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## SELF-REPRESENTATION

It has been noted by philosophers for quite a while (starting with Castaneda, 1966) that the beliefs, or knowledge one has regarding oneself may require some special analysis. As Lewis (1979) puts it, it is in principle possible to know all the true propositions in a given world and still know nothing about oneself, if one does not know the relation between oneself and these propositions (as in the Perry-based example of the amnesiac in the Stanford library.) In the smaller scale of reports of propositional attitudes, a specific account may be needed for what Lewis has labelled 'attitudes de-se'. This is a subcase of the de-re interpretation of belief reports, but it requires awareness of the believer of the fact that he himself is the person of whom something is attributed. Given (1), which is based on an example of Lewis (1979) (attributes to Kaplan), the report could be true under the de-re reading if Alfred, escaping from a fire, sees himself in the mirror without recognizing himself, and without noticing that it is his own pants that are on fire. In this state of affairs, the sentence will be false under the de-se reading.

- 1) Alfred believes that his pants are on fire .
- 2) Lucie thought that she sounded too aggressive.

Or, to illustrate the same with a slightly more realistic scenario: Suppose that Lucie, a broadcast manager, is looking for the perfect female voice for an ad, and requests to hear some samples of women in natural conversation. Unbeknown to her, the technician records her too, and adds it to the samples as number 17. Lucie does not recognize her recorded voice, and rules out 17 as too aggressive. In this scenario, (2) is true de-re, but is still false de-se (for the specific reported thought).

Recently, the issue of de-se interpretation has gained some linguistic attention, in the study of a discourse-function of anaphors which has been labelled 'logophoric' (starting with Clements (1975)). This is very common with long-distance anaphors in, e.g. Scandinavian languages (Thrainsson, 1979), but it is also much more common in English than is assumed, particularly in literary texts. Zribi-Hertz (1989) quotes tens of real-discourse examples, like (3).

- 3 a) "Suddenly he said aloud: 'Possessiveness is the devil.'  
Maggie looked at him. Did he mean herself and the baby?" (ZH, quoted from Y. Woolf)

- b) It angered him that she should have the egotism to try to attract a man like himself. (ZH, quoted from Lewis)

A logophoric anaphor, which may even be free in its sentence (as in (3a)), is used to refer to the subject of consciousness (believer or utterer of a reported states of affairs). Borrowing a terminology of Fillmore (1971), each utterance of a sentence is associated with a 'center', which is a triple of the speakers, place and time of the utterance. In standard contexts the center is that of the speaker, but in certain environments such as point-of-view narrative, as (3a), or belief contexts as (3b), the reported subject of consciousness may serve as the (embedded) center (which may be also witnessed by the use of temporal deixis). Perspective logophors, then, are anaphors referring directly to the center (the speaker or an embedded center), rather than coreferring with another discourse entity.<sup>1</sup>

Chierchia (1991) argues that logophors occurring in belief contexts force the de-se interpretation. Typically in the case of logophors, a pronoun is always allowed as an alternative. While a pronoun in this contexts allows for both interpretations (as in (1)), the function of choosing a logophoric anaphor rather than a pronoun, on this view, is to disambiguate the belief-report. The judgments on this issue are probably less clear cut than assumed by Chierchia (see footnote 9 [=last]), but there does seem to be some correlation, and signalling a de-se reading may be one of the discourse functions of logophors (though clearly not the only one). In any case, if the distinction between de-se and standard de-re readings is, indeed, truth-conditional, as assumed by many (though clearly not by all, see e.g. Higginbotham (1989)), it is appropriate to ask, following Chierchia, how it is captured in the translation of sentences into semantic representation.

#### A property account of the de-se interpretation

Lewis' point of departure is, as we saw, that propositional knowledge is not sufficient to account for self-knowledge. To account for the de-se reading, Lewis argues that they involve believing a property. E.g. in (1) (put roughly), Alfred believes the property of having one's pants on fire, where to believe a property is to believe it is applicable to oneself, taken, essentially, as a primitive notion. ('self ascription'). To preserve a unified concept of belief, Lewis extends the property analysis to all belief contexts. (To believe that this page is white is (roughly) to believe oneself to be in a space where this page is white.)

