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Department of Philosophy

The University of British Columbia
2075 Wesbrook Place
Vancouver, Canada
V6T 1W5

Date Feb 24/1978
ABSTRACT

The aim of this thesis is to put in both historical and logical perspective certain features of current theories of reference. The theory of reference came to life as a separate subject around the turn of the century in the writings of Gottlob Frege and Bertrand Russell. Although their theories are quite different in detail, they have some important features in common. One of these is the methodological commitment to study language on its own, as a set of sentences more or less. This is reflected in the theory of reference by their determination to describe how expressions refer without regard for the linguistic or non-linguistic context they occur in. Another important common feature of the two "classical" theories, as I will call them, is that expressions accomplish reference by specifying a set of conditions such that the referent and only the referent satisfy them.

In recent years these two assumptions have been questioned by philosophers such as Saul Kripke, Keith Donnellan, David Kaplan, and others who have been developing what can fairly be called the "new" theory of reference. In following the development from the classical to the new theories, I concentrate on the set of problems generated by the phenomenon of referentially opaque contexts. After setting out, in Chapter I, the main features of Russell's and Frege's theories, I devote a
chapter to W. V. O. Quine's considerable contribution to our understanding of these contexts. I discuss, among other things, the relationship between a certain understanding of modal contexts and the metaphysical theory of essentialism and try to determine to what extent Quine was right in condemning quantified modal logic on the grounds that it is committed to essentialism. The third and final chapter is devoted to the new theories of reference.

Throughout the thesis I am concerned to relate a whole range of important distinctions whose interconnections have not been sufficiently well understood. Apart from the distinction between reference accomplished by means of a set of conditions and reference linking term and object directly, there is Quine's distinction between opaque and transparent contexts, Frege's between oblique and direct ones, Russell's between primary and secondary scopes of definite descriptions, Saul Kripke's between rigid and non-rigid designators, K. Donnellan's between referential and attributive uses of definite descriptions, and the various interpretations of the medieval De Re - De Dicto distinction. I think that there is a general agreement that all these and some other distinctions are related in various ways. In this thesis I describe just some of these relations. My aim is not to come to any definite conclusions about reference, but merely to understand how the different conclusions which philosophers have already reached relate to one another.
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I. THE CLASSICAL THEORIES: RUSSELL AND FREGE

There are several well-known puzzles about reference which Frege and Russell attempted to solve in their theories. These puzzles are more than just some problems which any successful theory of reference must deal with; to a large extent it is the solutions to puzzles like the problem of negative existensials, of opaque contexts, or of contingent identity which constitute a theory of reference. This is certainly true of both Russell's and Frege's theories.

In this section, I shall present the classical theories as solutions to two of the most notorious puzzles of reference, the problem of contingent identities or the meaning of identity statements, and the puzzle which we will call following W. V. O. Quine, that of referential opacity. I have chosen these two inter-related problems because Frege's and Russell's solutions to them constitute the very core of their theories, and because it is in connection with these problems that the contrast between the classical and the new approaches is clearest. Although there are deep theoretical differences between Frege and Russell, the logical perspective in which I want to put their theories demands that I emphasize the aspects which are alike.
A. THE MEANING OF IDENTITY STATEMENTS

What do identity statements mean? What are they about? Our first, and no doubt almost correct, intuition is that they are about the objects which the referring expressions flanking the identity sign denote (I am using 'denote', 'refer to', 'pick out', and other such expressions interchangeably). But this view leads us immediately into trouble. Consider:

1) Hesperus - Phosphorus
2) Phosphorus - Phosphorus

On the view that identity statements are simply about objects, (1), and (2) ought to mean the same thing because they are about the same object namely Venus, and certainly assert the same thing about it, namely that it is identical with Phosphorus, which is not very informative. But while we may agree that (2) is not very informative because it merely asserts a self-identity, (1) appears to be informative, contingent, and far from tautological because it took an empirical discovery to find out that it is true. False identity statements obviously are similarly problematic. As Wittgenstein put it in the Tractatus:

Roughly speaking, to say of two things that they are identical is nonsense, and to say of one thing that it is identical with itself is to say nothing at all.
The problem is the same for proper names, definite descriptions, and even demonstratives (imagine a very prolonged utterance of 'This = that', pointing at Venus in its morning and evening presentations respectively). The identity puzzle, that is the puzzle as to the meaning, and function of identity statements, challenges our first, naive intuitions about reference, namely that the purpose of referring expressions is purely to pick out, to draw our attention to, the referent, tell us what propositions are about. As I have sketched above, if referring expressions did function in this simple way, and only introduced the subject into propositions, then identity statements would appear to be of dubious meaning, and even more dubious usefulness.

A solution offers itself almost immediately: semantic ascent. If identity statements cannot be about objects, perhaps they are about expressions. To say that \( a \) is identical to \( b \) is to say that \( 'a' \) is coreferential with \( 'b' \), nothing more or less. This solution is attractive at first, and Frege proposed it himself in the earlier Begriffsschrift\(^4\). There are two things wrong with it. First, it makes the truth or falsity of statements like (1) a matter of language, or semantics not a result of an astronomical inquiry. That is, (1) appears to be a statement concerning a heavenly body, while (3) below, if true, is so at least partly because of some facts
about how we use, or what we mean by, certain expressions. But, more seriously, if (1) is a covert way of saying:

3) 'Phosphorus' and 'Hesperus' are co-referential.

We have a real problem in explaining why (3) is not synonymous with:

4) The denotation of 'Phosphorus' equals the denotation of 'Hesperus'

which in turn is covert for:

5) "The denotation of 'Phosphorus'" and "the denotation of 'Hesperus'"

and so on ad infinitum.

So we are not any closer to the goal of explaining why (1) is informative, contingent, and useful, while (2) is tautological, necessarily true, and of marginal interest even though both assert the same thing about the same object. We want to find a difference between (1) and (2), while maintaining that the referring expressions which occur in them function the same way they function in other contexts, they denote things.

Frege's solution is to deny that the only function, or meaning of a referring expression is to refer to an object.
Expressions refer always under a description, in some manner. Thus, to know the meaning of a referring expression we have to know not only what it denotes, but also how it denotes. The manner of presentation of an object is called the sense of an expression. The reference of an expression is determined by its sense. There is no pure reference, only reference mediated by sense. The puzzle is solved. (1), and (2), are identical in reference, but they differ in sense. Thus, we see how they can have different meaning even though they say the same thing about the same object. Frege's solution is both theoretically efficient, and intuitively plausible. The most important feature of the doctrine of sense, and reference is the denial of the possibility of reference not mediated by what I shall call a referring condition. In the case of definite descriptions, the referring condition or sense is explicit, but this is not so for other kinds of terms. It is absolutely crucial to what I will go on to say here that we keep in mind that Frege's, and other similar theories don't just claim that every expression has both a sense, and a reference. The latter is always accomplished by means of the former.

Russell's solution is rather different, at first sight. Unlike Frege, he does not want to reject the notion of a "logically proper name", or "logical subject". There are
cases of pure, unmediated reference for Russell, of the kind that leads to the puzzle of identity. To solve the puzzle, however, he is forced to deny that definite descriptions function in this way, and, for that matter, that we normally call proper names can be logically proper either since the puzzle can be set up with them. There is a bit of a problem with demonstratives which Russell wants to say are logically proper denoting phrases, but which also lend themselves, as we have seen, to the puzzle. Grammatical subjects of sentences of natural language are not really subjects at all, and have no meaning in isolation. In the deep or logical structure of the sentence there is no element which corresponds to the grammatical subject, the natural-language referring expression. Denoting phrases, unless they are logically proper names, only have meaning in the whole context of a sentence. Thus, the contextual elimination of definite descriptions is born.

