

International

**REFERENCE AND DENOTATION: THE  
DESCRIPTIVE MODEL**

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# Reference and Denotation: the Descriptive Model

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## Contents

<b>1</b>	<b>The Descriptive Model</b>	<b>2</b>
<b>2</b>	<b>The Referential/Attributive Distinctions</b>	<b>7</b>
<b>3</b>	<b>Implicature and Attributive Use</b>	<b>14</b>
<b>4</b>	<b>Thoughts and Objects</b>	<b>17</b>
4.1	Modes of Presentation. . . . .	17
4.2	The Essential Indexicals . . . . .	18
4.3	The Pragmatics Of Reported Speech . . . . .	21
<b>5</b>	<b>Conclusion</b>	<b>27</b>

## 1 The Descriptive Model

This paper deals with a specific approach to the problem of reference that I call the descriptive model. In particular, I am going to examine some relations between this model and a certain distinction between referential and attributive uses of definite descriptions. At one time, as far as theories of reference were concerned, the descriptive model was by far the leading research program. In the last two decades or so it has been more or less decided that the descriptive model has outlived its usefulness and that the referential/attributive distinction (let's call it Donnellan's distinction) has been one of the most lethal weapons used to destroy it. I want to reconstruct the descriptive model in a way that withstands the challenges leveled against it.

What is the problem of reference? Roughly speaking, it is this: how can thoughts and utterances be about objects? But this is far too vague a characterization. We can do better if we correlate the various aspects of the reference problem with various aspects of speech acts. In each linguistic event we can identify the sentence uttered, the speech act performed, the belief expressed, and the proposition that is the content not only of what is said, but also of the belief expressed. Consequently, we have four aspects of the problem of reference:

1. How are referring expressions related to objects?
2. What is the function of referring expressions in speech acts?
3. What is the logical structure of propositions?
4. What are *de re* propositional attitudes?

Two comments are in order. First, a belief *de dicto* is a belief that a certain proposition is true. A belief *de re* is a belief about a particular thing that it has a certain property. Second, with regard to propositions, we must distinguish between singular and general propositions. A statement such as "The Queen of England is ill" expresses the proposition

$$(\exists x)(\text{QOE}(x) \& (\forall y)(\text{QOE}(y) \rightarrow x = y)) \& (\forall z)(\text{QOE}(z) \rightarrow \text{ILL}(z)),$$

which is called "general." A statement such as "7 is prime," on the other hand, expresses the proposition

$$\text{PRIME}(7),$$

## LANGUAGE

**Main Thesis (L):** *Reference is in virtue of meaning.*

*Subthesis (L<sub>1</sub>):* Unique denotation is both necessary and sufficient for reference.

*Subthesis (L<sub>2</sub>):* Proper names and demonstratives are disguised descriptions.

## SPEECH ACTS

**Main Thesis (S):** *The function of referring expressions in speech acts is to identify an object for the hearer.*

*Subthesis (S<sub>1</sub>):* If a speaker asserts that the  $\phi$  is  $F$ , then, if there is no  $\phi$ , he has failed to refer to anything.

*Subthesis (S<sub>2</sub>):* Consequently, if there is no  $\phi$ , the statement made by the speaker cannot be true.

## PROPOSITIONS

**Main Thesis (P):** *Singular propositions cannot be either the meaning of utterances or the content of beliefs.*

*Subthesis (P<sub>1</sub>):* A specific individual concept is meant in every expressed proposition.

*Subthesis (P<sub>2</sub>):* Such an individual concept is crucial for determining the truth conditions of the proposition.

## BELIEFS

**Main Thesis (B):** *De re beliefs can be analysed in terms of de dicto ones.*

*Subthesis (B<sub>1</sub>):* All thoughts or beliefs are from a conceptual perspective.

*Subthesis (B<sub>2</sub>):* When we think about an object, the conceptual perspective determines which object we are thinking about.

### Figure 1: The Descriptive Approach to the Problem of Reference.

which is called “singular.” Note the vast difference between “7” and “The Queen of England” as regards their contribution to the logical structure of the proposition: the referring expression “7” simply introduces the number 7 into the proposition, but whatever is introduced into the proposition by the phrase “The Queen of England” is clearly to be distinguished from Her Majesty herself.

Note that, of the four questions, the last is epistemological in nature, the first one is part of semantics, the second is part of pragmatics, and, since propositions are taken to be both the content of beliefs and the meaning of utterances, the third question really ties the others all together. This is why the issue of singular versus general propositions is so important as far as a theory of reference is concerned.

Given these four questions, we can now state the main theses and subthe-

ses of what I call the descriptive model. They are presented in Figure 1 on page 3. One important qualification should be made, however: The outline of the descriptive model should be understood as characterizing reference to *physical objects* only (in contrast with entities such as numbers or sense data). Thus, for “reference,” “beliefs,” and “propositions,” read “reference to physical objects,” “beliefs about physical object,” “propositions about physical objects,” and so on.

Let us turn now to Donnellan’s distinction. Here is a quick reminder as to what that distinction is. For the attributive use, consider a case in which we discover Smith’s body and, because of the brutal manner in which he was killed, we may exclaim: “Smith’s murderer, whoever he is, is insane.” Our use of the definite description “Smith’s murderer” is attributive. Now suppose that Jones has been charged with Smith’s murder and has been placed on trial. During a discussion of Jones’s behavior, we may say, “Smith’s murderer is insane,” referring to Jones. Our use of the definite description “Smith’s murderer” here is referential.

The intuitive presentation of Donnellan’s distinction seems straightforward and simple enough. The important features to note are as follows:

- In the referential use, the intended referent can be identified even though no entity, or more than one, fits the description used.
- Consequently, if nothing fits the description in the referential use, the illocutionary point of the speech act may still be achieved. If the speech act is an assertion, the speaker may still say something true about his intended referent. If the speech act is an order with regards to the intended referent, the order can still be obeyed, and so on. This is not the case in the attributive use. If nothing fits the description there, the assertion cannot be true of anything, the order cannot be obeyed, and so on for other types of illocutionary acts.
- Thus, in the referential use the description is just a tool for identification of the referent; other descriptions that can perform the same task may be used equally well. Descriptions used attributively, on the other hand, can be termed “essential.” They are, in a sense, irreplaceable.
- The immediate, intuitive reason for the above is this: in the referential use the speaker can be said to have a particular object in mind. There is a particular entity to be identified, independently of the description employed. In the attributive use there is no such entity; the speaker is referring to whoever or whatever fits the description.