For a linguist, this is a rather disturbing result. We are used to interpret all tensed, (or CP) clauses equally as propositions, and to assume that this page is white is interpreted differently at different contexts means giving up some basic assumptions on compositionality. Chierchia (1991) proposes a

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<sup>1</sup>In Reinhart and Reuland (1991) we argue that this context of point-of-view dependence is by no means the only one allowing an anaphor to occur syntactically free. We propose the term 'perspective logophors' for the specific use under consideration, though this term, just like 'logophors' has no theoretical significance (i.e. the syntax of binding is not sensitive to any of the distinctions governing the use of logophors).

modification of Lewis' approach, which is digestible to linguists: The property analysis holds only for de-se beliefs. This is syntactically possible, since in these cases, the embedded clause always contains a variable (a pronoun or a reflexive), so an abstract operator binding this variable can be assumed. His analysis of the de-se reading is, then, given in (4c). (4b) -the standard (propositional) analysis of (4a) - yields the de-re reading. (4c) is interpreted as self-ascription, along the lines of Lewis. That the de-se reading must entail the de-re reading is captured by the specific meaning postulate in (5).

- 4 a) Alfred Believes that his pants are on fire  
 b)  $(\lambda x [\text{believe}(x, x\text{'s pants are on fire})]) (\text{Alfred})$   
 c)  $\text{believe}(\text{Alfred}, (\lambda x [x\text{'s pants are on fire}]))$

5)  $R(x,Q) \text{ ---> } R(x, Q(x))$

Chierchia provides the rules for deriving the representations (4b) and (4c) from the SS of (4a), which turn out strictly compositional and linguistically plausible. If correct, one of its attractive features is that, syntactically, the issue of de-se interpretation is reducible to the more general mechanism of the binding of variables, which needs to be assumed independently. But is it correct?

A very interesting argument which Chierchia introduces is that the property-analysis is linguistically necessary (and not just possible), independently of Lewis' arguments. The problem motivating this analysis, on his view, is illustrated in (6).

- 6) Alfred believes he is a genius, and Felix believes a. it too  
 b. the  
 same thing  
 c.

what Alfred  
 believes

- 7 a) Felix believes Alfred is a genius  
 b)  $it = \text{Alfred is a genius.}$
- 8 a)  $\text{Felix}_1$  believes  $he_1$  is a genius  
 b)  $it = (\lambda x(x \text{ is a genius}))$   
 c)  $\text{believe}(\text{Felix}, \lambda x (x \text{ is a genius}))$   
 d)  $\lambda x (x \text{ believes } x \text{ is a genius}) (\text{Alfred})$

The question here is what does Felix believe, and how is the answer derived. E.g. what does the pronoun *it* of (6a) denote. One option is that it denotes the proposition in (7b) (obtained if we assign the value Alfred to the pronoun *he* in (6).) In this case the reading (7a) is derived. The puzzle, however, is that (6) can also be understood as in (8a), and this interpretation is extremely tough to

explain.<sup>2</sup> Suppose the first clause of (6) is analyzed, standardly, as in (8d). The variable here is bound, so the embedded clause [x is a genius] cannot straightforwardly provide a denotation for the pronoun *it*. (If this was allowed, we would have gotten here the interpretation that Alfred believes some open proposition (containing a free variable).) Chierchia argues that, in fact, the interpretation in (8) is obtainable only if both (6) and (8a) are understood de-se. Given his analysis in (4c), what Alfred believes in (6) is the property of one(self) being a genius. So it is this property which is denoted by *it*, as in (8b), and Felix' belief ends up interpreted as in (8c) (which is the de-se analysis of (8a)). The property analysis, thus, solves a problem for which no other solution is currently available.

Crucially, for this argument to hold it must be the case that the interpretation illustrated in (8) is indeed possible only under the de-se reading. Judgments of (6), with no context, are extremely hard to process, so let us look at (9), which is based on the more realistic scenario of (2) above.

- 9) Lucie<sub>1</sub> thought that she<sub>1</sub> sounded too aggressive and Lili thought the same thing (/believed it too).
- 10) Lili<sub>1</sub> thought she<sub>1</sub> sounded too aggressive (ambiguous).

