations that are salient for members of a particular culture and society, such as for example (31b).

(31a) When we arrived in Florence, we first went to see David.
(31b) When we arrived in Florence, we first went to see the sculpture of David by Michelangelo.

In agreement with the rejection of the syntactic constraint mentioned above, the outputs of

27 Adapted from Jaszczolt 2010.
28 See Jaszczolt 2005a, 2007 for examples and the argument.
these sources are all treated on an equal footing, which means that the logical form of the uttered sentence provided by WS is not given priority over any other information. Since all sources of information are treated on a par in DS, the defaults of the IS or SC type only arise when they are not contradicted by information coming from any of the other sources. For example, in (31a), it may be contextually salient that the speaker went to see her brother David who lives in Florence. In this sense, defaults of DS are simply interpretations that are automatically attained in the particular situation of discourse and as such have little in common with strong, language-system-based defaults (presumptive meanings) of Levinson 2000.29

Next, DS identifies five types of processes that interact in producing the merger representation:

(i) processing of word meaning and sentence structure (WS)
(ii) pragmatic inference (from situation of discourse, social and cultural assumptions, and world knowledge) (CPI)
(iii) automatic production of cognitive defaults (CD)
(iv) automatic production of social, cultural and world-knowledge defaults (SCWD)

These processes can be mapped, albeit not always bi-uniquely, onto the sources of information. WK and SC can result in automatic, default interpretations of the SCWD kind, but also in inferentially reached ones (CPI). SD will always trigger CPI. Next, there is a one-to-one correspondence between IS and a process that produces CD, since CDs are precisely the salient interpretations that arise out of the properties of IS.

This contextualist DS-theoretic proposal is more radical than other extant versions of contextualism in that in its modelling of utterance meaning it allows for a common-sense, unconstrained interaction of the outputs of the identified sources; when the syntactic structure of the uttered sentence pertains to the structure of the propositional thought that constitutes the main intended message, the syntactic structure is preserved in the merger representation. But when the main message is indirect, DS allows for this structure to be suitably replaced with the correct one, the one that reflects that main thought. As such, the DS-theoretic distinction into the main meaning and secondary meanings cuts across the traditional

29 This remark is important in that semantic defaults are too often identified with Levinson’s system-based defaults where the latter is called ‘the (sic) default account’. But see e.g. Katsos 2012 for a disclaimer.
explicit/implicit divide: what is primary may be either explicit or implicit, and likewise for secondary meanings. DS is also more cognitively adequate in that there is no need for levels of preliminary representations; syntax, pragmatic inference, and contextual and cultural assumptions interact to produce a single merger representation. The issue of the compositionality of such a representation, which, arguably, would have to be a necessary requirement if merger representations were to aspire to a semantic status, is taken up in the following section.

Now, in representing *de se* self-attribution and *de se* belief reports, various processes identified in DS, as well as various sources of information, will play a role. When we suggested above the possibility of the grammatical source of *de se*, in DS-terms we can represent it as *de se* arising via WS. In (26b) repeated below, the self-reference is available from WS. The lack of self-awareness, for example as expressed in (32), can be arrived at through WS+CPI.

(26b) I believe I am making a mess.
(32) When I first noticed the trail of sugar, I also believed, in a sense, that I was making a mess.

*De se* belief ascription in sentence (7) repeated below, could, on the strength of the lack of good arguments to the contrary, as well as the supporting argument from the superiority of the contextualist analysis, be represented by ascribing it to WS.

(7) John Perry believes that he is making a mess.

But first, of course, the coreference has to be represented as arrived at via CD through a process analogous to the one that produces salient, preferred referential and salient, preferred *de re* interpretations: the default intentionality of the corresponding mental state, summarised as a heuristic for example in van der Sandt’s (1992) presupposition as anaphora theory, predicts coreference. CD and WS together are thus responsible for the ordinary *de se*
representation for (7) and this account carries more strength than the ascription of de se to WS alone.

