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## THE PLACE OF REFERENTIAL INTENTIONS IN LINGUISTIC CONTENT

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**Abstract:** This paper examines the role of speaker intentions in issues of reference determination for context-sensitive expressions, focusing on demonstratives. Intuitively, the referent of a token utterance of ‘that’ is fixed (at least in part) by the speaker’s intentions. However, if this is right it causes a potential problem for so-called formal theories of meaning. I begin by setting out the nature of this problem and proceed to explore three putative solutions. First, the assumption that speaker intentions fix reference in these cases may be rejected; second, it may be held that current speaker intentions are relevant but that they can be accommodated within a formal semantic theory; third, reference determination and semantic content may be held strictly apart. I reject the first two of these moves, termed respectively ‘conventionalism’ and ‘non-inferentialism’, but argue that the third move provides an appealing way for the formal semanticist to accommodate the content of context-sensitive expressions.

**Keywords:** Speaker’s Intention. Reference. Context. Demonstratives. Meaning.

## O LUGAR DAS INTENÇÕES REFERENCIAIS NO CONTEXTO LINGÜÍSTICO

**Resumo:** Este artigo examina o papel das intenções do falante no que diz respeito à determinação da referência para expressões, concentrando-se nos demonstrativos. Intuitivamente, o referente de um proferimento-*token* de ‘aquilo’ é fixado (pelo menos em parte) pelas intenções do falante. Se isto é correto, no entanto, temos um problema potencial para as chamadas teorias formais do significado. Eu

começarei fixando a natureza deste problema e, em seguida, explorarei três supostas soluções. Primeiro, a assunção de que a intenção do falante fixa a referência nestes casos pode ser rejeitada; segundo, pode ser sustentada a tese de que as intenções correntes do falante são relevantes, mas podem ser acomodadas em uma teoria semântica formal; terceiro, a determinação da referência e o conteúdo semântico podem ser mantidos estritamente separados. Eu rejeito as duas primeiras possibilidades acima, chamadas respectivamente de ‘convencionalismo’ e ‘não-inferencialismo’, mas argumento que a terceira provê uma forma atraente para o semanticista formal de acomodar o conteúdo de expressões sensíveis ao contexto.

**Palavras chave:** Intenção do Falante. Referência. Contexto. Demonstrativos. Significado.

The aim of this paper is to show that formal semantics, and in particular a version of formal semantics known as ‘minimal semantics’, can handle the existence in natural language of terms whose semantic contribution is determined by intensional aspects of a context of utterance, such as speaker intentions. The problem to be addressed concerns the apparent clash between, on the one hand, our strong intuition that speaker intentions are, in at least some cases, relevant to reference determination and, on the other, an approach to semantic theorising which seems destined to treat current speaker intentions as irrelevant in determining semantic content. Exactly why formal semantics in general and minimal semantics in particular has a problem with semantically relevant speaker intentions is something I will examine further in §1. Once the problem is laid out, however, it will be clear that there are three possible avenues for the theorist to pursue: first, she might deny the assumption that speaker intentions are actually relevant for reference determination (the proposal to be explored in §2). Second, she might deny the claim that formal semantics has a problem with referential intentions (the proposal to be looked at in §3). Third, she might try to hold apart issues of reference determination and issues of semantic content (the topic of §4). As we will see, the first two

putative solutions both face apparently serious (and related) problems. Hence I will suggest that it is the final move to hold apart issues of reference determination and issues of semantic content which provides the best solution for the minimalist to pursue. By adopting this position, I will argue, she can obviate the concern that grasping the semantic content of a well-formed sentence which contains a context-sensitive expression requires appeal to rich, intensional aspects of a context of utterance: minimalism can thus retain its claim to be free from the ‘magic of pragmatics’.<sup>1</sup>

### 1. THE PROBLEM OF SEMANTICALLY RELEVANT INTENTIONS

It is a well-rehearsed point in the literature that context-sensitive expressions seem to cause problems for formal approaches to semantics – they are, in Davidson’s words, ‘a very large fly in the ointment’.<sup>2</sup> Part of the problem that they cause (although not exactly the one Davidson himself was worried by) concerns the apparent role of the current speaker’s intentions in determining semantic content for these terms. The worry, as we will see below, is most acute at the more extreme (minimal) end of formal semantics, however, it should be clear from the outset why speaker intentions are in principle disruptive to any variety of formal semantics. The worry can be seen as a kind of clash of perspectives: formal semantics aims to establish parallels between natural languages and the languages of logic, giving an account of literal linguistic meaning which runs directly from the formal, codifiable properties of a language. It aims to capture sentence meaning (which holds regardless of the motivation behind someone’s utterance of a given

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<sup>1</sup> Neale 2007.

<sup>2</sup> Davidson 1984: 33. He goes on ‘Both logicians and those critical of formal methods here seem largely...agreed that formal semantics and logic are incompetent to deal with the disturbances caused by demonstratives’.

sentence) entirely as a function of syntactic form and lexical meaning. However, if the general aim of a semantic theory is to capture the repeatable and the codifiable, then clearly the presence in natural language of a class of expressions whose semantic contribution is determined by nebulous and highly context-relative features like the intentions of the current speaker is problematic. An expression whose semantic contribution is determined by what the current speaker is thinking sits uncomfortably within an approach which treats semantic content as essentially immune to the vicissitudes or peculiarities of specific speakers.

Thus, from the outset, it looks as if allowing current speaker intentions to be semantically relevant runs counter to the ethos of formal semantics and risks sliding the position towards the territory occupied by use-based approaches to meaning (by opening the door to meanings which are settled via an appeal to what the speaker intends to do with her words). Furthermore this a priori tension between the nature and aims of formal semantic theorising and the nature of speaker intentions crystallises into an apparently very powerful objection given more rigorous versions of the formal semantics programme. According to so-called ‘minimal semantics’ there are such things as minimal propositions, or minimal truth-conditions, or minimal-whatever-your-semantic-theory-runs-on, which are delivered via purely deductive, computational processes operating over formal, syntactic representations of sentences and which are therefore minimally affected by features from within a context of utterance.<sup>3</sup> For the minimalist, meaning runs along

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<sup>3</sup> We should note that not all minimalists feel the pull of a purely computational route to content, see Cappelen and Lepore 2005, who instead define minimalism primarily by the claim that the only context-sensitive terms in a language are the obvious ones. According to them, then, there is no problem with minimalism allowing appeal to speaker intentions at the semantic level (when required by something obvious in the syntax).

purely syntactic rails and the move from syntax to semantics is one which can be rendered explicit in formal terms (e.g. via the canonical derivation of truth-conditions).<sup>4</sup> Yet within this kind of framework any appeal to speaker intentions seems illicit. For reasoning about speaker intentions seems clearly non-deductive: to work out what someone is thinking it seems we need to engage in rich, content-driven inference to the best explanation – the kind of reasoning the minimalist eschews en route to recovery of semantic content.<sup>5</sup>

The problem for the minimalist may then be stated as follows:

- (P1) The semantic contribution made to sentences by at least some expressions depends on the states of mind of the speaker who produces those expressions.
  - (P2) Reasoning about another's states of mind requires making an inference to the best explanation.
  - (P3) According to minimalism, the only reasoning processes involved en route to recovery of semantic content are deductive, computationally-tractable processes.
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- (C) Minimalism cannot give an account of the semantic contribution made by at least some expressions.
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However, I think questions can be asked about whether or not Cappelen and Lepore's appeal to speaker intentions really coheres with the minimalist model; see Borg 2007a for discussion.