Suppose that both Lucie and Lili were recorded, and, not recognizing their voice, they each thought that it sounded too aggressive. It is perfectly possible to report this state of affairs using (9), in which case Lili's belief is construed as in (10). But this is a clear case of a de-re belief. If the construal in (10) was allowed only in the case of de-se belief as argued by Chierchia, this reading could not be obtained. In other words, the construal (10) (and (8)) is still ambiguous between the de-re and de-se interpretation, which means that the anaphoric process illustrated in these contexts is independent of the de-se issue.

That the problem under consideration is, indeed, independent of the de-se issue is witnessed also by the fact that it arises in contexts involving no beliefs, or embedded propositions, as in (11). While the construal of, say, the same thing in (12a) is straight forward, its construal in (12b) poses precisely the same problem we observed in (8), though, obviously, no appeal to de-se beliefs could be made.

- 11) Alfred<sub>1</sub> sold his<sub>1</sub> car and Felix sold the same thing  
what Alfred sold  
? it too
- 12 a) Felix sold Alfred's car.
- b) Felix<sub>1</sub> sold his<sub>1</sub> car.

In sum, the problem posed by (8), (10) and (12b) is indeed a tough unsolved problem (falling, I

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<sup>2</sup> The availability of the reading (8a) is clearer for (6b,c), but (6a) is selected here for its presentational ease. For the analysis of the problem posed by (6c), see the appendix.

believe, under the same roof as the so called 'pronouns of laziness'), but it cannot teach us much about the nature of de-se beliefs.<sup>3</sup>

So far, then, it appears that there is no argument showing that the property analysis is indeed necessary for the de-se issue, which, of course, does not entail that this analysis is impossible. Next, let us check whether this analysis is the most plausible approach to the given problem.

A serious question is whether the proposed compositional mechanism can be extended to all instances of de-se interpretations. It would be recalled that one of Chierchia's most interesting empirical claims is that logophoric anaphora is used with the de-se interpretation only. Even if this claim is too strong, it is clear that all (relevant) instances of logophoric anaphora can be so interpreted. As we saw, though, perspective logophors can be typically used, in written narrative discourse, with neither a belief predicate, nor a 'believer' argument, as in (3a) above, or (13), where a self-ascribed belief of the narrative character is the first interpretation that comes to mind. The compositional procedures proposed by Chierchia are inapplicable here: While the clause containing the logophor can still be translated as a property, for the derivation to be interpretable, his rules require that this property be a coargument of the subject argument of some believe predicate. Even an intrasentential logophoric use, such as (14), is uninterpretable by the proposed mechanism, since although some belief predicate is mentioned, the belief-clause is not its complement. This is a more general problem than just the issue of logophors: (15) is just as ambiguous as (1) (Alfred could recognize himself in his mirror fantasies, or, being a prosopagnosiac, consistently fail to do so). It would seem, then, that this ambiguity should be captured by the same mechanism applied to (1). But, again, neither Alfred nor the clause representing his belief are syntactic arguments of the N idea. So the translation procedures cannot apply, as stated.

- 13) "He [Sapp] sat down at the desk and opened the drawers. In the top right-hand one was an envelope addressed to himself."  
(ZH, quoted from Lodge).
- 14) That no one can cook apart from himself is one of Alfred's recent beliefs.
- 15) That his pants are on fire is one of the weird ideas that Alfred comes up with whenever he sees a mirror.

To capture these, a substantial enrichment of the proposed mechanism will be needed. But before attempting such an enrichment, one more point could be considered: It would be recalled that one of the most attractive aspects of Chierchia's analysis is that at least one step of the translation - that of interpreting the belief-clause as a property - is fully reducible to the fact that a pronominal element

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<sup>3</sup> We should note that this point, as well as those below, do not necessarily effect Chierchia's analysis of control verbs, which is the more central issue he is concerned with, since control complements can still be analyzed as properties, independently of the de-se issue.

(pronoun, anaphor or PRO) is present. Since such elements are always translatable as variables, there is room to allow them to be directly bound to some abstract (Lambda) operator. However, this assumption too may turn out too restrictive. In the examples used in all discussions of the de-se reading (starting with Castaneda (1966)), the 'self' of the self-ascribed belief is, indeed, denoted, by a pronominal element. But is this a defining property of this use? Does it entail, e.g., that sentences like those in (16) cannot have a de-se interpretation?

- 16) That the president will be remembered as a war hero is strongly believed by him.