It is surprising that such a simple distinction plays a crucial role in the rejection of each and every thesis of the descriptive model. All I intend to show here is how it is used in the rejection of two of these theses: language and proposition.

**The Rejection of the Language Theses** — The basic idea underlying the first language thesis is simply this: the only way to establish the required relation between a referring expression and an object is by having a descriptive content that is associated with both the referring expression and the object. This descriptive content is, in a loose sense, the meaning of the expression. But it seems that, in the referential uses of definite descriptions, the descriptive content plays no role in establishing the relation between the expression and the object. The expression “Smith’s murderer” in its referential use refers (in Donnellan’s example) to Jones, but the descriptive content seems irrelevant. The expression will refer to Jones whether he is the murderer or not.

But the challenge to thesis (L) transcends the claim that, in some cases, reference is established independently of meaning. Underlying thesis (L) is a more general principle about the independence of semantics. According to this principle, the contribution of expressions to the truth value of the sentences of which they are parts is independent of the speaker’s intentions in using those expressions.

Such a view of semantics, however, seems to be inconsistent with the referential/attributive distinction. For it seems that two literal utterances of the same sentence may differ in truth conditions, depending on whether the definite description is used referentially or attributively. Compare, in Donnellan’s example, the two utterances of “Smith’s murderer is insane.” In the first case, in which the description is used attributively, the statement will be true if and only if the one and only murderer of Smith is insane. In the second case, when the description is used referentially, whatever is said is true if and only if *Jones* is insane. Thus, it seems that one and the same expression — ‘Smith’s murderer’ — makes different contributions to the truth conditions of whatever is said, depending on whether the speaker intends to refer to a particular person or just to the murderer of Smith, whoever he may be.

**The Rejection of the Proposition Theses** — Let the part of the proposition that corresponds to a referring expression in a sentence be called

the *subject-constituent* of the proposition. If the proposition expressed by a sentence conveys the meaning of that sentence, then the subject-constituent conveys the meaning of the referring expression.

The point of thesis (P) is that the subject constituent of propositions about physical objects is always *representational*. It is either a *sense* (Frege), an *individual concept* (Carnap), or a *logical structure* (Russell), but never the object itself – which is just a fancy philosophical way of saying that some sort of conceptual representation is essential for reference to take place. This view, however, is challenged by the referential use of definite descriptions. I shall illustrate the argument with respect to Russell's theory of descriptions. The same argument can be applied to other descriptive theories.

A standard objection to Russell's theory of descriptions is that, in many uses of definite descriptions, the application of the theory yields the wrong results. When a speaker says "The computer is down," it is clear that he does *not* mean that there is one and only one computer and whatever is a computer is down. To that objection there is a standard reply, namely – that the description uttered is an elliptical form of a complete, uniquely denoting description. What the speaker really means is, say, that the VAX-750 in room EK247 at SRI is not operational at the moment, and so there is no problem in applying the Russellian analysis here.

However, when we look at some referential uses of definite descriptions it seems that the standard reply won't do as it stands. Consider, for example, the utterance of "The desk is covered with books." It is clear that the desk can be described more fully in many different ways that are not equivalent (e.g., "The desk in John's study," "The desk that Barbara bought at the flea market,"). But which of these alternatives is the one actually meant by the speaker?

First it should be noted that in many cases the hearer may complete the description in a different way from the one originally intended by the speaker, and still it may not be clear that the hearer has in fact grasped a different proposition. For example, suppose a speaker uttered the above sentence, meaning "The desk in John's study is covered with books," and suppose that the hearer uses the description "The desk that Barbara bought at the flea market" to identify the desk in question. Has the hearer misunderstood the speaker? It is by no means clear that he has.

Second, in many cases the speaker may not conceptualize a complete description at all, and thus he himself would not know which complete description should be considered as the one he really *meant*. A speaker may utter "The desk is covered with books" without having any particular indi-

viduating aspect of the desk in mind.

Third, in the radical case of the referential use, in which the description misses the mark entirely (e.g., “Smith’s murderer” used to refer to Jones, who is innocent), “completing” the description is simply impossible. Moreover, when asked after the utterance which description he *really* meant, the speaker may be at a loss to respond. He would probably be inclined to say that he meant “Smith’s murderer,” but now, after realizing that Jones is not the murderer, he is no longer sure of what he did mean. This is not to say that the speaker is not readily capable, if challenged, of replacing “Smith’s murderer” with a new, more accurate description, but the new description is not what he *meant* before. In any case, it seems that the speaker would not care much *which* description he actually meant, or which was the accurate one, as long as the hearer was able to identify the *right* object.

A natural conclusion to be drawn at this stage of the argument is that in the referential use, the only item of relevant to the proposition (as well as to its truth conditions) is the object referred to per se, independently of any of its aspects. In other words, in the referential case we seem to be referring to an object  $x$  without necessarily ascribing any properties to  $x$  and, if this is so, why not take  $x$  itself as a constituent of the proposition? Thus we arrive at what Kaplan has called the semantics of *direct reference*, in which referential uses of definite descriptions (as well as proper names and demonstratives) are rigid designators. Note that such a semantics flies in the face of all the proposition theses: when a directly referential expression is used, the proposition expressed is singular, which means that no specific individual concept is meant; consequently, no such concept is relevant to the truth conditions of the proposition. The only thing that counts is the object *itself*.

## 2 The Referential/Attributive Distinctions

Let us recall the two crucial features in Donnellan’s distinction: while in the attributive, use the description must be satisfied for reference to succeed, in the referential use this is not so; in the latter case, moreover, the speaker has a particular object in mind, whereas in the attributive he does not.

So far, so good. But now let us consider the following example: suppose John, a police investigator, finds Smith’s body. It is an unnerving sight, but John is a well-trained officer and, even though repelled by his discovery, he is determined to do his job. Finding the murder weapon, a knife, he checks it



for fingerprints. Fortunately, the apparent culprit has left clear fingerprints on the handle. At this point John utters in total revulsion: "The man whose fingerprints these are, whoever he is, whoever he may be, is insane!"