5.2. Merger Representations for De Se

Merger representations constructed through the interaction of the outputs of these sources have the status of mental representations. They are proposition-like structures, in the sense of representing propositional thoughts. As such, they conform to the methodological requirement of compositionality. Compositionality is a malleable property; it has to be present in the construction and recovery of meaning but it can be allocated to different levels of language or communication in language. It can be assumed as a property of language itself and as such can inform the formal semantic theory, as was attempted by Richard Montague and his followers.31 Along these lines, one can assume compositionality as a methodological principle and adjust the syntax or semantics in such a way that a compositional theory ensues.32 Or, one can assign to compositionality the status of an empirical assumption about possible human languages whereby meaning supervenes on the structure and it is the correct account of the structure that has to be uncovered.33 Alternatively, one can take intensional contexts such as belief reports seriously and question the possibility of compositional semantics for natural languages. This negative stance can lead to proposing a supervenience relation between linguistic expressions and some kind of metaphysical (compositional) foundation34 or, less radically but in a compatible spirit, a shift of compositionality requirement to the level of interaction of semantic and pragmatic properties.35 DS adopts the latter stance on compositionality and construes it as a methodological requirement on merger representations, as well as the empirical assumption about meaning so construed. The theory is still in its early stages and it remains to be seen how far the proposed structures reflect the output of the actual processes of utterance interpretation. The proof will lie in neuroscientific evidence on the one hand, and in the availability of algorithms for the interaction of processes on the other. At the current stage, we can only make informed conjectures about the processes, their interaction, and their output.

31 The literature on this subject is vast. See e.g. Partee 2004.
33 See Szabò 2000 and the implementation in e.g. Stanley and Szabò 2000.
In what follows I present merger representations (Σs) for sentences expressing beliefs de se/reporting on one’s own beliefs de se36 such as (26b) and sentences reporting on other party’s beliefs de se such as (7). This juxtaposition will allow us an adequate insight into the question of representing self-awareness via the grammatical devices used by the speaker, and thereby also into the category of quasi-indicators. Let us first consider self-attribution in (26b).

(26b) I believe I am making a mess.

In Σ, a belief report is represented as Bel (x,Σ') standing for ‘x believes that Σ’’, meaning that on a particular interpretation the individual x has the cognitive state represented as an embedded representation Σ’. Σs are modelled on discourse representation structures of DRT (Kamp and Reyle 1993), using an extended language of DRT but they use a radically pragmaticised concept of compositionality as summarised above. The reference assignment to the discourse referents x and y is accomplished via the process resulting in CD, in that intentionality and, on the level of intentions, the referential intention that standardly accompanies the use of pronouns, results in reference assignment. The belief predicate is also indexed as CD to reflect the default status of the de re, as opposed to the de dicto, interpretation. This part of the representation is applicable to all belief reports and carries through to the de se cases. Combined with information from coreference x=y, default de re surfaces here as de se and obtains the combined index ‘CD, WS’ as in Fig. 1. The types of processes responsible for various parts of the output are represented by indexing the relevant components of Σ with a subscript standing for the type of process.

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36 Note that shifting the temporal reference brings about this shift.
In this way we can represent the *de se* interpretation by resorting to coreference alone, without making use of the first-person pronoun. Indeed, this is what we wanted to obtain in view of the earlier arguments to the effect that *de se* self-ascription and *de se* reports are to be treated analogously, as grammar-based default *de se*. The analysis can be extended to third-person reference in (7) which turns out to be almost identical as Fig. 1, save for the addition of the indication that this is the default reading of (7) on which ‘he’ functions as a quasi-indicator. The condition \([y=x]_{WS,CD}\) signals coreference that comes with self-awareness.

(7) John Perry believes that he is making a mess.
Fig. 2: Σ for the default reading of (7)

The similarity of Fig. 1 for the (only) reading of (26b) on this assignment and Fig. 2 for the default reading of (7) is precisely what the account predicts.\(^{37}\) In non-default readings of (7), the discourse referents \(x\) and \(y\) come with varying referents \((x \neq y)\) or with varying information about the referent \((x=y\) but no self-awareness) and via varying processes \((\text{WS as opposed to WS+CD})\). On the latter reading, the pronoun ‘he’, while retaining coreference through \([y=x]_{\text{WS}}\), is processed with the use of contextual information that allows for the situation where there is a lack of information about coreference on the part of the holder of the belief. As a result, \(y\) is associated with the discourse condition \([\text{John Perry}]_{\text{CD}}\) as in Fig. 3.