Sentences which appear on the surface to have a singular form turn out, on the Russellian analysis, to express general propositions existentially quantified. Such propositions are not of the subject-predicate form the natural sentences expressing them appear to have. Rather they assert the existence of a thing of which a certain predicate is true, and also its uniqueness. Identity statements don't turn out to be of the form we expect them to be, i.e., two referring expressions
which serve to pick out referents which are then asserted to
be identical. Rather, they are general statements asserting
that two complex predicates have extensions which are identic-
al. The puzzle of identity is solved simply by denying that
identity statements have the form they appear to have on the
surface. They are not about one or two objects in the sense
that gave rise to Wittgenstein's worry, they are not singular
in form at all. There is nothing to puzzle us in the general
assertion that there is an object which is both uniquely
Phosphorus, and uniquely Hesperus. There is nothing to tempt
us to assimilate this assertion to the assertion that there
is an object which is uniquely Hesperus, and is self identical.
Indeed, there is not even a temptation to think that this last
assertion expresses a necessary truth as its misleading surface
form (2) suggests.

I have not emphasized, so far, one striking common feature
of Russell's and Frege's theories. There are many ways to
refer, even if we restrict ourselves to the linguistic means,
there are names, demonstratives, definite descriptions, per-
haps indefinite descriptions, pronouns like 'you', 'I', or 'it'.
But both Russell and Frege concentrate on one type of referring
device, albeit, perhaps the most common one, the definite des-
cription. This is no accident, I believe. For Russell,
definite descriptions are central because they have an explicit
descriptive component which can be made into a predicate of a bound variable. For definite descriptions, Russell's contextual elimination works smoothly and naturally. But this very same feature of definite descriptions which makes them suitable for Russell's purposes, i.e., the existence of an explicit referring condition, makes Frege's theory plausible in their case. For definite descriptions, in contrast to names or demonstratives, have an explicit sense: they can plausibly be seen to refer by means of a referring condition. As different as their theories are in detail, Russell and Frege agree on the basic mechanism of reference. A definite description refers by specifying a condition which the referent must satisfy. Furthermore, they agree that definite descriptions provide a paradigm of reference, other referring expressions which on the face of it do not specify a referring condition being nothing but disguised definite descriptions, the referring condition they specify implicit, and to be made explicit in the logically perfect language.

B. THE PUZZLE OF OPAQUE CONTEXTS

This puzzle is without the slightest doubt the most difficult. Both Russell and Frege worried about it, but neither managed to solve one aspect of it. The depth of the problem of this aspect -- that of quantifying into opaque
contexts -- has been brought out most forcefully in the writings of W. V. O. Quine, who inspired the current vogue this problem is enjoying in philosophico-linguistic circles. Connections with the puzzle of identity statements are both obvious, as an identity statement plays a central role in the presentation of the puzzle, and important, as we will see later. Because of the complexity of the problem, our first look at it, and Russell's and Frege's partial solutions, will be sketchy.

An intuitively important, and desirable law of logic is that if \( a = b \), then whatever is true of \( a \) is also true of \( b \). This is one of Leibnitz's laws, that of indiscernability of identicals. Certain linguistic contexts provide prima facie counter-examples to this law.

Consider:

6) George IV wished to know whether Scott = the author of *Waverly*.

7) Scott = the author of *Waverly*.

therefore:

8) George IV wished to know whether Scott = Scott.

As Russell somewhat confusingly puts it: while (6) is true, "an interest in the law of identity can hardly be attributed to the first gentleman of Europe". The problem here is
clearly how to block the argument from (6) to (8) without flatly rejecting Leibnitz's law.

Frege's way out of the problem has often been presented in an unfortunate light. It goes like this. The argument from (6) to (8) via the Leibnitz law does not go through because (7) is irrelevant to (6), and to take it as relevant simply because the same shape of ink occur in it is to commit a fallacy of equivocation. In certain contexts, the meaning of expressions shifts from their normal one so that, for example, while in normal contexts 'Scott' and 'the author of Waverly' denote the same man as in (7), in other contexts, such as (6), they denote quite different things. In these contexts, called 'oblique', expressions denote what is normally their sense. Oblique contexts are characterized by the presence of an obliqueness-forming operator, such as "A believes that", or 'Necessarily'.