As it happens, Smith's murderer is quite sane and he was careful to wear gloves during the murder. Moreover, the fingerprints are actually those of another man, Max, who used the knife an hour before the murder, and by a strange twist of fate, this Max (Mad Max) is known to be insane, having spent most of his life in an asylum.

Now, does John use the description "The man whose fingerprints these are" referentially or attributively? Let's look at the facts. John intended to speak about Smith's murderer, not about Max, and what he said about Smith's murderer was that he is insane. Hence he said something true or false about Smith's murderer regardless of whether Smith's murderer is in fact the man whose fingerprints were found on the murder weapon. Thus, John must have been using the description *referentially*. On the other hand, John didn't have any particular object in mind. He said what he said about Smith's murderer, whoever he might be. Thus, the description must have been used *attributively*.

The problem is that the distinction between referential and attributive uses of definite descriptions is defined in terms of *two* criteria. One has to do with the effect a false description might have on the truth value of what is said, whereas the other has to do with the speaker's having or not having a particular object in mind when he makes his reference.

The two criteria are supposed to be equivalent: any use of a definite description that is referential according to one criterion should also be classified as referential according to the other (similarly for attributive use). But this is not the case. As my example shows, some uses are attributive according to one criterion, referential according to the other. In fact, the two criteria are mutually independent, and so must be dealt with separately.

The first criterion for Donnellan's distinction, which I call the speech act criterion, can be formulated fairly precisely as follows:

*If satisfaction of the definite description by a singular object is necessary for the speaker to have said something about anything, then this description is used attributively. If it is not necessary, it is used referentially.*

The second criterion, which I call the intentional state criterion, is much harder to formulate. All we have at this stage is an intuition and a

metaphor to express it, namely, the metaphor of “having a particular object in mind.” The intuitive claim is that we can use definite descriptions either while having a certain intentional state, which is directed toward a *specific* object, or we can use a definite description without having such a state.

The intentional state criterion seems to be closely related to the Quinean distinction between *notional* and *relational* propositional attitudes [8]. A relational reading of “Ralph believes that someone is a spy” indicates that there is a particular person whom Ralph suspects of being a spy. Interpreted notionally, this sentence merely describes Ralph’s belief that the set of spies is not empty.

Clearly, there is a logical difference between the relational and the notional interpretations, and the metaphor of “having a particular object in mind” seems suitable for expressing this difference. Since quantification into intensional contexts is the natural way to represent relational interpretations, the logical study of such quantification may shed some light on the intentional-state criterion for establishing the referential/attributional distinction.

What is the basis for quantification into intensional contexts? One obvious reason can be traced to the simple application of existential generalization. From

1                                  Ralph believes that nine is odd

we should be able to conclude that there is something Ralph believes to be odd, which in turn can be represented through quantification into an intensional context as

2                                   $(\exists x)\text{BEL}(\text{Ralph}, \text{Odd}(x))$

Similarly, from

3                                  John believes that Reagan is the president

we should be able to say that there is someone John believes to be the president, which in turn can be represented as

4                                   $(\exists x)\text{BEL}(\text{John}, \text{Pres}(x)).$

But, as Quine has pointed out [8], constructions such as 2 and 4 lead to grave difficulties. For, although the move from 1 to 2 is justified, a similar move from the obviously true statement

5    Ralph believes that the number of planets is the number of planets

to

6  $(\exists x)\text{BEL}(\text{Ralph}, x = \text{the number of planets})$

seems dubious, since Ralph may not know how many planets there are.

When should quantification into intensional context be allowed? The intuition underlying the various answers to this question originates from two distinct ideas which should be carefully separated. The first idea is this: when a speaker believes that the so-and-so is, say, a spy, it makes a significant difference, so it is argued by many, whether he knows who the so-and-so is. Only if the speaker knows who the so-and-so is, or if he is otherwise related in a special way (to be characterized in epistemic terms) to the subject of his belief, can he be said to have a belief *about* the so-and-so. This is supported by the fact that the more the speaker knows about the so-and-so, the more comfortable we feel substituting other referring expressions for “the so-and-so” when we report the speaker’s belief. If Ralph, to use a well-worn example, believes that the shortest spy is a spy, and the shortest spy is Mark, it would be at best misleading to assert that Ralph believes Mark to be a spy. But, had Ralph known who the shortest spy was, we would have then felt perfectly comfortable asserting that Mark was believed by Ralph to be a spy. Quantification into intensional contexts, it is held, should reflect cases that are similar in principle to the foregoing situation.<sup>1</sup> I shall call such considerations the *epistemic* intuition underlying quantification into intensional contexts.

In contrast with the epistemic intuition, we have what I shall call the *modal* intuition. The idea is closely related to the concept of the logically possible: From an intuitive standpoint, it makes sense to ask not only whether a true proposition *P* could have been false under different circumstances, but also whether a given *individual* could have been different from the way it actually is. For example, Reagan is president, but surely he might not have been. That is, although Reagan *in fact* has the property of being president, we can easily conceive of alternative circumstances in which he would lack this property. Note that for any property that Reagan may possess, it makes sense to ask whether he might not have this property. The natural interpretation of this is that in such contexts, the individual Reagan is considered, so to speak, *in itself*, independently of any property he may or may not have. This ability to abstract Reagan out of any particular

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<sup>1</sup>This applies, of course, only to intensional contexts within the scopes of operators such as **BEL**, **KNOW** etc.

property he may have is what I call the *modal* intuition. It is the modal intuition which allows us to make sense of such an expression as

7           The U.S. president might not have been the U.S. president

In this particular case, the first occurrence of 'The U.S. President' only *fixes the reference* (to use Kripke's term). Once the reference has been fixed, we consider the actual president *himself*, independently of any of his properties, and we ask ourselves whether a possible world exists in which that particular individual is *not* president. Note that the interpretations that would make 7 true can be represented only as

8                            $(\exists!x)(\text{Pres}(x) \ \& \ \Diamond(\neg\text{Pres}(x)))$

in which we quantify into a modal context.<sup>2</sup>

Thus, we have two distinct interpretations for quantification into intensional contexts. Let us consider the modal intuition and its relation to Donnellan's distinction first. A theoretical extension of the modal intuition is the claim that usage of a rigid designator by a speaker *S* justifies an attribution of *de re* attitude to *S*, which in turn can be reported by quantification into an intensional context. For example, according to this view, if John said that Plato was a great philosopher, we may say that John has a *de re* belief about Plato – a fact that may be represented by a structure similar to 4. Now, the class of referring expressions most frequently associated with the property of rigid designation is the class of proper names, but Kaplan ([3,4]), has argued that demonstratives are also endowed with this property. Moreover, we can use a definite description as a verbal mode of pointing whose sole purpose is to help identify the referent. Such a maneuver turns definite descriptions into rigid designators; consequently, when a definite description is used in this way, we can report what is said by using quantification into intensional contexts.<sup>3</sup> Kaplan introduces the artificial operator *dthat* to mark a definite description that is used merely as a verbal way of pointing. For example:

9                           The inventor of the light bulb was a genius

is about whoever invented the light bulb. But the sentence

10                       *dthat*("The inventor of the light bulb") was a genius

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<sup>2</sup>" $\exists!x$ " means: "There is exactly one *x* such that.."