<sup>4</sup> One reason a minimalist might be keen to hold on to the idea of an entirely formal, syntactic route to semantic content stems from the theory's connection with modular accounts of the mind; see Borg 2004a, Chapter 2.

<sup>5</sup> This is a point I've argued for elsewhere (Borg 2004), but the central idea is that, in attributing mental states, anything one knows is in principle relevant, though in practice one consults only a tiny subset of everything one knows. This open-endedness in principle combined with constraints in practice seems to show that the reasoning behind attributing mental states is not merely a function of structure but is sensitive to the content of the beliefs involved.

However, laid out in this way, it is clear that there are at least three possible moves the minimalist might make in response to the argument. Perhaps the most obvious move is to reject (P1): despite initial appearances to the contrary, it might be a mistake to think that speaker intentions are relevant to reference fixing for demonstratives or other expressions. This idea, which I will term ‘conventionalism’ about reference, will be explored in §2. On the other hand, a minimalist might think to resist (P2). Although, as sketched above, it *looks* as if assignment of speaker intentions is not a formally tractable process, perhaps this is a mistake. One reason for thinking this comes from recent work in cognitive science where it has been claimed that there is a particularly intimate relationship between certain mental states (including referential intentions) and the behaviour which manifests them. Thus, in §3, I’ll examine some of this work and see how it might solve the minimalist’s problem. Finally, the minimalist might maintain that the argument is not actually valid, that is to say, she might accept all of (P1)-(P3) but deny that they jointly entail (C). This suggestion will be explored in §4.

## 2. REJECTING (P1): CONVENTIONALISM ABOUT REFERENCE

Although it seems initially plausible to think that speaker intentions are responsible for determining the reference for demonstrative expressions this assumption can be denied. Instead it may be held that there are conventional rules of use for context-sensitive terms which determine the referent for a token expression *without* appeal to speaker intentions. The conventional rules for demonstratives might, it seems, look either to demonstrations (pointing gestures, etc), or to demonstrations along with other contextual cues, as the features which play this role. For instance, when Kaplan first introduced his distinction between pure indexicals and true demonstratives he suggested that demonstratives required

an additional feature from the context of utterance in order to secure a reference, namely a demonstration. Without a demonstration a demonstrative, unlike an indexical, is taken to be semantically incomplete. It is this additional demonstration, rather than any associated intention, which (at least for the early Kaplan) determines the reference for a token demonstrative.<sup>6</sup> Clearly, were it to turn out that demonstrations were responsible for reference fixing and, in addition, that demonstrations themselves could be individuated in non-mentalistic terms (a point we will return to below), then the problem laid out in the previous section would simply evaporate, since it would turn out that there were no such things as semantically relevant speaker intentions (at least from the perspective of reference determination for demonstratives).

One immediate worry with this sort of move, however, is the fact that at least some demonstratives seem perfectly able to function *without* an attached demonstration. For instance, Kaplan himself gives the example of facing a line of soldiers when one of them faints dramatically. This serves to make possible an act of demonstrative reference to that soldier without anyone having to gesture at him in any way.<sup>7</sup> Or again, we seem to be able to pick out abstract objects or objects outside our immediate perceptual environment (e.g. through what is called ‘deferred reference’, such as pointing at a painting but referring to its painter), though such referents don’t seem to be available to be the subject of pointing gestures, etc. Furthermore, even if (a non-intentional account of) demonstrations could help as far as demonstratives are concerned, such an

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<sup>6</sup> Kaplan 1977. Others have also found the idea that demonstrations fix reference appealing; see McGinn 1981 and Reimer 1991. Kaplan 1989 rejects his earlier view, instead taking demonstrations to be mere externalizations of the criterial ‘directing intentions’ of the speaker.

<sup>7</sup> This is Kaplan’s notion of ‘an opportune demonstration’, 1977: 490, n.9.

explanation wouldn't easily extend to other expressions, such as indexicals, where no demonstration is required. Yet, as noted above, there may be reasons to think that speaker intentions are relevant in determining the semantic content of these expressions as well.

An obvious response to these sorts of worries would be to widen our appeal from a focus on physical gestures to include any relevant features (either in the context of utterance or beyond).<sup>8</sup> The suggestion would thus be that although pointings and head gestures, etc, may help to determine a reference, they need not provide the whole story here. Instead we might take the conventional rules of use for demonstratives to look to demonstrations *together with* other contextual cues.<sup>9</sup> The kinds of features a conventionalist might appeal to include: salience, prior reference in discourse, relevance, charity, demonstrations, and location in a series.<sup>10</sup> If it is right that reference is fixed by these sorts of features and not by speaker

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<sup>8</sup> Wettstein 1981: 78-9 stresses that significant cues can go beyond those provided by the context of utterance (though of course this claim depends on how broadly or narrowly one is prepared to individuate a context of utterance).

<sup>9</sup> This position originates (as far as I know) with Wettstein 1981, where he calls it 'a contextual account of indexical reference'; I've avoided using the label 'contextualism' given the way this term is used in the rest of this essay. The position is also advocated by Corazza, Fish and Gorvett 2002, and Gorvett 2005, who stress the conventional rules associated with uses of context-sensitive terms, allowing different kinds of uses to be covered by different conventions (so that a use of 'now' as part of an answer phone message refers to the time the utterance is heard, whereas the use of 'now' on a postcard refers to the time of inscription); however they do not spell out the possible content of these rules in very much detail. Finally, the non-intentional view is also endorsed in Gauker 2008.

<sup>10</sup> This list is from Gauker 2008. Wettstein 1981: 79 also stresses that cues may include what the addressee knows about the speaker's interests, desires and history; whether this then constitutes a genuinely conventional account of demonstrative reference is thus not obvious (see n.18).



intentions, then it seems that the argument of §1 collapses: it doesn't matter that minimalism can't accommodate speaker intentions at the semantic level since no semantic level appeal to speaker intentions is necessary.