Focusing on the (de-re) case where the president has some belief about the president, it is obviously possible to imagine for (16) a situation where the president, who is amnesiac, has this belief about someone who he does not consider to be himself. But it seems at least just as easy to imagine this sentence uttered to describe a state of affairs by which this de-re belief is self-ascribed, i.e. the president knows he is believing this about himself (whether or not he refers to himself as the president). To guarantee that we are not talking here about a de-dicto belief, let us consider the following situation, which does not strike me as extending the borders of creative imagination set up in the discussions of de-se. Suppose that Colonel Weisskopf was appointed a president as a result of his military and media achievements. He now suffers from temporary amnesia, covering only his presidency period and leaving his war-memories and his sense of identity intact. He has a strong belief about himself that he would be remembered as a war hero, though he cannot possibly refer to himself as the president. I do not find it impossible to report this situation with a sentence like (16). Given the type of reasoning used in the study of de-se, it seems that this should mean that the sentence has a de-se interpretation (though perhaps this requires further contemplation). More generally, a clear requirement for the de-se reading to be possible is some sort of identity between the believer and the object about whom a de-re belief is held by the believer. In the most common linguistic ways to report beliefs, it just happens that the syntax requires the object argument to be pronominal, independently of any issues of semantics (as in (1) and (2), but not in (16)). But I am not aware of sufficient evidence or reasons to assume that de-se interpretations are allowed only for pronominal elements, when the syntax is neutral on this issue, as in (16). If this is so, the procedure translating belief complements into properties cannot depend on the presence of a pronominal element, and the analysis loses its most intuitive appeal.

I would conclude that it is precisely the formal elegance of Chierchia's analysis which renders it far too restrictive to capture the phenomenon under consideration. Specifically, whatever is going on here does not seem to be related to standard mechanisms of variable binding, and it does not show any of the restrictions typical of such mechanisms. This contrasts with the anaphora problem illustrated in (6)- (8), which is indeed a problem of variable binding (mistakenly associated by Chierchia with the issue of de-se). Though this is currently an unsolved problem, it appears to be sensitive to some of the standard constraints on variable binding (see appendix). Possibly, a property approach along lines similar to Chierchia's can be useful for this problem, independently of the issue of de-se, as recently proposed by P. Jacobson.

But the issue of de-se seems to be of a rather different nature. The only necessary condition which was clearly identified for a sentence to allow this interpretation is that it reports (somehow) a de-re belief about the believer. This could hardly be viewed as a syntactic constraint stateable in the strictly local compositional manner proposed by Chierchia. Rather, I will argue that it has better chances to be captured in a (discourse) level taking into account the relations between sentences and their context of utterance.

### A propositional account: Kaplan's Representation-relation

Given that no independent motivation is found to support the property analysis of de-se, an account maintaining the propositional analysis would be preferable, enabling us to preserve a unified analysis of tensed clauses. Several proposals offer a propositional account of the de-se reading, particularly within situation semantics. (Doron (1988) analyses also the literary contexts illustrated in 13). However, I would like to pursue here, as one of the possible implementations (though clearly not the only imaginable one), a simpler line, following the road paved in Kaplan,(1969 - 'Quantifying in').

Let us remind ourselves, first, of Kaplan's analysis of the de-re interpretation. Intuitively, in this case, a (belief) sentence reports a belief of a given person (center) C, concerning some entity, b, independently of the name C would use to refer to b. Kaplan's idea is that this reading can be captured with quantification over names, or expressions. He introduces the three-place relation of representation, defined in (17). (The details of what counts as a sufficiently vivid name are not crucial for the present discussion.)

- 17)  $R(\acute{a},b,C)$  (a name  $\acute{a}$  represents an object b, for a person (center) C) iff: a)  $\acute{a}$  denotes b. b)  $\acute{a}$  is a name of b for C. c) C vividly associates  $\acute{a}$  with b.