<sup>3</sup>Provided that the referent exists.

is about Edison. Clearly, there is a difference between the two: in a possible world in which the light bulb was invented by Russell and in which Edison was the village idiot, 9 is true, while 10 is false.

Kaplan acknowledges fully the close relation between his treatment of definite descriptions as demonstratives and the referential use.<sup>4</sup> The relation between **dthat** and quantification into intensional contexts suggests that Kaplan's theory of definite descriptions as demonstratives is a possible explication of "having a particular object in mind." But there is another interpretation that is based on the *epistemic* intuition. According to this interpretation, knowledge of the referent is a necessary condition for having the referent "in mind."<sup>5</sup>

Thus, there are three separate aspects in Donnellan's distinction. It is not an accident that Kaplan takes his **dthat** as a vindication of Donnellan, in spite of what Donnellan himself may believe.<sup>6</sup> The clue to the confusion can be found in the separate ways in which Donnellan's distinction is related to the problem of reference. Earlier I argued that the general problem of reference has four distinct aspects – corresponding, respectively, to beliefs, propositions, speech acts, and sentences. The interesting fact about Donnellan's distinction is that it seems to be relevant to *all* aspects, and we can begin to see now how this is possible.

The three aspects of Donnellan's distinction can be expressed as three dichotomies:

- Having knowledge of an object versus not having such knowledge (the epistemic interpretation).
- Considering an object per se, versus considering it as being thus and so (the modal interpretation).
- Using a definite description "*the  $\phi$* " to refer to whoever is the  $\phi$  (if nothing is, the speech act cannot succeed), versus using "*the  $\phi$* " to refer to an object  $x$ , whether or not  $x$  is indeed the  $\phi$  (the speech act criterion).

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<sup>4</sup>See [4, pp. 234, 238]

<sup>5</sup>Incidentally, it was interesting for me to hear, in AI discussions of knowledge representation, that an agent knows who  $S$  is if the agent has a rigid designator that denotes  $S$ . This is an obvious mixture of the modal and epistemic intuitions: any denoting expression can be turned into a rigid designator, but this has nothing to do with knowing who the referent is.

<sup>6</sup>Donnellan's interpretation of his own distinction is based on the epistemic interpretation.

Let an *individuating set* be a set of all aspects under which, so it is believed, a certain unique object is represented. According to the epistemic intuition, whether a speaker *S* can have a *de re* propositional attitude toward an object depends on the nature of the relevant individuating set. Note that the characterization of *S*'s individuating set is independent of any speech act *S* may intend to perform. But suppose that *S*, who possesses a nonempty individuating set *A* concerning Shakespeare, wishes to refer to Shakespeare in the course of a given speech act. Now there are two possibilities. Either *S* intends a particular individual aspect of Shakespeare, derived from the set *A*, to be recognized by the hearer, or there is no particular aspect of Shakespeare that *S* intends the hearer to recognize. In the former case, there is a particular definite description of Shakespeare *S* means, and in the latter no such description is meant: all that *S* intends is that the hearer understand that *S* is talking about Shakespeare. *S* does not care much under what aspect Shakespeare is identified as the topic of conversation.

Thus, *S* may have two distinct intentions in referring, thereby resulting in two distinct types of propositions he may express. First, he may intend the hearer to identify Shakespeare *under a particular aspect*, which in turn would be part of the proposition he means. Second, *S* may intend the hearer to identify Shakespeare as the subject of conversation, but he may not care at all under what aspect Shakespeare is identified. Obviously it is the modal intuition – considering an object per se, so to speak – which is at work here.

Once the speaker knows what particular aspect (if any) of Shakespeare he means, there is the question of which referring expression he will choose. It is natural to assume that, if a particular aspect is meant (say, *the author of Hamlet*), the description “The author of *Hamlet*” will be chosen; on the other hand, if no particular aspect is meant, a proper name will be the most suitable choice. But this is obviously not at all necessary. In any event, if *S* chooses to use a definite description, then either the satisfaction of the description is necessary for a successful speech act or it is not, depending on the relation between the description and the aspect (if any) of Shakespeare that *S* considers important for the success of his speech act.

The nature of the individuating set, the type of proposition that is meant, and the choice of a referring expression correspond to the three aspects of the referential/attributive distinction that we have discussed. Thus, we have now assembled the requisite conceptual apparatus for answering some of the questions raised by Donnellan's distinction.

### 3 Implicature and Attributive Use

The first aspect of Donnellan's distinction raises the problem of referential use, which can be stated as follows: a speaker, using a description, may make a true statement even though the description, in effect, applies to nothing at all. How is that possible? Both Searle [12], and Kripke [5] have employed the distinction between sentence (or utterance) meaning and speaker's meaning to solve this problem. People utter sentences and, in so doing, they mean something. The sentences themselves also mean something, but in many cases, the speaker's meaning differs from that of the sentence itself (e.g. irony, metaphor, indirect speech acts). Similarly, people refer and so do definite descriptions (or perhaps denote would be a more accurate term in the latter case), but sometimes the semantic reference of the definite description differs from the speaker's reference. This is what happens in referential use.

Such a suggestion solves the problem of referential use, but it raises another – the problem of attributive use. In cases of such use, a successful semantic reference is a necessary condition for a speaker's successful reference. Since we know now that such a relation between semantic and speaker's reference does not always hold, why do these cases differ from others?