Furthermore, it seems that there are some good reasons to embrace some form of conventionalism here. One such reason (stressed by Corazza et al) comes from Donnellan-style concerns about the need to avoid 'Humpty-Dumpty-ism' in language, whereby words are allowed to mean whatever a speaker wants them to mean.<sup>11</sup> Clearly, this is an unacceptable proposal for context-insensitive words: 'red' means red even if I now use it intending to refer to the colour blue. Yet it seems that such liberalism would be equally mistaken for context-sensitive words. For instance, imagine a context in which a group of speakers are standing around admiring a red Porsche. If a member of this group now says 'That is my favourite car', intending to say that her favourite car is the white Jaguar parked round the corner, it seems plausible to think that she nevertheless semantically refers to the Porsche in front of her, regardless of her unpublicised intention. After all, any competent hearer in this context will take the speaker to have referred to the Porsche not to the Jaguar, and any later attempt by the speaker to claim that this is not what she said is very likely to fall on deaf ears. In this kind of case, it seems that speaker intentions are trumped by considerations of what competent hearers can in fact recover, which in turn are determined by objective conventions concerning how reference is fixed for context-sensitive terms. Demonstratives, it seems, can only be used to refer to what a competent speaker can

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<sup>11</sup> Wettstein 1981 makes the similar point that, whilst conventionalism creates the space for a divergence between speaker reference and semantic reference, intentionalism seems to collapse these two notions.

recover, not simply to whatever a speaker has in mind. These kinds of cases thus lead Corazza, Fish and Gorvett to suggest that:

We do not...have to appeal to the speaker and/or audience's individuating intentions to account for the reference of indexical expressions. All we need to appeal to are conventionally given contextual parameters.<sup>12</sup>

If this is right then it gives us our first minimalist solution to the problem posed by demonstratives and other apparently intention-sensitive terms.

However, on reflection, it is not so clear that the allegation of Humpty-Dumpty-ism really does hold against the intentionalist. For although it may seem right that speaker intentions unconstrained cannot underpin communicative acts of reference, it remains open to the intentionalist to constrain the set of intentions she is interested in in some way (for instance, requiring referential intentions to be communicative intentions).<sup>13</sup> Alternatively, an intentionalist might accept that a speaker who uses a demonstrative in a way which cannot be recovered by her audience (e.g. using 'that' with the intention of referring to an object when she knows that there are no contextual cues available to help her audience ascertain this intention) is guaranteed to fail in any communicative endeavour she has. However, the intentionalist may take this as a failing at the level of communication which leaves the level of meaning untouched: though she employs a linguistic expression

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<sup>12</sup> Corazza, Fish and Gorvett 2002: 17.

<sup>13</sup> See Bach 1995. Corazza et al 2002: 16-7 respond briefly to this point, arguing that it makes appeal to intentions subservient to appeals concerning public communication and thus that it is conventional features which do the real work on such an account. However it is not obvious that this response suffices to show intentions are not criterial in reference determination.

whose meaning is beyond the grasp of her audience (and thus she fails in Gricean respects as a cooperative speaker), nevertheless this doesn't stop the expression having the literal meaning that it does.<sup>14</sup>

So, the motivation for conventionalism may be thought somewhat suspect. Furthermore, the account itself faces an apparently serious objection, for it seems that the very notions it appeals to to replace speaker intentions themselves require intentional input. For instance, what makes a given physical movement a pointing at a dog (rather than a pointing at a dog's collar, or colour, or place, etc) is not merely features of the movement's physical orientation but is a matter of what the agent *intended* to pick out with her gesture. Conventionalism thus seems to postpone, rather than genuinely eliminate, the appeal to speaker intentions in issues of reference determination. As Recanati writes:

It is generally assumed...that the demonstrative refers to the object which happens to be demonstrated or which happens to be the most salient, in the context to hand. But the notions of 'demonstration' and 'salience' are pragmatic notions in disguise...Ultimately, a demonstrative refers to what the speaker who uses it refers to by using it.<sup>15</sup>

Unless the notion of 'demonstration' is understood in entirely physical terms it cannot help en route to a non-intentional explanation of reference determination, yet understood in such a purely physical way it seems clear that demonstrations underdetermine reference assignments.<sup>16</sup>

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<sup>14</sup> This is the route proposed by Predelli 2002. With certain provisos about what is required for grasping the meaning of a demonstrative (see §3), this move would mesh nicely with the general minimalist viewpoint.

<sup>15</sup> Recanati 2004: 57. See also Kaplan 'Dthat': 396; Bach 1992.

<sup>16</sup> One might think to avoid this worry by adopting the kind of Fregean theory of demonstrations which Kaplan advocates in *Demonstratives*. On

However, this was an objection which Wettstein himself noted but by which he was unmoved:

The indeterminacy of pointing...does not necessitate [such]an appeal to referential intentions...[T]he gesture, considered in isolation, is indeterminate. It is a sufficient indication, however, in the presence of additional cues, for example, the fact that the predicate indicates that the speaker intends to talk about a person and there is no other person in the range of the pointing.<sup>17</sup>

Yet, as the above quote from Recanati illustrates, the problem of indeterminacy is one which can be levelled not only at demonstrations but also at most of the other elements to which the conventionalist seeks to appeal (indeed, perhaps all the elements bar the linguistic meaning of standing expressions).<sup>18</sup> Take, for instance, Gauker's (2008: 365) criterion of 'location in a series', so that an utterance of 'that' might be supposed to refer to the next object in a sequence. Still it seems a speaker's state of mind must have a role to play as any object figures in an indefinite number of different

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this approach demonstrations are taken to be equivalent to some form of definite description. Yet this doesn't seem to take us much further since, for any physical gesture, there will be a myriad of possible descriptions to choose amongst and the only candidate, as far as I can see, for privileging one such description over and above the others is some kind of appeal to speaker intentions. Thus once again we have shifted rather than removed the appeal to intentions.

<sup>17</sup> Wettstein 1981: 81-2.

<sup>18</sup> Note also that Wettstein's own account (1981: 79) allows that the knowledge of speaker interests and desires may count as one of the relevant cues. Thus although his account may eschew direct appeal to referential intentions, it does not seem to provide the kind of 'non-mental' approach promised by other conventionalist accounts. Thus it is not obvious that Wettstein-style conventionalism would provide a way to avoid the Frame Problem.

sequences (e.g. objects to the left of the speaker, objects furthest from the Eiffel Tower on trajectory  $x/y$ , etc) and it would seem that which sequence is relevant is something which can only be settled via an appeal to the intentional states of the speaker. Or again, consider the appeal to salience here (an appeal Wettstein also tentatively endorses, see 1981: n.31): it simply seems wrong to think that what is salient in a context can always be settled without appeal to intentional states. Although there may be some cases, like Kaplan's fainting soldier, where an object commands universal attention, it is far more common for what counts as being salient in a context to depend on an agent and their intentional framework; what is salient in a given physically described scene will differ according to whether we are trained bird spotters, flower enthusiasts, or entomologists.<sup>19</sup> But if it is the interests of the speaker and hearer which determine what is salient, then salience can play no role in a reductive, non-intentional account of reference fixing. Finally, even in Wettstein's example above the assumption that gesture plus predicate can get us to the referent seems mistaken, for it doesn't take into account instances of deferred reference. In a conversation about employers, pointing at a person,  $x$ , and saying 'That person has done a lot for race relations' might succeed in securing not  $x$  but  $x$ 's employer,  $y$ , as the referent, even though  $x$  is the only person in the range of the pointing.