Prima facie, it seems that Frege is claiming that all expressions of our language are ambiguous, sometimes having their direct sense and reference, sometimes indirect or oblique. But is ambiguity really what we have here? With normal ambiguous expressions we can find sentences in which they occur, which are themselves ambiguous, and are disambiguated when the expressions are. With the Fregean shift, however, there can be
no actual ambiguity since all contexts are already disambiguated by the presence or absence of the obliqueness-forming operator.

A prima facie objection to Frege's doctrine of the great meaning shift, as I just presented it, is that it is hopelessly ad hoc. To solve a single series of puzzles Frege introduces a truly enormous theoretical complication. (What happens to the sense when reference shifts? It shifts too. Now take any oblique context and add 'John believes that' in front of it. The referring expressions inside the original context now denote not their normal sense, but their oblique sense, or their doubly-oblique sense. The ontology of the theory includes an infinite hierarchy of senses which all have to be manipulated separately. The complications are enormous.) It seems rather much for such a small task, and if we believed the standard presentation of Frege's theory, all this was introduced with the sole purpose of solving the oblique-context puzzle. Which are the obliqueness-forming operators? Precisely those which would prove troublesome if we did not so designate them.

To be fair to Frege, we should go back and look at the first few pages of On Sense and Reference. I have been taught, in my undergraduate courses, that Frege had to introduce the notion of a shift of meaning because that was the only way for
him to deal with oblique contexts given his dictum that the reference of an expression (in the case of sentences, their truth-value) is always a function of the reference of its parts. A good example of this interpretation of Frege is found in Quine:\textsuperscript{10}

Failures of substitutivity of identity, moreover, were in Frege's view unallowable; so he nominally rectified them by decreeing that when a sentence or term occurs within a construction of propositional attitude or the like it ceases to name truth value, class, or individual and comes to name a proposition, attribute or "individual concept".

But Frege himself does not write like this at all. He introduces the doctrine of indirect reference \textit{immediately} after introducing the notions of sense and reference. The doctrine is not preceded by a discussion of the puzzle of oblique contexts and occurs before any mention is made of the doctrine that the reference of a sentence is its truth value, or that the reference of the whole is a function of the reference of its parts. The theory of indirect reference is clearly taken to be acceptable on its own merit in the following key passage from "On Sense and Reference"\textsuperscript{11}:

If words are used in the ordinary way, what one intends to speak of is their reference. It can also happen, however, that one wishes to talk about words themselves or their sense. This happens, for example when the words of another are quoted . . . In order to speak of the sense of an expression 'A' one may simply use the phrase 'the sense of the
expression "A". In reported speech one talks about the sense, e.g., of another person's remarks. It is quite clear that in this way of speaking words do not have their customary sense. In order to have a short expression, we will say: In reported speech words are used indirectly or have their indirect reference.

Indirect reference is thus not a theoretical construct introduced to deal with some internal problems of a theory. Rather, it is "clearly" the case that reference shifts on certain occasions. We certainly have no trouble accepting this in the case of quotation, as Frege notes, and there are good reasons to believe that in indirect speech and the very similar reports of propositional attitudes reference does indeed shift to what is normally the sense. It is no accident that when we want to speak of a proposition, we use the same construction: 'The proposition that . . .' as we do in such contexts.

The initial insight which leads Frege to his theory of the referential shift is quite plausible, I think, and shared by, for example, Donald Davidson in "On Saying That". Though Davidson would certainly not agree with the technical device of referential shift to implement the insight, he does agree with Frege in one important point. In indirect speech and other such contexts, the content sentence, i.e. the that-clause, has the function of specifying what was said in the sense in which what was said can be believed, expressed in
language in a variety of ways, etc. In this sense, what was said is precisely what Frege thought a sentence in oblique contexts referred to, a proposition. Davidson rejects Frege's idea that the way the proposition is specified was that each individual word refers to its sense, and so does the whole sentence. Instead, he takes 'that' in that-clauses to be a demonstrative referring not to content sentence, but to the proposition which is expressed by the speaker in uttering the sentence. In Davidson's terminology, which applies only to indirect speech, in uttering the content sentence I make myself and the person to whom I am attributing the speech samesayers.