An answer can be found by considering the role of definite descriptions in discourse. Each contribution to a rational discourse must be relevant. Since uses of definite descriptions are part of the general discourse, they too must be relevant to the conversation. Now, in what way are uses of definite descriptions relevant to the conversation? Well, obviously if a definite description is used for referring, it must be relevant in the sense that it should enable the hearer to identify the intended referent. In this sense, *relevance* is equated with *usefulness for identification*.

Sometimes, however, two descriptions – both equally useful for identifying the intended referent – still cannot be substituted one for the other in a discourse. The description employed, in addition to being useful for identification, has to be relevant in another respect. Consider the following example. The New York chief of police is making a speech, trying to recruit more young college graduates into the force. Among other things, he says, "New York needs more policemen." Instead of *New York* he might have used *The largest city in the U.S.* or *The Big Apple*, but *The city with the world's largest Jewish population needs more policemen* won't do, even though the latter description might be as useful in identifying New York as the others.

It is simply irrelevant in this context.

Thus, there are two senses in which a definite description might be regarded as relevant. First, a description has to be relevant for the purpose of letting the hearer know what the speaker is talking about. Taking into account what the hearer knows about the world, the description (in conjunction with the context of the utterance) should enable the hearer to identify the referent. A description that is relevant in this sense may be called a *functionally* relevant description. Second, as the example above indicates, a description might exhibit a type of relevance that is not merely an identifying tool. A description that is relevant in this noninstrumental sense might be called *conversationally* relevant.

Every use of a definite description for the purpose of reference has to be functionally relevant. But it is an interesting fact that not every such use has to be conversationally relevant. Every referring use of a description must enable the hearer to identify the subject of the conversation, but, if identification is the *only* intended function of the description, then any other functionally relevant description would do just as well.

In other cases, the description is supposed to do more than just identify the intended referent for the hearer. Consider the following examples:

- 11            This happy man must have been drinking champagne.
- 12            The man who murdered Smith so brutally has to be insane.
- 13                      The winner of this race will get \$10,000

In these examples, the speaker implicates (in Grice's sense) something that is not part of what he says. In Sentence 11, it is implicated that the man's happiness is due to his drinking. In Sentence 12, it is implicated that the main reason for the belief that the murderer is insane is the very fact that he committed such a brutal homicide. The implicature in Sentence 13 is that the only reason for giving the winner \$10,000 is his victory in a particular race. In all these cases, what is implicated is some relationship between a specific characteristic of the referent mentioned in the description and whatever is said about that referent. In such cases, the choice of the description is important as the latter is both functionally and conversationally relevant. No other description, even if it identifies equally well, can be as successful in conveying the intended implicature.

Of course, the conversationally relevant description may not be mentioned explicitly. The context may suffice to reveal it. In the fingerprint



example, the speaker uses the description *The man whose fingerprints these are*, but the conversationally relevant description is obviously *Smith's murderer*.

Thus, there are three general ways in which a speaker may employ a referring definite description:

1. If the conversation does not require any conversationally relevant descriptions, any functionally relevant description will do. I call this *simple* reference.
2. If, for some reason, a certain description is conversationally relevant, the speaker may do either of the following:
  - (a) The speaker may mention it explicitly in his utterance. This is *explicitly complex* reference.
  - (b) The speaker may use a description that is only functionally relevant, but he can do so only if the context indicates the aspect of the referent that corresponds to the conversationally relevant description. This is *implicitly complex* reference.

Now let us return to Donnellan's attributive use. When the success of the semantic reference is necessary, the speaker intends to do more than just single out an object and then say something about it. He also intends to implicate that the specific way he chose to do his referring should be taken into account in interpreting the speech-act as a whole. By way of illustration, consider the context in which someone utters "Smith's murderer, whoever he is, is insane." The speaker means more than just "whoever murdered Smith has the property of being insane." He intends to convey the idea that the basis for his assertion that the murderer is insane is the very fact of his having killed Smith in such a brutal way. The description is indispensable because it is essential for what the speaker wishes to implicate.

Thus, when the description used is *conversationally* relevant, the result of the absence of anything that fits the description amounts to a failure of the speech act as a whole. On the other hand, if the description is only functionally relevant, the context may still supply enough information to establish the speaker's reference, as is the case in standard examples of referential use. We can sum up the difference by saying that referential uses are instances of *simple reference*, while the attributive uses are instances of *explicitly complex reference*.

In *implicitly* complex reference, we have a case of a “dual” implicature: first, the hearer is expected to figure out what the conversationally relevant description is; then he is expected to determine in what way the description is conversationally relevant.

## 4 Thoughts and Objects

So far, the focus of attention has been utterances. Now we turn to *thoughts*. The problem at hand is the problem of *de re* propositional attitudes: how can a *de re* thought be *about* an object?

Let us concentrate on *de re* beliefs. A *de re* belief is recognized when, in reporting it, we can use a purely extensional expression. A theory of *de re* belief, therefore, should provide the truth conditions of such extensional statements as “*S* believes *x* to be *F*.” The most straightforward analysis within the descriptive approach is simply this:

- S* believes *x* to be *F* iff  $(\exists\phi)$
1.  $(\forall y)(\phi(y) \leftrightarrow y = x)$  &
  2.  $\text{BEL}(S, (\exists z)((\forall w)(\phi(w) \leftrightarrow w = z) \& F(z)))$  <sup>7</sup>

Note that what makes this analysis part of the descriptive model is the requirement that all *de re* beliefs should include an individual concept  $\phi$ , which denotes the referent. The fact that *S* possesses such a  $\phi$  is taken to be both necessary and sufficient for *S* to have a *de re* belief about *x*. Consequently, there are two lines of argument countering the descriptive theory: first, that an individual concept is not *necessary* for a *de re* belief; second, that it is not *sufficient*. Later on, I shall examine each in turn, but before that, I should indicate why the descriptive theory is especially attractive to begin with.

### 4.1 Modes of Presentation.

We shall start with a simple observation: to have a belief is to be related in a certain way to its content. This truism has a rather trivial consequence that, nevertheless, is worth mentioning: it is impossible both to hold and not hold the same belief.

Now let us suppose that Ralph believes of Ortcutt that he is a spy. What, then, is the content of Ralph’s *de re* belief? As described, it seems to be:

<sup>7</sup>That is, something is uniquely  $\phi$ , and *S* believes that the object that is uniquely  $\phi$  is *F* ( $\phi$  here is to be interpreted – like a Fregean Sense – as a complete individual concept).