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<sup>19</sup> Gauker 2008: 364 defines his appeal to salience as follows: 'The referent of a bare demonstrative should be something that the hearer can easily spot by looking around, without having to move too far from his or her present location'. Even leaving aside the use of bare demonstratives in acts of deferred reference (where there is no requirement that the referent be accessible visually, or available to our other senses) this appeal to salience seems problematic since, as noted above, what is easily spotted in a context is a matter of what's in the agent's mind.

This realisation that the elements a conventionalist appeals to must themselves be rendered in intentional (mental) terms in order to get us as far as reference determination is clearly just one incarnation of Quine's general complaint that reference is behaviourally indeterminate – given only directly observable, physical facts an interpreter will be unable to settle on a unique interpretation for a referential expression. Despite conventionalist claims to the contrary, it seems that meaning is not made manifest in overt behaviour alone. Furthermore, the move to replace speaker intentions with purely objective features of a context of utterance seems to undermine the very *raison d'être* of demonstratives. The whole point of these expressions seems to be to allow the speaker an unparalleled degree of freedom in securing linguistic reference to items in the world. Demonstratives can be used, via deferred reference, to pick out a person via the book they wrote or via the book they are holding or via the book they last read. They can be used to refer to a person via their elbow, or via the seat they will occupy, or via the crimes they have committed. Pointing at a painting might make salient the painter or the person who hung it, pointing at a TV image of a face might facilitate an act of reference to the person whose face it is or to the cameraman who shot it. There seems to be no end to the kinds of relationships which can underpin acts of deferred reference. Yet this creativity and novelty seems to seriously undermine the idea that we can list, in the conventional rules of use for demonstratives, a set of (non-intentional) factors which will always make the right predictions about reference. Indeed, even if we could somehow develop an exhaustive list of all the ways in which deferred reference might come about, even then it would seem that only an appeal to speaker intentions could determine which of these multifarious relations

between demonstrated object and actual referent was at stake in any given deferred use of 'that'.<sup>20</sup>

Thus it seems that the straightforward move to eliminate speaker intentions from questions of reference determination is problematic. Not only does it run counter to our strong intuition that speaker intentions *are* relevant in determining the referent for an utterance of a context sensitive term, on closer inspection the threat of circularity looms large, since the very notions appealed to to replace intentions (demonstrations or those collected under conventional rules of use) themselves seem to smuggle in an intentional appeal. Furthermore, if we try to excise all intentional content from our conventional features then it seems that we are left facing the Quinean charge that no amount of physical behaviour can alone dictate a unique referential explanation. Thus it seems to me that the rejection of (P1) fails and that the minimalist must find another way of avoiding the unpleasant (at least for her) conclusion that her theory is inadequate as an account of semantic content in natural language.

### 3. REJECTING (P2): NON-INFERENTIALISM

The second move to avoid the problem of semantically relevant intentions is to query the argument that current speaker intentions are problematic from the perspective of a formal semantic theory. Although it seems that rich, abductive reasoning is required to access the intentions of others, perhaps this is wrong, at least for

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<sup>20</sup> See Borg 2002 for further discussion of deferred demonstratives. Predelli 2002: 313-4 makes the similar objection to Corazza et al that, since they allow a single kind of use of a context-sensitive term to be potentially governed by multiple different conventions, an appeal to speaker intentions would seem to be necessary to determine which convention is operative on a specific occasion.

the kind of referential intentions relevant to interpreting demonstrative utterances. Thus one way to resist the problem of §1 would be to shrink the perceived gap between features which are obviously directly accessible in a context of utterance and the apparently hidden, inferentially-recovered intentional states of the speaker in that context. In this way referential intentions might become accessible without the need for rich inferential work on behalf of the hearer. Such a position is perhaps most famously associated with Wittgenstein 1953, but it also finds a clear statement in the work of McDowell, who writes (1978: 304):

[W]hat warrants the assertion that another person is in pain, on one of the relevant occasions, is the detectable obtaining of the circumstance of that person's being in pain: an instance of a kind of circumstance – another person's being in pain – that is available to our awareness, in its own right and not merely through behavioural proxies.

This kind of move amounts to what I'll term 'non-inferentialism': openness to the states of others exhausts our methods for assigning (certain) mental states to them. Thus there is no inferential step to be taken between seeing A behaving in manner *p* and assigning to A the mental state *m* associated with *p* – we simply *see* another's mental state in their behaviour.<sup>21</sup> This idea – of direct, non-inferential access to (certain) mental states – has also surfaced in recent work on mindreading both within the simulation theory

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<sup>21</sup> Claiming that we can (at least sometimes) see another person's mental state does not, in itself, entail that there is absolutely no inferential work to be done, for it is commonly accepted that vision itself involves sophisticated sub-personal processes. The claim is rather that, on the current picture, the only kind of inference involved in accessing others' mental states is tacit, deductive inference, there is no personal-level, abductive inference required.



approach and the opposing theory-theory approach. In the former, the appeal to non-inferentialism is bound up with the idea that so-called ‘mirror neurons’ provide the neurological underpinnings of mindreading. In the latter, the idea is that intentional attribution directly via behaviour (what is sometimes called ‘bodyreading’) forms a precursor to a full-blown theory of mind. Since both these accounts explicitly hold out the promise of non-inferential access to a speaker’s referential intentions (and thus a route for the minimalist to avoid the problem of §1) I’d like briefly to examine each proposal now.

### 3.i. Simulation Theory and the Mirror Neuron Hypothesis

According to simulation theory we assign mental states to others via an empathetic process of ‘putting ourselves in the other person’s shoes’: we use our own intentional mechanisms in a process of ‘pretend’ reasoning utilising the beliefs and desires we think the other person is likely to have. We then assign the result of this intentional processing to the other person. Importantly, this ‘as if’ reasoning does not result in action, as it would if it were a genuine, first-personal use of the same mechanisms: when I use my own reasoning systems to conclude that you will roll up into a ball because you believe you are being attacked by a bear, this does not entail that I roll up into a ball as well. In its original incarnation, simulation theory is what we might (following Gallagher) call an ‘explicit’ theory: we are supposed to be simulating the other person at some relatively high-level, conscious stage of mental activity.<sup>22</sup> Now it doesn’t seem as if explicit simulation offers much in the way of succour to the minimalist. Remember that what the minimalist needs is an account of the recovery of referential intentions which

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<sup>22</sup> See Gallagher 2006: 4 for the terms ‘explicit’ and ‘implicit’ with respect to simulation theory.