\(^{37}\) Note that the identity can be attained when coreference \(x=y\) is ascribed to the WS source and this is justified when we extend the concept of binding as discussed earlier in this section. Alternatively, coreference for the third person pronoun ‘he’ in (7) can be modelled as attained through CD in that the strongest intentionality and thereby the strongest referential intention pertain to the coreferential reading.
Fig. 3: Σ for the coreferential non-default reading of (7)

Needless to say, the markedness of this interpretation is diaphanous in that normally a disclaimer phrase would be added by the speaker, as in (26). Alternatively, the coreferential pronoun would be avoided and a description would be substituted. The absence of de se would then be accounted for by the same mechanism of indexing with CPI. The presence or absence of coreference with a definite description (from the perspective of the reporter) can also be manipulated, but the normal case will of course be the one with no coreference being expressed. An utterance with a substituted demonstrative phrase or a description can on this account be represented as in Fig. 4 for example (33).

(33) John Perry believes that that man/the man with a split bag of sugar\textsuperscript{38} is making a mess.

\textsuperscript{38} DRT-style accounts assume discourse referents for directly referential and contextually referential expressions alike. Examples such as (33) testify to the plausibility of making the distinction between direct referentiality and contextual referentiality more malleable and discourse-dependent.
Coreference would have to be expressed via a clarification as for example in (34). Note that there is no non-default, coreferential reading of (33) as this is not what any of its possible utterances expresses.

(34) John Perry believes that that man/the man with a split bag of sugar is making a mess and he doesn’t realise that he is that man.

Finally, the fact that the representation of \textit{de se} was produced without resort to the first person has the advantage that we can also represent the dissociation of the first person from self-awareness as in the past-tense variant of (26b) in (35) which is acceptable when accompanied by disclaimers as in (35a). The analogy between (35a) and (26a) is diaphanous and stems out of the fact that the only semantic difference between them is the presence of historic present tense that corresponds to the semantic temporal category of the so-called past of narration (see e.g. Jaszczolt 2009; Jaszczolt and Srioutai 2011). In both utterances, when enriched with disclaimers as in the (26a) and (35a) variants, it is the identity of the indices in
the final clause juxtaposed with the negation of the corresponding default mental state of self-awareness that testifies to the markedness of the reading.

(26b)  I₁₁ believe there I₁⁺₁₂ am making a mess.

(26a)  Look, I₁₁ believe in this scene that I₁⁺₁₂ am making a mess but I₁₁ don’t know it is me₁⁺₁₂.

(35)  I₁₁ believed I₁⁺₁₂ was making a mess.

(35a)  In a sense, I₁₁ believed I₁⁺₁₂ was making a mess. I₁₁ just didn’t know that the person I₁₁ referred to was I₁⁺₁₂.³⁹

Past-time reference in DS is represented by means of a modal operator on an embedded representation but for the purpose of this argument the intricate DS-theoretic analysis of temporality can be put aside.⁴⁰ In Fig. 5, coreference is represented by the condition \([y=x]_{WS}\), while the lack of self-awareness by the differentiation of indexing on \(x\) and \(y\) (CD vs CPI) and by the non-default use of the belief operator (CPI).

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³⁹ See fn 20.

⁴⁰ For a detailed account of the representation of time in DS see Jaszczolt 2009.
Fig. 5: \( \Sigma \) for the non-standard reading of sentence (35), normally with disclaimers (‘in a sense’)

To sum up, in virtue of its recognition of default interpretations, the contextualist DS-theoretic account sits mid-way between Chierchia’s semantic and Maier’s pragmatic solutions to de se. While the default assumption in discourse interpretation seems to be that the anaphoric use of a pronoun in attitude reports comes with conscious self-reference, this cognitive default may not be present on some scenarios, or can be overridden by clarifications and disclaimers. Similarly, although less intuitively, ‘I’ normally comes with conscious self-reference, dubbed here self-awareness (as distinct from (not necessarily conscious) self-ascription and (linguistic) self-attribution) and this self-reference is carried by the lexical item and thereby by the grammar, on the understanding of the role of grammar discussed at the end of Section 4. But when we consider the phenomenon in the wider perspective, taking into consideration examples invoked by Kratzer, Chierchia, and above all the Castañeda tradition of quasi-indexicality, we have to recognise, and thereby account for the fact that there are expressions reporting self-awareness that do not involve first-person reference, and likewise, there are expressions using first-person pronoun that don’t come with self-awareness. In the framework of DS that adopts the \( \Sigma \)-compositionality view, the lexicon and grammar (WS) are regarded as only one of several sources of meaning that contribute to \( \Sigma \); what syntax would have generated may not in fact arise if CD or CPI override its output. The important corollary of this construal of sources and processes in meaning (re)construction is this: once we have shifted compositionality to the level of the merger of information (\( \Sigma \)), the differences between syntactic and pragmatic solutions are significantly reduced. Rather than argue whether conscious self-reference (self-awareness) comes from the logical form or from pragmatic enrichment, we simply acknowledge its default status triggered by the grammar and aided by the IS source and the CD process that produces an interpretation pertaining to the strongest intentionality of the speaker’s mental state. We also embrace the experimentalists’ finding that pragmatic manipulation of content is performed online, locally, and therefore even what syntax and lexicon throw up (or would have thrown up) can be locally altered. The de se/de re about oneself alternation fits well with this localist contextualist picture.