Yet this cannot be the *complete* content of Ralph's belief. If 14 were that, it would be impossible for Ralph *not* to believe of Ortcutt that he is a spy. But surely Ralph could meet Ortcutt under different circumstances and not realizing that he was the same man, Ralph might assert that he neither believe nor disbelieve Ortcutt to be a spy. If 14 were the complete content of Ralph's belief, he would both hold and not hold the same belief. But this is impossible.

If 14 is not the complete content of Ralph's belief, some element of content is missing. Let the mode of presentation (of Ortcutt for Ralph) be *by definition* that element of content that – when combined with 14 – provides the complete content of Ralph's belief. Note that the concept of a mode of presentation is necessary, no matter what one's theory of *de re* thought is. Moreover, the mode of presentation is what determines the reference. In particular, if *M* is the mode of presentation under which Ortcutt is believed by Ralph to be a spy, then *M* itself is sufficient to make Ralph's belief a belief about Ortcutt. For, if *M* does not determine reference, then, as in the previous case, Ralph may have conflicting attitudes toward one and the same belief, which is impossible.

In addition to explaining how reference is determined in *de re* beliefs, we also need to explain how two *de re* beliefs, concerning the same object, differ in *informational value*. The belief that Dr. Jekyll is Dr. Jekyll has, one may say, zero informational value. The belief that Dr. Jekyll and Mr. Hyde are one and the same person, on the other hand, is very interesting, and something must account for the difference between these two beliefs.

Now, given the fact that modes of presentation are essential, no matter what one's theory of reference is, that modes of presentation must be the determiners of reference, and that we have to deal with the problem of informational value, it is not surprising that the descriptive solution is so attractive. Using a single notion – the *individual concept* – we obtain a mode of presentation that indeed determines the reference, explains the difference in informational value, and very conveniently resolves a host of other problems. However, the descriptive solution has difficulties of its own. Let us see what they are.

## 4.2 The Essential Indexicals

Donnellan [2] has suggested an example in which a speaker expresses a belief that is obviously *de re*, while apparently not having any individual concept

whatsoever denoting the referent. Suppose John is seated before a screen of uniform color, large enough to fill John's visual field entirely. Two squares of identical size and shape are painted on the screen, one directly above the other. Asked to name the squares, John decides to call the top one Alpha, the bottom one Beta. It seems that the only way John can use descriptions to distinguish the squares is by stating their relative positions. However, unbeknownst to John, he has been fitted with spectacles that invert his visual field. Thus, the square he sees as apparently on top is really on the bottom, and vice versa. Surely, John may have *de re* beliefs about, say, Alpha. But it seems that John has no individual concept that denotes Alpha. So the descriptive analysis of *de re* belief must be wrong. Let us call this the *two-squares* argument.

Perry [7] has offered another argument that seems to undermine the descriptive model even further: some *de re* beliefs seem *in principle* to be devoid of individual concepts. The argument, which we shall call the *sugar trail* argument is as follows: beliefs are supposed to explain behavior, in the sense that a change in behavior is very often attributed to a change in belief. Now imagine yourself following a trail of sugar on a supermarket floor, pushing your cart down the aisle on one side of a tall counter and back the aisle on the other, seeking the shopper with the torn sack to tell him he is making a mess. With each trip around the counter, the trail becomes thicker, but you seem unable to catch up. Finally it dawns on you: *you* are the shopper with the torn sack of sugar. At this point you stop and, hoping nobody has noticed your embarrassment, adjust the sack in your cart.

What happened? You believed all along that the shopper with the torn sack of sugar was making a mess; then suddenly you came to believe that *you* were the one making a mess. The change in your behavior indicates this change of belief. But the content of the belief "I am making a mess" cannot – or, at least, so it seems – contain any individual concept. For suppose that it did – suppose that you were the best pizza maker in town, and that the content of your belief was "The best pizza maker in town is making a mess." Still, someone who knows you might have been walking behind you all along, thinking "The best pizza maker in town is making a mess," and it just cannot be the case that the two of you were thinking the same thing. After all, *he* was trying to catch up with you, whereas *you* stopped to adjust your sack. So the content of your belief could not have been "The best pizza maker..." etc. This seems to be true with respect to any individual concept  $\phi$  that denotes you, and therefore your *de re* belief, "I am making a mess," cannot be accounted for in strictly descriptive terms.

How can a descriptive theorist answer these two arguments? Let's begin with the *two-squares* argument. Recall that in Russell's theory of reference there is a distinction between knowledge by description and knowledge by acquaintance [9]. We know an object  $x$  by description if  $x$  is the one and only so-and-so, and we know that the so-and-so exists. We are *acquainted* with  $x$  if  $x$  can be presented to us without being *represented*. Thus, according to Russell, physical objects can be known only by description, but such things as the self, pain, one's thoughts, numbers, or one's visual experience can be known by acquaintance. We do not need a *representation* of ourselves in order to be aware of ourselves – nor is such a representation necessary for our pains, thoughts, etc. But to be aware of, say, a chair, it must be represented to us somehow – for example, as a two-dimensional image on the eye's retina. Now, according to Russell's theory, the description by which we know an object  $x$  quite often contains reference to object  $y$  with which we are acquainted. In other words, the individual concept used for a *de re* belief about  $x$  may be an individuating concept only in relation to some object of which we have knowledge by acquaintance.

Once we realize that individual concepts can be individuating relative to objects with which we are acquainted, there are a lot of individual concepts available to John in the *two-squares* argument. For example, as Loar notes [6], the objects of my beliefs are often individuated for me by virtue of the unique relationship between them and me. Thus, an individual concept that denotes the square for John is "The square I [John] am looking at." Note that this concept individuates relative to John only, but surely John has knowledge by acquaintance of himself.

In the *two-squares* case, we have found an individual concept that contains John's self. But it seems that this merely pushes the problem one level lower without solving anything; when we turn to Perry's *de re* belief, "I am making a mess," no such concept can be found without circularity. For an individual concept that denotes Perry only in relation to Perry himself is worthless — it is like trying to refer to someone by saying "his wife's husband!"