A belief-report is true de-re iff there is some name by which C refers to the entity b, and C believes (de-dicto) the proposition expressed in the sentence using this name. This may be illustrated with the de-re analysis of (18a), (i.e. the reading where Oedipus' belief is not contradictory), which is given in (18b). For the sentence to be true, there must, first, exist some name  $\acute{a}$  which represents (the person who is) his mother for Oedipus and (substituting  $\acute{a}$  for 'his mother'), Oedipus believes the proposition expressed by the sentence in the Kaplan quotes. Under this analysis, the sentence turns out to be true (fictionality aside), since there is some name-value for  $\acute{a}$ , - a name which represents his mother for Oedipus, e.g. 'Jokasta', (or 'the woman of my dreams', or whatever. Oedipus does not know, of course that the person denoted by this name is his mother.) It is furthermore, the case that Oedipus believes the proposition expressed, in this case, by the sentence "Jokasta was not his mother".<sup>4</sup>

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<sup>4</sup>The idea of quantification over names and the use of Kaplan-quotes may not be very palatable today, particularly not among those concerned with the cognition of animals. I would assume that in

- 18 a) Oedipus believed that his mother was not his mother  
 b)  $E\acute{a} (R (\acute{a}, his_1 \text{ mother}, Oedipus_1) \& Oedipus_1 \text{ believed } | \acute{a} \text{ is not his}_1 \text{ mother } |)$

Given the scenario for (2), repeated in (19a), the sentence is true under its de-re interpretation in (19b), since, in this scenario we know that there is some value for  $\acute{a}$ : "number 17" is a name which represents for Lucie the person whose voice is considered (which happens to be Lucie), and Lucie believes the proposition expressed by the sentence "Number 17 sounds too aggressive". In examples of this type, the object (b) and the person (C) of the representation relation happen to be identical. The interpretation of this identity (as coreference or binding) is irrelevant for the present issue. For convenience, (20) illustrates a situation, similar to (9) where each manager has the same de-re belief about herself.

- 19 a) Lucie<sub>1</sub> believes that she<sub>1</sub> sounds too aggressive  
 b)  $E\acute{a} (R (\acute{a}, she_1 (=Lucie), Lucie_1) \& Lucie_1 \text{ believes } | \acute{a} \text{ sounds too aggressive } |)$
- 20 a) Every manager<sub>1</sub> believes that she<sub>1</sub> sounds too aggressive.  
 b)  $Ax (\text{manager } (x) (E\acute{a} (R (\acute{a}, x, x) \& x \text{ believes } | \acute{a} \text{ sounds too aggressive } |)))$

Obviously, the identity of the two arguments of the representation relation does not get us any closer to the de-se reading, since, as should be clear from the discussion of (19), what is captured this way is only the de-re meaning of the sentence. A basic assumption of Lewis and Chierchia is, as we saw, that capturing the de-se reading requires an appeal to some primitive notion. Given a Kaplan-type mechanism, rather than self-ascription, the primitive relation required is the two place relation of self-representation (a name  $\acute{a}$  self-represents for a person C). The de-se reading of (19a), is, then (21). The sentence is true iff there is a name self-representing for Lucie, such that she believes the proposition expressed in a sentence using this name. Most likely, the relevant name here would be "I", so Lucie believes the proposition expressed by "I sound too aggressive" (though nothing much hinges on this choice of a name). Given the scenario we have been assuming, the sentence is false, though in standard contexts, this would be the preferred (true) interpretation.

21)  $E\acute{a} (\text{SELF-R } (\acute{a}, Lucie) \& Lucie \text{ believes } | \acute{a} \text{ sounds too aggressive } |)$

22)  $Ax A\acute{a} ((\text{SELF-R } (\acute{a}, x)) \text{ ---> } (R (\acute{a}, x, x)))$

Though we take self-representation to be a primitive notion, a prerequisite for this relation to hold is

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principle it should be possible to modify this line so that it uses intensions and individual concepts, rather than descriptions and names.

that the name  $\acute{a}$  also denotes C, i.e. that there is a referential identity between the denoter and the denoted. Without this assumption, the de se (21) cannot entail the de-re (19b)<sup>5</sup>. As we saw (following Chierchia) this entailment is necessary to guarantee that the person Lucie has a belief about is herself, and Chierchia captures this entailment by the meaning postulate in (5). Within the present notation, this could be captured by building the prerequisite into the definition of SELF-R,<sup>6</sup> but I would follow Chierchia's line of capturing this with a meaning postulate, where what we need in the present framework is stated in (22). (22) guarantees that any Self-representation relation using  $\acute{a}$  as a name, entails a standard representation relation (as defined in (17)), where the person C, is identical with the denoted object b. Given this, a de-se representation like (21) always entails a de-re one, like (19b). Although we could simply leave it at that, perhaps it could be shown, in the long run, that the de-se interpretation is, in fact, derived by some operation on the de-re interpretation. There seems to be very little disagreement that some mechanism should be available to derive a de-re interpretation for belief-contexts, since this is a basic reading. If the mechanism assumed is Kaplan's, it is very easy to derive a de-se representation from the de-re one with just one more operation: Whenever R turns out to have two identical arguments, it is possible to apply, optionally, an operation forming a SELF relation with one argument less.<sup>7</sup>