Russell's solution is, on the face of it, much simpler. It is already embodied in his principle that denoting phrases ought to be eliminated in sentences. (6) is ambiguous. In addition to (6) itself, there is another sentence, the subordinate clause which happens to be identical with (7), in which the definite description to be eliminated viz. 'the author of 'Waverly' occurs. (I am ignoring, for the moment, the complication that on Russell's own theory 'Scott' ought to be eliminated as well. Russell ignores this too.) Thus two eliminations are possible, a primary one using (6) as a whole, and a secondary one using (7) instead. In English combined with the device of quantifiers and bound variables to simplify the formulations,

they are:
There are, therefore, two arguments which (6)-(8) could be expressing. One with (6Pa), and the other with (6S). The latter argument is simply not valid, as it turns out. Russell claims that (6S) is the correct version of how it was with George IV and Scott. In this he agrees with Frege, for like him, he has George IV ruminating over the proposition that Scott is the author of Waverly. Such propositional attitudes are, so to speak, closed to our substitutional tinkering. Even though we know Scott is the author of Waverly, or that he is John's most hated author, we cannot substitute either description because the proposition George IV is wondering about is his and no other will do. In fact, even if George IV believed, for example, that Scott was the most important writer of his time, substitution would be inappropriate because it still would have him ruminating over a different proposition. The context is simply closed to substitutions except for those which preserve propositional identity, such as, perhaps, substitutions of synonyms for synonyms.
The argument which starts with (6Pa) is, on the other hand valid and yields (consistent with Russell's policy in this particular discussion of not eliminating proper names):

\[(8Pa) \text{ Scott is such that } G IV w (\text{Scott} = \text{Scott})\]

The argument may be valid, but according to Russell, (6Pa), and hence (8Pa) do not correctly describe George's state of mind in the situation, which was that George, suspecting that Scott wrote *Waverly*, asks him at the dinner table one evening: 'Are you the author of *Waverly*?' Russell's suggested scenario about which (6Pa) would be true is that of George's seeing a person at a distance, and asking 'Is that Scott'. This is similar to the stories I suggest in footnote 9, and it seems quite correct. Is George in Russell's story about Scott at a distance showing signs of interest in the law of identity? I think not.

It is well worth noting that Russell is almost certainly making a mistake in not considering the possibility of contextually eliminating 'Scott' as well as 'the author of *Waverly*'. Since both of these could then be in the primary-scope position outside the opaque context, there are four, and not two possible versions of (6), and one of them is:

\[(6Ps) (\exists x) (x \text{ is Scott}) \text{ and } G IV w (x = \text{the author of *Waverly*})\]
which yields when used as the premiss in the (6)-(8) type of argument, a version of:

9) George IV wished to know whether the author of Waverly is the author of Waverly.

namely, the version in which one of the occurrences of the description has primary, and the other secondary scope. Now, it so happens that (6Ps) is at least as good, and probably better than (6S) when it comes to describing George's state of mind at the dinner table. After all, George would probably agree that:

10) George IV wished to know whether the man sitting next to lady F at the table is the author of Waverly.

is as good a way of getting at what he was wondering about as (6), and in fact says the same thing. But, if (6S) is the way to construe (6) then such substitution for 'Scott' as lead to (10) are not allowed. Another way of putting this point is that George IV was wondering not just about a certain proposition, he was wondering whether something was true of a certain person, and 'Scott' in (6) has the role of referring to that person. Any other expression referring to Scott would have done as well.