The answer to that is simple. Perry is right in saying that no individual concept can be found for the  $I$  in "I am making a mess." But no such individual concept is needed! Earlier I presented the rationale for having modes of presentation in a theory of reference. But when it comes to objects with which we are *acquainted* (in the sense described above), the need for modes of presentation disappears. In other words,

can be the complete content of Perry's belief. Unlike the case of Bill and Ortcutt, Perry cannot at the same time both believe and disbelieve the fact that he *himself* is the person making a mess. The reason is simple: while Ortcutt is always presented to Bill under one mode of presentation or another (and thus Bill may not recognize Ortcutt as the object of his earlier belief), Perry has knowledge by acquaintance of himself: he does not need a mode of presentation under which he is represented to himself.

Thus, we can now modify the descriptive theory of *de re* thought to conform to the Russellian approach:

$S$  believes  $x$  to be  $F$  iff  
 $S$  has knowledge by acquaintance of  $x$  and  $\mathbf{BEL}(S, F(x))$  or  
 $(\exists\phi)\{(\forall y)(\phi(y) \leftrightarrow y = x) \ \& \$   
 $\mathbf{BEL}(S, (\exists z)\{(\forall w)(\phi(w) \leftrightarrow w = z) \ \& \ F(z)\})\}$  <sup>8</sup>

### 4.3 The Pragmatics Of Reported Speech

Finally, we address the claim that an individuating concept is not sufficient for a *de re* belief. As we have seen, a criterion for *de re* belief is the ability to report it by using extensional expressions of the form “ $S$  believes  $x$  to be  $F$ ,” which are open both for existential generalization and substitution. The argument against the descriptive theory consists of showing cases in which a speaker has a belief containing an individual concept that denotes an object  $x$ , while a report of this belief is not extensional. For example, suppose John believes that Smith's murderer is insane, but John has no idea who the culprit is. Suppose that the murderer is Vladimir. On the basis of these facts, it would be incorrect to report John's belief as

16                                    *John believes Vladimir to be insane.*

or

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<sup>8</sup> $\phi$  here is not necessarily a complete individual concept in the Fregean sense (no pun intended). It is rather an individual concept that may denote an object only relative to another with which one is acquainted. Note that we are not compelled to interpret “knowledge by acquaintance” as Russell did; in particular, we don't have to accept his theory of sense data. In fact, it can be shown that it is enough to assume that only the self and the current time (the referents of *I* and *now*) are things of which we have knowledge by acquaintance (see [10,11]).

17                    *There is someone John believes to be insane.*

Nor would it be acceptable to tell Vladimir that

18                    *John thinks you are insane.*

Thus, the appearance of the individual concept “Smith’s murderer” in the specification of John’s belief does not suffice to allow substitution or existential generalization. Consequently, John’s belief – although containing a denoting individual concept – is, in fact, not about Vladimir at all. It is only *de dicto*, not *de re*.

Note that this argument works only if Sentences 16, 17, and 18 are taken to be *false*. If these sentences could be interpreted as true, and if their unacceptability could be explained independently of their truth value, then John’s belief would be as *de re* as it can possibly get, and the descriptive account would remain unaffected. This is precisely what I intend to argue: that, given some basic principles of discourse and conversation, these sentences are true but *misleading*.

First, it should be noted that, as far as logic is concerned, substitution is an “all or nothing” concept: once substitution is permitted, it makes no difference which referring expression is used, provided that they all denote the same object. But natural language does not behave in that manner. Take the case of Oedipus who, let us suppose, firmly believes that his wife is beautiful and that his mother is dead. Surely these two beliefs are *de re*, and therefore it would be true to assert the following two sentences:

19                    *Oedipus believes his wife to be beautiful.*

20                    *Oedipus believes his mother to be dead.*

Since Oedipus’s beliefs are *de re*, we should be able to apply substitution without any restriction:<sup>9</sup>

21                    *Oedipus believes his mother to be beautiful.*

22                    *Oedipus believes his wife to be dead.*

While I find Sentence 21 acceptable (though misleading), Sentence 22 is completely off the mark. Surely, it is methodologically preferable to assume that, if 19 and 20 are true, so are 21 and 22. If so, however, there is no longer

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<sup>9</sup>Remember that Oedipus’s wife is his mother.

any reason to assume that the unacceptability of Sentences 16-18 reflects *semantic* intuition. The problem now is first to explain the reason for our dissatisfaction with Sentences 16-18, then to specify their truth conditions.

Generally speaking, the speech act of reporting a belief has two objectives: (1) the speaker attempts to represent the content of the belief as accurately as possible; (2) he attempts to identify for the hearer what the belief is about. Now, if the referring expression that is best suited for identification is also best for representing the way the believer thinks about the referent, all is well. If conflict arises, however, preferability depends on the specific nature of the conversation. At one extreme, there is the case in which no identification of the referent is necessary – simply because no such referent exists. For example: “Poor David is so delirious, he thinks that the first inter galactic spaceship has just landed in People’s Park.” At the other extreme is the type of discourse in which *only* identification matters: if someone tells David, “Watch out! Ralph wants to kill you,” then – barring special circumstances – it is unlikely that David will be very much interested in the precise mode of presentation under which Ralph wants him to be dead.

Sentences such as 16 and 18 are used to signal to the hearer that accuracy in representing the belief is sacrificed in favor of easier identification of the referent. Yet, even if it is clear that the speaker has chosen *not* to represent the complete content of the belief, he is nevertheless expected to observe (along with other maxims and submaxims of conversation) the following rules:

- Rule A:** In reporting a belief, the speaker should not implicate (in Grice’s sense) something that is not true.
- Rule B:** Suppose the belief to be reported is that the  $\phi_1$  is  $F$ , and that identification takes precedence. The speaker may use referring expressions other than “the  $\phi_1$ ,” but he may not use a referring expression “the  $\phi_2$ ” such that the original believer believes that the  $\phi_2$  is *not*  $F$ .
- Rule C:** It is assumed that, if a speaker refrains from accurate representation, he does so *only* to improve the chances of identification. A choice of a referring expression that neither represents what the believer has in mind, nor offers any advantages over one that does is simply misleading.
- Rule D:** Even though only a partial representation of the belief is communicated, it is mutually assumed by the speaker and hearer that the





clearly inadequate. Let us now examine both the causal and the knowledge requirements.