does not appeal to abductive, inference to the best explanation reasoning, and the suggestion was that the way to achieve this was to see referential intentions as directly realised in behaviour. Yet if we now allow that grasp of referential intentions is not the direct result of witnessing behaviour but is instead the result of bringing a full-blown, explicit simulation process to bear then we once again seem back with an indirect, richly inferential account of intentional attribution. As Gallagher notes, ultimately explicit simulation theory shares the same theoretical slant on mindreading proposed by alternative theory-theory approaches:

Both theory theory and simulation theory conceive of communicative interaction between two people as a process that takes place between two Cartesian minds. It assumes that one's understanding involves a retreat into a realm of *theoria* or *simulacra*, into a set of internal mental operations that come to be expressed (externalized) in speech, gesture, and interaction. If, in contrast, we think of communicative interaction as being accomplished in the very action of communication, in the speech, gesture or interaction itself, then the idea that the understanding of another person involves an attempt to theorize about an unseen belief, or to mind-read, is problematic.<sup>23</sup>

What Gallagher is pointing towards here is the fact that both simulation theory and theory theory (in their usual forms) preserve the gap between behaviour and mental states, and thus both seem committed to the idea that the recovery of mental states must be an inferential process based on, but not exhausted by, manifest behaviour. However, it seems that simulation theory could be construed in a different way.

In contrast to explicit simulation theories, implicit versions take simulation to occur at a sub-personal level and to be a relatively direct or automatic response to the behaviour manifested by another

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<sup>23</sup> Gallagher 2001: 93.

agent. This kind of implicit version of simulation is often tied to the discovery of so-called ‘mirror neurons’ in human (and monkey) brains. Mirror neurons (MNs) are neurons which fire in two distinct conditions:

- (i) the production of a specific motor action (e.g. grasping with fingers) by an agent
- (ii) the observation of a conspecific performing the motor action in (i).<sup>24</sup>

In (ii) MN activity is somehow ‘taken off-line’ and does not result in the motor behaviour witnessed in (i). This discovery that our brains are, to some extent at least, doing the same thing when an agent  $\phi$ 's and when an agent witnesses someone else  $\phi$ -ing has been taken to lend support to the simulation theory of mindreading. Thus Gallese and Goldman write:

Let us interpret internally generated activation in MNs as constituting a plan to execute a certain action, for example, the action of holding a certain object, grasping it or manipulating it. When the same MNs are externally activated – by observing a target agent execute the same action – MN activation still constitutes a plan to execute this action. But in the latter case the subject of MN

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<sup>24</sup> Here the range of ‘conspecific’ is somewhat vague: MNs fire when a monkey witnesses another monkey perform the action in question but also when they see humans perform the same act. MNs do not fire when the subject sees very different entities, like machines, perform the same physically described action. There is also some evidence that what an organism counts as performance of the action by a conspecific is relatively fluid, with one experiment from the Rizzolatti lab showing that when an action is performed using an intermediary object (e.g. an experimenter opening a peanut using tweezers) this initially causes no MN firing, but that after repeated exposure to the action, appropriate MN firing can be induced (discussed in Arbib et al 2005: 243).

activity knows (visually) that the observed target is concurrently performing this very action. So we assume that he ‘tags’ the plan in question as belonging to the target.<sup>25</sup>

We might term this idea that MN activity constitutes plan formation the ‘MN hypothesis’. Our question then is: ‘does simulation theory together with the MN hypothesis provide the minimalist with a way out of the problem raised for her in §1?’

Recall that the challenge in §1 turned on the idea that the recovery of referential intentions was not a syntax-driven process: that is to say, it relied on more than the formal properties of representations. Thus it seemed that a formal semantic theory, concerned to offer a purely formal, syntactic route to semantic content, could not accommodate demonstrative expressions since the semantic contribution of these expressions is fixed via a speaker’s referential intentions. However it seems that on the picture to hand assigning at least some mental states to others is not in fact the result of rich, abductive reasoning on the part of the hearer, since it is not the result of reasoning at all. Assigning mental states to others is here an automatic, direct result of witnessing their behaviour (behaviour which triggers MN activity in my mind commensurate with formation of a specific plan of action). This circumvents the challenge to minimalism: a formal theory can admit such speaker intentions as semantically relevant because an agent comes to grasp those intentions not through some complicated reasoning based on assumptions about what are the relevant elements of the hearer’s entire belief set but instead simply through the speaker’s behaviour causing a hearer to assign a particular intentional state to her.

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<sup>25</sup> Gallese and Goldman 1998: 497.

### 3.ii. Theory-Theory and Bodyreading

Non-inferentialism also comes to the fore in certain versions of theory-theory approaches to mindreading, according to which we come to understand the actions of others by subsuming them under very general psychological laws. Stating these laws has proved somewhat problematic for theory-theory approaches, but we might assume that they have something like the following form:

If A wants x and believes that doing y is a way of bringing x about then, *ceteris paribus*, A will do y.

Theory-theory approaches are often motivated by consideration of empirical data which seems to show that it is only around the age of four that infants acquire adult-like skills in mindreading.<sup>26</sup> Specifically, it is only around this age that they come to recognise that others may hold beliefs which are false or which differ from the way the child herself believes the world to be. One way to explain this surprising fact is by positing a discrete psychological theory (a theory of mind) which children either learn or become able to access properly at this stage of development.<sup>27</sup> Furthermore, this way of understanding our mindreading abilities seems to offer a useful way to understand certain kinds of cognitive impairment, such as autism (see Baron-Cohen 1995). However, there is other experimental data which seems problematic on a theory theory approach since it seems clear that pre-linguistic infants (i.e. significantly under the age of

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<sup>26</sup> Though we should note that these experimental findings currently look less robust, for the development of non-verbal versions of false belief tests seem to show that children pass the test much earlier than was previously thought. See Carpenter et al 2002 for discussion.

<sup>27</sup> For theory of mind as an innate, modular endowment see Leslie 1987, for theory of mind as learnt see Gopnik 1988.

four) do engage in at least some kinds of mindreading. That is to say, they view others as intentional agents and are able to recognise and track the referential intentions of their caregivers. Indeed, this latter skill seems crucial as a precursor to language development, since grasping the meaning of an object word requires latching on to the right relationship between linguistic symbol and external object, something which is presumably possible only by recognising a caregiver's intentions when they introduce a new word.<sup>28</sup>

The need to accommodate these sorts of more primitive mindreading skills has led some advocates of the theory-theory approach to postulate a sort of 'stage 1 theory of mind', which serves as a precursor to acquisition of a full-blown theory and which is closely tied to the tracking of behaviour. For instance, Baron-Cohen posits non-inferentially derived intention-attributions which the child arrives at through the use of two innate mechanisms: first, what he terms the 'intentionality detector' (ID) which allows the recognition of an action as intentional behaviour and, second, the monitoring of the caregivers direction of gaze utilising what he calls the 'eye direction detector' (EDD). Baron-Cohen suggests that:

ID is a perceptual device that interprets motion stimuli in terms of the primitive volitional mental states of goal and desire. I see these as primitive mental states in that they are the basic ones that are needed in order to be able to make sense of the universal movements of all animals: approach and avoidance.<sup>29</sup>

ID is triggered whenever there is perceptual input of motion appropriate to an agent, thus it may overgenerate intentional attributions (leading to an initial assignment of goals and desires to robots, displays of moving dots, etc), but it captures the idea that

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<sup>28</sup> This point is stressed in Bloom 2000.