To compare, neither Meier’s DRS-theoretic nor the DS-theoretic account is compositional in the Montagovian sense, but once compositionality is assumed to hold on the
level of the contextualist semantic representation, both are equally so, and the latter gains an advantage by offering just one single level of such representation, with pragmatic enrichments identified by the source of information and type of cognitive process, at various stages of interpretation.

6. Concluding Remarks

The cognitive significance of ‘I’ comes from its being an inherently perspectival concept: the referent is presented from a certain privileged point of view. This privileged point of view permeates human thoughts and activities; whatever we think, do, or experience, we are conscious of being the thinker, agent, or experiencer. Any reductive explanation of this self-consciousness is a challenge, as is evident from the discussions of de se beliefs and from theoretical attempts at such a reduction. Likewise, any reductive explanation of the expression of this self-consciousness poses a challenge as is evident from the comparison of the properties of first-person pronoun with those of other directly referring expressions.

The ascription of this privileged point of view poses yet another challenge in that this privileged point of view need not be part of the essence of the intentional content of the expression. On the other hand, this privileged point of view normally seems to be part of this essence, both for indexicals and for quasi-indexicals. Cancelling self-awareness by adding disclaimers of the kind ‘…but she does not realise that she is that person’ is notoriously cumbersome and rarely practised, although an empirical study of the relative frequency of relevant disclaimers would be pertinent here. In short, expression of self-awareness does not require a specific grammatical marker in English such as ‘I’ in oratio recta or (coreferential) ‘(s)he’ in oratio obliqua, neither do such expressions come with guaranteed expression of self-awareness.

We don’t seem to have a lexical or grammatical ‘peg’ to hang the property of expressing self-awareness on. Sometimes the property is externalised through the grammar, at other times by default interpretations of this grammatical form, and at yet others by pragmatic resolution of the truly underspecified representation. Contextualist framework and pragmatic compositionality embraced by DS allow us to provide for this diversity. As a

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42 For an extensive discussion and the pertinent semantic concept of quasi-indicators (‘he himself’) see Corazza 2004, esp. Chapter 9.
result, various extant plausible hypotheses of the syntactic underpinning of this self-consciousness can be incorporated as one possible source, and one possible process, that lead to the semantic category of *de se* – semantic in the contextualist sense. The possibility of acknowledging this diversity in the provenance of *de se* makes the DS much more compelling than any of the extant semantic or pragmatic construals.

On the latter issue, I have argued here that contextualism on the DS version is compatible with the two versions of minimalism defended above, namely RSM+MS and RSM, in yielding consistent predictions *pace* the difference in respectively modelling or not modelling sources of meaning that lie outside grammar as part of the semantic content. On the strength of various suggestions and observations put forward above, it seems to be at least arguable that grammar plays a major role in expressing conscious self-attribution, ‘the triumph of the self’, but it is the above contextualist construal of the role of grammar that allows for adequate representation of the relevant processes and their outputs on the default and non-default interpretations. The derivation of the salient *de se* reading of belief reports from the processes WS and CD and the availability of a DS-theoretic representation on which they seem to be processed analogously to the cases of first-person self-ascription constitute sound arguments in favour of his stance.

Returning to the quotation from Chalmers (1996: 85) used as a motto for this article, although the ‘indexical fact’ may have to be regarded as primitive due to the non-reducibility of consciousness, *indexical fact* is not the *indexical expression per se*. Instead, the indexical/quasi-indexical expressions used to express self-awareness may have to be approached with the assumption of some version of the contextualist outlook in order to obtain a plausible account of the grammar/pragmatics division of labour in producing *de se* readings of belief reports, and also, more contentiously, belief expressions. But we are still some way away from the final word on the semantics of *de se*.

References


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