The causal requirement has less to do with *de re* beliefs than with their *justification*. I can defend my belief that the  $\phi$  is *F* only if I can defend my belief that there is a unique  $\phi$ . I can do so only if I have supporting evidence – and evidence for the existence of objects is usually causal in nature.<sup>10</sup> Ralph can be justified, of course, in believing that a shortest spy exists, even if the shortest spy has not interacted causally with him; in such a case, however, Ralph's belief is either tautological, trivial, or completely unwarranted. Now consider Sentence 23 as a report of Ralph's belief. Given the supposition that Ralph is rational, we presume that he can justify his belief and, if it is assumed that Rule D is observed, we take it that the belief is relevant. Consequently, we presume that Ralph has evidence for an interesting, nontrivial, empirical belief – which in turn presupposes a causal interaction between Ralph and Vladimir. Note that the causal connection is presupposed only if Ralph is assumed to have evidence for his belief. This strongly suggests that the causal requirement is related to justification of the belief, not to what the belief is actually about.

The theoretical need for the knowledge requirement seems to be motivated by the following argument:

**A:** The ability to apply substitution in reporting a belief indicates that the belief is *de re*.

**B:** The more *S* knows about object *x*, the more acceptable it is to substitute one referring expression for another in reporting *S*'s beliefs concerning *x*.

**Hence:** Satisfaction of the knowledge requirement is necessary if *S* is to have a *de re* belief.

But the concept of substitution in Premise A is logical, while in premise B it is pragmatic. Premise A is true because logical substitutivity is an indication of extensionality; in reports of beliefs, extensionality indicates that they are *de re*. Premise B, on the other hand, is true because the more *S* knows about *x*, the more likely it is that the referring expression substituted by us for the original one will be included in *S*'s conception of *x*. If Ralph believes that Shakespeare died in Stratford-upon-Avon, then, given Ralph's

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<sup>10</sup>Such evidence ultimately rests on perceptual beliefs, in which the evidence for existence of the perceived object is simply the latter's effect on the sensory organs.

cultural background, it is very plausible to assume that his conception of Shakespeare includes *author of Hamlet*. Thus, we could easily report Ralph's belief as: "The author of *Hamlet* died in Stratford." Note that if Shakespeare had never existed, Ralph could not have any *de re* beliefs about him, but we could *still* substitute one description for the other in reporting Ralph's belief. Hence, the concept of substitution in Premise B is not conditional upon *de re* propositional attitudes.

Let us now summarize our discussion of the shortest-spy example. I suggest that Ralph's belief is indeed about Vladimir, and that 23 is true. It is *misleading* because first, its assertion violates Rule D and, second, it violates Rule A by implicating (in Grice's sense) that Ralph has a nontrivial, empirical belief about Vladimir (which, in fact, he does not have) and that Ralph's conception of Vladimir is rich enough to enable Ralph to identify Vladimir – which is false.

**Individuating Sets:** So far we have been able to maintain the Russellian version of the descriptive theory of *de re* thought. The final example, however, will force us to modify it. Suppose that (a) Ralph has a picture of Sister Angelica of the All Saints Monastery, (b) he believes that this picture is a photograph of himself, taken at a costume party, and so (c) Ralph believes that the person in the picture is married to Ralph's wife. Now, even the most stubborn descriptive theorist will deny that Ralph believes Sister Angelica to be married to his wife. Yet this is what we have to conclude if the descriptive analysis is accepted: somebody is uniquely the person in the picture, and Ralph believes that the person in the picture is married to his wife.

My solution to this problem is based on the notion of an *individuating set*. Earlier (p. 13) I defined an individuating set as a set of all aspects or modes of presentation that are believed by the owner of the set to be satisfied by a unique object. Let us say that an individuating set is supposed to *determine* that object. Earlier, we examined cases in which two distinct individuating sets determined the same object (Dr Jekyll/Mr. Hyde, Oedipus's mother/wife). In the Sister Angelica example, we have the opposite case: Ralph believes that an individuating set determines a unique object (namely, himself), but the fact is that a segment of the set determines somebody else. Still, since the overwhelming majority of elements in this set denote Ralph, there is no doubt that it determines him, and not Sister Angelica. This is why Ralph believes *himself*, not Sister Angelica, to be married to Ralph's wife. Thus, I suggest the following as the final version of a descriptive theory

of *de re* thought:

- $S$  believes  $x$  to be  $F$  iff  
 $S$  has knowledge by acquaintance of  $x$  and  $\text{BEL}(S, F(x))$  or  
 $(\exists A)(\exists \phi)$
1.  $A$  determines  $x$ , and  $\phi$  belongs to  $A$
  2.  $(\forall y)(\phi(y) \leftrightarrow y = x) \ \&$
  3.  $\text{BEL}(S, (\exists z)((\forall w)(\phi(w) \leftrightarrow w = z) \ \& \ F(z)))$

## 5 Conclusion

Now it's time to return to the theses of the descriptive model (Figure 1, page 3), and see which ones have to be discarded. If the final version of a descriptive theory of *de re* thought is correct, the belief thesis will require no more than slight modification; the only *de re* beliefs that cannot be analyzed in terms of their *de dicto* counterparts are beliefs about things with which we are acquainted. For example, the pain in my right knee, my own self, the reference of "now." But this should neither be surprising nor disturbing, since what we are interested in is reference to public, physical objects.

As to the speech act theses, they remain basically unchanged: the function of referring expressions in speech acts is to identify an object for the hearer. The notion of successful identification, however, is rather limited in this context. It may merely mean that the hearer is able to recognize what the speaker is talking about.

In regard to the proposition theses, we must distinguish between propositions as contents of beliefs and as contents of utterances. As the former, propositions are always general – unless they are about things with which we are acquainted. Thus, an individual concept appears in every proposition that is believed, and such an individual concept is crucial in determining the truth condition of the belief.

When propositions are taken as contents of utterances, however, the proposition theses are false. For even though one may not believe something about an object independently of any mode of presentation under which the object is represented, one can easily mean a certain object without necessarily meaning any particular aspect of it. Indeed, this is exactly what happens in *simple* reference, where the description employed is only functionally relevant.

This brings us to the language theses. Reference is indeed in virtue of meaning, but not necessarily the meaning of what we *say*. Rather, it is in

virtue of the meaning in our head, so to speak, namely, the mind's capacity for representing the world. For this notion of reference, unique denotation is both necessary and sufficient.

Subthesis  $L_2$ , however, must be discarded. Proper names and demonstratives are not disguised descriptions; they are efficient linguistic tools for asserting singular propositions. Nevertheless, while this fact is of undoubted interest, it really has very little bearing on the descriptive model as a whole.

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