<sup>29</sup> Baron-Cohen 1995: 32-3.

‘goal detection is hard-wired into our species, goals being perceived by a certain kind of motion perception’.<sup>30</sup>

ID and EDD, together with a later developing capacity which Baron-Cohen terms the ‘shared attention mechanism’ (SAM), underpin an early (9-14 months) ability to understand the intentions of others *prior to* the development of a full-blown theory of mind. Full-blown theory of mind is required for the attribution to others of divergent or false beliefs, but the claim is that ID, EDD and SAM suffice for the kinds of mindreading infants engage in prior to passing false belief tests. Specifically, they suffice for attributing referential intentions to others: ID together with EDD allows the infant to attribute states like ‘having the goal to pick out/refer to x’.<sup>31</sup> Clearly, then, an appeal to this kind of ‘bodyreading’ as the

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<sup>30</sup> Baron-Cohen 1995: 34.

<sup>31</sup> Baron-Cohen 1995: 49. Gallagher 2001: 90, commenting on Baron-Cohen’s proposals, adds that ‘[t]here are many more intention-signalling behaviors that infants and young children are capable of perceiving. In addition to the eyes, it is likely that various movements of the head, the mouth, the hands, and more general body movements are perceived as meaningful or goal-directed...In effect, this kind of perception-based understanding is a form of body-reading rather than mind-reading. In seeing the actions and expressive movements of the other person one already sees their meaning; no inference to a hidden set of mental states (beliefs, desires, etc.) is necessary’. For Gallagher, such bodyreading does not form a precursor to the standard use of a full-blown theory of mind for attributing intentions in adults, instead it constitutes our normal, default method of assignment at both infant and adult stages. We do not standardly theorise about the mental states of those we interact with but see the intentional states of others in their actions: ‘in most intersubjective situations we have a direct, pragmatic understanding of another person’s intentions because their intentions are explicitly expressed in their embodied actions. For the most part this understanding does not require us to postulate some belief or desire that is hidden away in the other person’s mind, since what we might

route to recovery of referential intentions circumvents the problem raised in §1: referential intentions need not be recovered via rich inferential processes since they are simply seen in behaviour. Thus they can play a role within a formal semantic theory in precisely the same way that any visually accessible feature of a context of utterance might. Bodyreading, then, yields another putative solution to the problem intention-sensitive expressions seem to cause for formal semantics.

So, adopting non-inferentialism (from within either a simulation theory or a theory-theory approach) could help to avoid the problem for minimalism raised in §1. Unfortunately, however, it is far from clear that either move is in fact feasible. The worry for both accounts is once again essentially the concern of Quinean indeterminacy – the thought that no amount of behavioural evidence can ever get us to a unique referential interpretation. To see this let us briefly revisit each of the proposals.

Can an advocate of minimalism avoid the putative problem with demonstratives by claiming (following simulation theory and the MN hypothesis) that reference is determined by speaker intentions but that recovery of these intentions by a hearer is an automatic process triggered directly by speaker behaviour? Well, unfortunately, it seems not. The problem is that MN activity seems to occur at the wrong level of description to help the minimalist. MNs are triggered by witnessing certain behaviour but (in a point already familiar from §2) it seems that such physical gestures underdetermine the precise intention which leads to their performance. That is to say, both an intention to have a drink and an intention to examine a cup design might lead an agent, A, to grasp a cup using a precision grasp with fingers. Yet the pattern of

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reflectively or abstractly call their belief or desire is directly expressed in their behavior’, 2001: 86.



MN activation in a conspecific, B, who witnesses A's action will be the same in either case. Thus to the extent that MN activation can be seen as plan formation at all it offers too coarse-grained a picture: MN activation might help in coming to see a precision grip as an intentional action (as opposed to one caused by factors external to the agent) but it seems it cannot help in, say, coming to see a grasp as a grasp-to-drink rather than a grasp-to-look.<sup>32</sup> Similarly, MN activity might help a hearer H in coming to see S's raising of her arm with index finger extended as an intentional action per se, but it doesn't seem to help in determining a unique referential intention (i.e. the intention to refer to a dog rather than the dog's colour) since the behaviour witnessed (and hence the pattern of MN stimulation caused) will be the same in either case. Yet it is clear that it is the more fine-grained intentional attributions which are needed to determine the reference for a demonstrative utterance. Thus since further inferential work is still required on behalf of the hearer prior to grasp of the intentions responsible for reference determination, it does not seem that the MN hypothesis can solve the problem of intention-sensitive expressions for the minimalist.

Alternatively, then, can non-inferentialism in the form of Baron-Cohen, Gallagher, and other's 'bodyreading', provide the minimalist with a solution to the challenge posed in §1? Again, it seems not. For even if we treat bodyreading as sensitive to all external evidence (including the literal meaning of any context-insensitive expressions in the speaker's utterance, etc) still it seems either that referential intentions are not fully expressed in this behaviour (with some additional act of inference still required) or

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<sup>32</sup> Some advocates of the MN hypothesis have recognised this point, hence Iacoboni et al 2005 try to address the worry that MN activity captures 'the what but not the why' of an action. It would take us too far a field to examine their proposal here, but see Borg 2007b for some concerns about its adequacy.

that individuating the behaviour itself requires rich, inferential reasoning. Pointing at a girl and saying ‘That’s my favourite’ might involve an act of reference to the girl’s dress, her haircut or her car, and nothing in the speaker’s bodily behaviour need change across these changes in reference. Furthermore, even if we allowed in the wider features of the context (like the topic of conversation) this doesn’t seem to help since it is always open to the speaker to intend to change the direction of conversation. As Baldwin and Baird state (following Searle):

[T]he surface flow of motion people produce in most, if not all, cases is consistent with a multitude of different intentions. Thus when observing others in action, we rely on other sources of information – knowledge about human behavior in general, specific knowledge about the particular individual involved, knowledge about the situation – to help to disambiguate which among the many candidate intentions is relevant in any given case...The upshot is that discerning intentions is a complex enterprise; it is knowledge driven as well as rooted in structure detection.<sup>33</sup>

So, it seems that both putative moves to shrink the gap between the behavioural and the intentional via some form of non-inferentialism fail. Despite the attraction of the idea that agents ‘just see’ the mental states of others in their behaviour, it seems that such a move is problematic, at least so far as referential intentions are concerned. So both premise 1 (the idea that referential intentions are criterial in determining reference) and premise 2 (the idea that recovery of speaker intentions goes via rich, non-computational reasoning processes) seem warranted. So, if the minimalist needs to accept (P1) and (P2), and since (P3) is simply a statement of one of minimalism’s core commitments, it seems that her last option here is to deny the validity of the argument – to show that, perhaps

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<sup>33</sup> Baldwin and Baird 2001: 175-6.

contrary to initial impressions, it is possible to hold all three premises without this entailing the conclusion.