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<sup>5</sup>This was brought to my attention by Hans Kamp

<sup>6</sup> I.e. the definition of SELF-R could be something like (i).

- i) SELF-R ( $\acute{a}$ , C) iff  $\acute{a}$  denotes C, and  $\acute{a}$  SELF REPRESENTS for C

Apart from the circular air of (i) which may be found unaesthetic, there are other reasons to assume that the alternative in the text has conceptual advantages, which are spelled out in the next footnote.

<sup>7</sup>I.e. given that we obtained some representation containing the relation in (ia), The SELF operation can turn it into (iib), and we get distinct interpretations whether we applied it or not.

- i      a)      R( $\acute{a}$ ,  $x_i$ ,  $x_i$ )  
           b)      SELF-R( $\acute{a}$ ,  $x_i$ )

This is very similar to the operation (applied in the lexicon) which turns a transitive verb like wash into a reflexive one. The relation between the de-se and the de-re reading would then be similar to that between (iia) and (iib), in English, where (1b) is the intrinsically reflexive version.

- ii      a)      Lucie washed herself. (=wash (Lucie<sub>i</sub>, herself<sub>i</sub>)  
           b)      Lucie washed. (=SELF-wash (Lucie<sub>i</sub>))

The reason why it is not clear yet that this could be fully spelled out is that, as would be recalled, we viewed self-representation as a primitive notion, and it is not clear that this is reducible to other independent operations. Crucially, where the unclarity resides is in the relations of (iia) and (iib). While (iib) must entail (iia), as in the case of (i), it is not clear yet that they are not equivalent, though some recent research is tending in that direction. If, indeed, (iia,b) are as semantically

The advantage of this line is that the relevant relation here is not between belief-predicates and their complements, but between expressions and centers (speakers, believers, etc). Independently of the issue of de-se, the concept of a center, (in the sense of Fillmore, mentioned in the introduction) may have to be encoded into the semantic representations of any theory which attempts to capture the relations of semantics and the context of utterance, since it is necessary in order to capture various types of deixis. This means that at some level of representation, clauses are associated with a triple-type center (place, location, speaker). In fact, this is encoded already into the semantics in approaches like situation semantics, or Kaplan's demonstrative analysis. Possibly, also, there are many instances, other than deixis, where we want to associate referring expressions with centers. In Reinhart (1975) I argued that the relation of representation proposed by Kaplan can be useful in capturing a variety of point-of-view problems residing inside the de-re interpretation.<sup>8</sup> Thus,

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distinguished as (ia,b), there may be some unified operation at work here.

<sup>8</sup>To illustrate this, consider (i). For all we know, (i) is false de-dicto, though it is true de-re (meaning that Shamir believes that a government headed by him cannot negotiate with terrorists). Its de-re interpretation is represented in (iii). To capture this much, though, any of the competing analyses of the de-re reading would do. Note, however, that this representation of the sentence misses some further information that a hearer would probably infer from the sentence. Assuming that I am the utterer of (i), it can be inferred that I (T.R.) view Shamir as an ex-terrorist. The issue of deciding who is in charge of the name used to refer to Shamir may be slightly more interesting if I utter a sentence like (ii), where the candidates are Bush or T.R.