It will be remembered that Russell's strategy is to block the argument from (6) to (8) by interpreting the former as (6S).
Unfortunately for Russell, and others who prefer scope distinctions as a way of blocking such arguments, there are sentences which do not allow substitutivity of identicals *salva veritate*, and do not feature a contained sentence from which to eliminate the description. A secondary-scope elimination is only possible in cases in which there is a subordinate clause which is the scope of the description. There are opaque contexts which do not contain such a clause. Take, e.g.,

11) Schliemann sought the site of Troy.

Suppose that the site of Troy is at Granville and Georgia Streets. Russell cannot stop the poor German from looking for a Vancouver street corner. The solution to this problem is to find, preferably embedded in the deep structure of the sentence, a proposition which, when embedded in some oblique context, will provide a translation of the original non-propositional context. Thus (1) might be translated (as by Quine in "Quantifiers and Propositional Attitudes") as

12) Schliemann strove that he find the site of Troy.

But can we find such a propositional re-write in every troublesome case? Take, for example, the true statement:

13) John admires his teacher.
which, if we suppose that unbeknownst to John, his teacher is the person who hit John's car, and left the scene of the accident, can be turned into the falsehood:

14) John admires the driver of the hit-and-run vehicle.

using Leibnitz's law; and even if we can find re-writes, will they be more than just ad hoc attempts to fit the facts to the theory?

The aspect of the puzzle which continues to draw philosophical attention, the problem of quantifying into opaque contexts, has already been touched upon in discussing the primary elimination of 'Scott' in (6). The problem is just what to make of sentences in which a quantifier outside binds a variable inside an oblique context.

Now one of the problems with what Russell presents in "On Denoting" is that all he has to say about propositions like (9), or (8) is that hasty remark about attributing an interest in the law of identity to the first gentleman of Europe. He has the resources to block the argument from:

6) George IV wished to know whether Scott was the author of Waverly,

to:

8) George IV wished to know whether Scott was Scott,
or (9) where we substitute 'the author of *Waverly*' for 'Scott' instead of vice versa. But at the same time he concedes that there is an interpretation of (6) on which (8) follows (though the situation the interpretation describes is different), and ought to also concede that there is another interpretation of it which fits the case of George's wondering about Scott at the dinner table, and from which (9) follows. If there is something wrong with (8), there ought to be something wrong with (9). But if the two primary-scope interpretations of (6) are not problematic, then neither should be (8), and (9).

So what Russell does not tell us is what is right about (8) and (9). Why is it that these prima facie paradoxical sentences can express something true? The account we can offer on Russell's behalf is that in (9) we are reporting a belief George has about the person Scott, whom we refer to as 'the author of *Waverly*'. Full substitutivity is assured as long as the expressions we substitute refer to the same person. But this short explanation does not get Russell out of the problem of quantifying into opaque contexts. Granted, Russell has the linguistic or technical resources to express quantifying in, and he even has an explanation of what such sentences mean. But this does not get him out of the problem that in (6Ps) we seem to be attributing to Charles a propositional attitude about an object, not an object under some des-
cription, but an object simpliciter. Can people have such propositional attitudes? And, if they can, isn't it a bit odd that they can have contradictory beliefs about the same person? Suppose George IV had been corresponding with a person he knew was the author of *Waverly*, but did not know was Scott? Then it would seem that he did not wonder whether this person was the author of *Waverly*. So did he, or did he not wish to know whether this person wrote *Waverly*?

Frege's problem is of quite a different order. For him quantifying in simply makes no sense. This is because when the variable-binding quantifier is outside the obliqueness-forming operator, all we get inside are things like 'x' Scott, and it is impossible for 'x' to denote its normal sense since it does not have one. This is certainly a problem because we want to be able to describe propositional attitudes which are De Re, i.e., about objects. There is a way of getting Frege out of this, which also helps Russell without committing him to the thesis that singular propositions can be objects of propositional attitudes. We can claim that in (6Ps), George IV does have some description in mind under which he is wondering about Scott, it's just that we have not specified this description.