#### 4. REJECTING THE ARGUMENT: DISTINGUISHING REFERENCE FIXING, REFERENCE IDENTIFICATION AND SEMANTIC CONTENT

Minimalism, as introduced above, aims to deliver a formally respectable account of semantic content. That is to say, it wants it to be the case that the processes involved in recovering the semantic content of any well-formed sentence are deductive, computational processes – processes which look to the formal properties of representations and not to their intensional content. What minimalism wants then is an account of the semantic content of a sentence which is genuinely free from the need to peer into the mind of the speaker, which doesn't at any point smuggle in an appeal to what we might think of as 'the dark magic of pragmatics'. As we have seen, however, this desire clashes with the need to treat speaker intentions as semantically relevant (since they appear to be responsible for reference fixing for demonstratives) for recovery of speaker intentions is the apotheosis of dark pragmatic magic. Yet it seems that the minimalist who wants to avoid this problem might query the requirement that minimalism treat *all aspects* of semantic content as formally tractable. For it seems that what she is committed to is the claim that semantic content itself is formally tractable and this might leave aspects relevant to the fixing or identification of that content out of the picture. Just as a formal theory will tell you what the sentence 'London buses are red' means, though it won't tell you why 'red' means *red* and not *blue*, so it will tell you what an utterance of the sentence 'That is red' means, even

though it won't tell you why this token of 'that' refers to object x and not object y.<sup>34</sup>

With this distinction in place, then, a minimalist might allow that what makes a token utterance of 'that is F' refer to A rather than B is the speaker's intention to refer to A rather than B. However, she can still maintain that the semantic content of this token of 'that' is exhausted by the object A, so that what the hearer must grasp to understand the utterance is the singular proposition *that A is F*, where no mention is made of the speaker's intentions within the content of this proposition. Finally, however, she might also hold that a speaker can entertain this content *even if* she is in no position to non-linguistically identify A; that is to say, if she is capable of thinking of A only as *the actual object referred to by the speaker with this token of 'that'*. What a hearer needs to do to grasp the semantic content of this demonstrative utterance, then, is to introduce a syntactically generated singular concept which has

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<sup>34</sup> We might capture this claim in terms of Kaplan's framework for demonstratives by noting the difference between elements which fill the contextual parameters in a given context and the ways in which those elements are decided. Gauker 2008: 361 makes this point very clearly: 'In addressing the relation of speaker intention to context, we have to distinguish between the *content* of a context and the *determinants* of that content...One view would be that various speaker intentions constitute *components* of the context...The other view would be that speaker intentions enter the picture only as what *determines* all or part of the content of the context for an utterance. For example, we might say that the context for an utterance of a sentence containing the demonstrative "that" contains the specification that the referent of "that" is a certain computer. But then when we go on to ask what makes it the case that the context specifies that referent for the demonstrative the answer might be that that is what the speaker intends to refer to'. Gauker himself, however, rejects this proposal, see below.

object A as its content, though this content may be presented under a more complex rigidified description (that is to say, even at the level of thought we need to distinguish content and character). That A is the referent of this utterance is settled by features beyond the reach of semantics and, furthermore, to put this semantic content to use (i.e. to use it to inform one's dealings with the world) the hearer normally needs to go on to non-linguistically identify A, but the point remains that as far as linguistic meaning or semantic content is concerned such issues of substantive object-identification are irrelevant.

Thus a minimal semantic theory might deliver a truth-conditional analysis of the semantic content of 'This is red' along the following lines (taken from Higginbotham):

- (1) If the speaker of 'this is red' refers with the utterance of 'this' therein to x and to nothing else, then this sentence, as uttered in this context, is true if and only if x is red.<sup>35</sup>

Someone who grasps an instance of this schema might conceive of the relevant contextual parameter as 'the actual object referred to by the speaker of u' and this doesn't guarantee that they can further identify which object satisfies this description. Nevertheless a minimalist can claim that an instance of (1) exhausts the semantic content of the sentence as uttered on this occasion and that this content is graspable without non-linguistic identification of the referent. If this view of the kind of knowledge semantic theorising provides is accepted it yields our third and final putative solution to the challenge to minimalism from intention-sensitive terms: speaker intentions *do* play a part in fixing a reference for a demonstrative *and* they are recoverable only via rich, abductive means, but features

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<sup>35</sup> Higginbotham 1994: 92-3.

relevant to reference fixing (like features relevant to non-linguistic reference identification) are no part of semantics proper.

According to this final move, it is right to think of demonstrative utterances as expressing singular propositions (which require singular thoughts to entertain), but a hearer is held to be able to entertain such a proposition even if she can think of the referent of 'that' only under the rigidified, token-reflexive description 'the actual object referred to by the speaker using her token of 'that'', or, equivalently, 'dthat (the referent of her token of 'that')'.<sup>36</sup> One consequence of this is that we will have to allow that a hearer is capable of grasping a singular proposition, or having a singular thought, even when she does not know (in any substantial, non-linguistic sense) *which* object she is thinking about. Now, clearly, if we envisage semantic knowledge as forming part of a wider framework of knowledge (i.e. as part of a broader cognitive system like a whole mind) then we can allow that in many situations

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<sup>36</sup> See Borg 2004, Ch.3 for further discussion of this point. It might be objected at this point that no such definite description could constitute the meaning rule for demonstratives, since it seems possible for a hearer to understand utterances of demonstratives *even if* they do not possess the relevant concepts for the definite description given above. However, I would follow Garcia-Carpintero's (1998: 561) caution about how we understand the relationship between any such rule and an agent's conscious understanding: 'Indexical expressions...could only be claimed to be "synonymous" with descriptions such as "the actual male demonstrated at the occasion of the production of **he**"; but the fact that ordinary competent speakers both are ignorant of the presupposed technical sense of "actual" and of the two-dimensional account of modality...makes clear that a non-straightforward sense of "synonymy" is to be understood. In this non-straightforward sense, an expression can be counted as synonymous with another when the former makes *theoretically explicit* the way in which a competent speaker *tacitly* conceives of the truth-conditional import of the latter".

hearers *will* be in a position to non-linguistically identify the objects speakers are referring to, since information beyond the purely semantic may be brought into play. However, even if this kind of case is the norm, still on the account to hand it will be *possible* that a hearer grasps the semantic content of an utterance of ‘That is F’ without being able to non-linguistically identify the referent of this token of ‘that’, and this may be thought problematic.