- i) Shamir believes that a government headed by an ex-terrorist cannot negotiate with terrorists.
- ii) Bush said that Shamir believes that a government headed by an ex-terrorist cannot negotiate with terrorists.
- iii)  $E \hat{a} (R (\hat{a}, \text{Shamir}, \text{shamir}) \& \text{shamir believes that } | \text{a government headed by } \hat{a} \text{ cannot negotiate with terrorists})$
- iv)  $R(\text{'an ex-terrorist'}, \text{Shamir. T.R.}) \& E \hat{a} (R (\hat{a}, \text{Shamir}, \text{shamir}) \& \text{shamir believes that } | \text{a government headed by } \hat{a} \text{ cannot negotiate with terrorists})$

The advantage of a relation like that proposed by Kaplan is that it can be used to capture precisely this information: E.g. a fuller representation of (i) could be (iv) (some details aside). In principle, each occurrence of a name or a definite description can be associated with a center responsible for it via the relation of representation. In Reinhart (1975) I go through several examples of contexts where this may be useful, though, with the zeal of the novice, I offer there some "modifications" of Kaplan's notation, which are completely wrong, and are, hopefully, corrected in (iv).

extending this mechanism to capture also the de-se issue means, first, that we make use of assumptions and notations that would be independently needed, and, next, that it should be more easily applicable to de-se cases where there is no syntactic complementation, as (15), repeated in (23a).

- 23 a) That his pants are on fire is one of the weird ideas that Alfred comes up with whenever he sees a mirror.
- b)  $E\acute{a}$  (SELF-R( $\acute{a}$ , Alfred) & | $\acute{a}$ 's pants are on fire| is one of the weird ideas that Alfred comes up with whenever he sees a mirror).
- c)  $E\acute{a}$  (R( $\acute{a}$ , Alfred, Alfred) & | $\acute{a}$ 's pants are on fire| is one of the weird ideas that Alfred comes up with whenever he sees a mirror).

Since a name-variable can be existentially bound arbitrarily far away, it is trivial to derive the de-se representation in (23b). If  $\acute{a}$  is, e.g. I, then the proposition expressed by "My pants are on fire" is asserted to be one of Alfred's ideas. Given the definition of self-representation in (22), (23b) entails the de-re representation, in (23c). This makes this line suitable, in principle, for the cases, like (3a) and (13), where no belief predicate is present at all, but I cannot offer much at the present regarding how precisely to formulate the interpretation of such contexts (except for the uninteresting idea that some abstract belief predicates are postulated). Note that (unless we decide to stipulate this explicitly), nothing in the analysis prevents non-pronominal expressions from being translated as name variables, just as in the case of the original relation proposed by Kaplan. (see, e.g. (18)). So in (16), (That the president will be remembered as a war hero is strongly believed by him), it is possible to substitute a name- variable for the president, and bind it existentially, as before. If we let this variable be an argument of the standard representation relation, we get Kaplan's de-re representation, but nothing prevents us also from letting it serve as an argument of the SELF-representation relation, thus deriving a de-se interpretation for the sentence.

Returning, finally, to the logophoric use of anaphors, the relation of a logophor to the center, under the de-se interpretation, is not of referential coindexation, or identity of bound variables (which is what we get in the de-re cases), but of self-representing - the logophor stands for some expression self-representing the center. This may help explain a puzzle posed by this use, when the logophoric anaphor occurs free, as in (3) and (13). The defining property of anaphors is that, unlike pronouns, they are referentially dependent, and cannot be used to refer independently, e.g. demonstratively. But the logophoric use in these contexts appears to violate the requirement that they have a linguistic antecedent. However, the proposed analysis allows free anaphors to still be interpreted via the relation of self-representation<sup>9</sup>.

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<sup>9</sup>If this is true, it would follow that Chierchia's generalization that logophors are interpreted only under the de-se reading must, indeed, be true for those cases when an anaphor occurs with no

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linguistic antecedent, as in (3) and (13). Since in these cases, there is no other way to assign a value to the anaphor. By contrast, when an anaphor has a linguistic antecedent it can be used much more freely. Given the view of anaphors proposed in Reinhart and Reuland (e.g. 1991), the anaphors in (i) are logophoric (i.e. they do not function as reflexivizers, yet they are not ruled out by condition A). Still, it does not seem to me impossible to use them in the strict de-re use, as in the contexts below, which deny self-awareness of the center.

- i a) Max saw a picture of himself in the paper, though he didn't realize it was him.
- b) Lucie thought that Lili and herself sound much too aggressive, though she didn't realize that she herself was number 17.
- ii) ? He sat down at the desk and opened the drawers. In the top right-hand one was an envelope addressed to himself, though he didn't actually realize that the person it was addressed to was him.

If the free-anaphor case (13), is placed in a similar context, as in (ii), this seems, indeed, much weirder, though the judgments are as subtle as they can get.

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