One worry may be that, on the current picture, we must allow that sometimes a hearer may think she is entertaining a singular thought when in fact she is not since there is no object satisfying the description ‘the actual object referred to by the speaker with her token of ‘that’’ (say, because the speaker was hallucinating). However this kind of failure of first-person access to the contents of one’s mind is a general feature of any kind of externalism about semantic content, thus it doesn’t seem to provide a specific challenge to this minimalist approach to context-sensitive terms.<sup>37</sup> Yet there may still seem to be something intuitively untoward about allowing singular thoughts when the agent is not able to non-linguistically identify the referent.<sup>38</sup> This is a major point, and one we cannot do full justice to here, but we might at least initially note two points which seem to tell against this assumption. First, there seems to be no substantive, principled notion of non-linguistic identification which could properly serve to delineate semantically referential expressions from the non-referential here. Once we recognise that demonstratives can be used not just to refer to concrete objects in a shared experiential environment, but also to refer to abstract objects

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<sup>37</sup> Furthermore there is, even in the case of reference failure, a level of thought which can explain the agent’s delusion of content, namely the (on this occasion unsatisfied) descriptive character ‘the actual object to which the speaker referred with this utterance of ‘that’’. See Borg 2004, Ch.3.

<sup>38</sup> See Russell 1911, Evans 1982, Soames 2002 for just some of the many theorists who have found this sort of idea unpalatable.

or concepts, and to objects (abstract or otherwise) in some way related to those in the experiential environment (say, referring to a person by the seat she will occupy tomorrow), the idea of drawing a line at some point in this usage via some vague notion of non-linguistic identification seems entirely arbitrary. Secondly, such an idea is not borne out by the behaviour of demonstrative expressions themselves, which all behave as if they belong to a single semantic category of referring terms (see Borg 2002). Of course, if we allow that the semantic content of a demonstrative can be grasped without this entailing non-linguistic identification of the referent then we will be left with a fairly thin notion of semantic content here. It will not be the case that semantic knowledge, divorced from other kinds of knowledge we have, guarantees an ability to get around the world or interact in appropriate ways with objects. Yet instead of being an objection to the minimalist proposal this seems more like a statement of a credo, for minimalists are already committed to the idea that semantic content is minimal in nature and that it alone cannot be responsible for doing all the work that theorists have sometimes laid at the door of semantics (this was one of the key themes of Borg 2004).

One final objection we should consider here comes from Gauker 2008 who, despite clearly articulating the distinction between reference fixing and semantic content, nevertheless argues that speaker intentions cannot be relevant to fixing semantic content for demonstratives. According to his argument, recovery of speaker intentions relies on grasp of linguistic meaning: one needs to know what someone is saying in order to know what they are thinking. So, on pain of circularity, it cannot be the case that grasp of speaker intentions is necessary in order to grasp linguistic meaning. He writes that:



My objection to [the theory that speaker intentions determine reference] is that it renders the referent of demonstratives inaccessible to hearers. In order to identify the referent of a demonstrative the hearer will have to figure out what the speaker intended to refer to. But apart from an independent interpretation of the speaker's words, hearers will typically be in no position to do that.<sup>39</sup>

Two points are relevant here: first, as just noted, according to the minimalist non-linguistic identification of a referent is not a constitutive feature of a grasp of referential semantic content. So on this account, the fact that a referent may sometimes be inaccessible to a hearer (from a non-linguistic point of view) is irrelevant. Secondly, however, it is not clear that Gauker's charge that the account makes the referent generally inaccessible to the hearer is correct. For an advocate of the semantic role of speaker intentions in this case might argue that, although grasp of current speaker intentions is necessary for grasping the meaning of some expression(s) in the current context of utterance (e.g. the speaker's token of 'that'), there are plenty of other expressions which do not share this feature (i.e. any expression with a 'standing' meaning).<sup>40</sup> Furthermore, knowledge of these meanings, together with all the other information hearers have concerning typical speakers (i.e. what an agent will typically find salient in a context, etc) and this speaker in particular (i.e. what she is interested in, etc) will allow the hearer to work out to what the speaker intended to refer. This, of course, will be an informal, content-driven process of inference to the best explanation, thus it is not the kind of thing our formal theory can be directly concerned with, but the thought is that this

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<sup>39</sup> Gauker 2008: 363.

<sup>40</sup> Such a response would, of course, depend on an independent rejection of an extreme indexicalist view, where all or most natural language expressions are taken to be context sensitive.

rich inferential reasoning does suffice, at least in many cases, to place the speaker's intentions within the epistemic reach of the hearer.<sup>41</sup>

## 5. CONCLUSION

Intention-sensitive expressions apparently cause a problem for formal, and in particular, for minimal semantic theories. However, it seems that there are at least three options open to the minimalist in the face of this problem: first, she may deny that demonstratives et al are in fact sensitive to current speaker intentions; second, she might claim that referential intentions are manifest in behaviour and so are available to play a semantic role in exactly the same way as any other contextual element; third, she might seek to hold apart reference fixing/ identification and semantic content. If any of these moves is found plausible then we can show how formal semantics, and minimalism in particular, avoids the putative problem of intention-sensitive expressions. However, I have argued that the first two of these moves face serious objections, stemming from Quinean concerns about the indeterminacy of reference. For both the move to reject (P1) and the move to reject (P2) seek to relocate the work of reference fixing from some 'hidden' mental state of the speaker to features which are externally manifested in the context of utterance (either by *replacing* the appeal to intentions with an appeal to publicly observable features or by treating the appeal to intentions as *equivalent* to an appeal to publicly observable features). However, to the extent that an appeal to publicly observable features of a

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<sup>41</sup> Note that this is not to claim (along with those who reject (P2)) that referential intentions are fully manifest in behaviour. Grasp of referential intentions remains, on this picture, a richly inferential process based on, but not limited to or exhausted by, agent behaviour. The point is rather that though this kind of inferential procedure plays a part in reference determination it need not fall within the remit of semantics.

context of utterance can get us to the intentional level at all, it seems that it can take us only as far as a quite general notion of intentional attribution, namely a hearer's identification of an action, *x*, as an intentional action (i.e. as self-motivated, not directly caused by factors external to the agent) and, perhaps, to some recognition of the goal of an act. Yet it is clearly a much more fine-grained notion which is required for reference determination and this is something which is not directly presented in the behaviour of an agent.

Thus, I suggest that it is the last move, which imposes a rigid distinction between reference fixing and reference identification on the one hand and semantic content per se on the other, which provides the most attractive proposal for the minimalist. Such a move entails adopting a quite minimal view of semantic content, whereby grasp of the semantic content of a token demonstrative does not ensure that a hearer is able to non-linguistically identify the referent. However, since there are independent reasons to be sceptical about epistemically-loaded notions of singular content and since the 'thin' nature of semantic content is an essential part of the minimalist manifesto, this outcome should, I think, simply be embraced.

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