But the problems of working out the details of such a proposal are enormous. In order to keep the advantages of the
De Re interpretation, it must be possible to substitute other descriptions for 'Scott'. The beauty and utility of (6Ps) is precisely that it doesn't restrict George to wondering about Scott qua Scott, and allows him to wonder about the man at the table or about anything else so long as it is the thing he meant by 'you'. On the other hand, on this interpretation, George IV is once again (as in the case of (6S)) wondering about the truth of a proposition in which the subject is picked out in the Fregean way, via a referring condition. So he is certainly not wondering whether the author of Waverly is the author of Waverly. The range of possible descriptions must, therefore, be limited.

The fullest attempt at carrying out the programme of specifying the range of descriptions substitutable salva veritate in propositional-attitude contexts is David Kaplan's in "Quantifying In". Apart from the technical devices required, such as quantifiers ranging over denoting phrases, and a special kind of quotation marks called 'Frege-quotes', the programme involves specifying a complex three-place relation between a person, an object, and a denoting phrase which determines whether or not a description is in fact of the substitutable kind, or not. Although the programme is both interesting, and important, a full discussion is beyond the scope of the present work.
C. CONTEXT AND DIRECT REFERENCE

Nowadays, an important question in the theory of reference is whether it is expressions or people that refer, or at least which one of the two kinds of reference is more basic. This question is conspicuously absent from the two classical theories just considered. Briefly, we should look at some of the reasons why this should be so, and what effect it had on the theories.

Both Russell and Frege concerned themselves with how expressions refer to the exclusion of speaker reference. This outlook was not confined to reference, of course, but constituted a part of a general approach to the study of language. Speculating a bit about what motivated this approach, one could point out their desire to be, above all, scientific in their methods. This desire could exclude speaker-reference in two distinct ways. First, it was imperative to have general results. To study speaker reference, one would have to consider particular uses of expressions, even uses on particular occasions of reference. But there is something about language which transcends mere particular utterances. Language has a timeless structure, an independent syntax and semantics. It was this logical (perhaps universal) structure of language which was being investigated.
In studying speaker-reference, one has to look at expressions-in-a-context. A context is a very vague thing which includes all the "surroundings" of an occurrence of an expression. These include the linguistic context (other expressions in the vicinity), but also such things as the intentions of the speaker, the time of the utterance, the place, the physical surroundings, the identity of the speaker and the audience, and perhaps more. All of this is part of the context because all of it is sometimes relevant when we try to determine uniquely the meaning of a sentence on a particular occasion. All of it is necessary to see what proposition a sentence like:

15) I told you yesterday to put that in there.

expresses on an occasion of its utterance. The context is then a rather enormous grab-bag of phenomena. Anyone interested in a scientific study of language will naturally shy away from studying so much at the same time. One of the keys to scientific success is the ability to isolate phenomena, and study them one by one. This may be the other reason the theorists stayed away from speaker reference. Another contributing factor may be that the two theorists took great pride in prizing logic and meaning away from mental phenomena, and it is hard to deal with context without inviting intentions back into the foreground.
Thus, language was a set of sentences to Russell and Frege, and reference something which was part of the meaning of certain expressions, independent of any contextual considerations. But surely, it will be objected, Russell and Frege must have realized that sentences of our language are context-relative. Surely the fathers of formal semantics were observant enough to notice that context-free sentences, or even just referring expressions are the exception rather than the rule.

In what was in effect the first direct criticism of Russell's theory of definite descriptions after decades of general unquestioning acceptance, P. F. Strawson attacks Russell precisely on the above point in the opening sections of his "On Referring". Strawson complains that Russell failed to distinguish between expressions, uses of expressions, and utterances of them. Referring according to Strawson, is something we do when we use an expression. Russell's mistake, we are told, is that he confused meaning (something expressions have independently of their use on particular occasions), and reference (something they have only when used on an occasion). Strawson thinks, then, that the reason Russell is so wrong about reference is just that he confuses what I have called expressions-in-a-context with expressions simpliciter.
This is quite unfair as a criticism of Russell, and he defends himself vigorously in his "Mr. Strawson on Referring". The gist of Russell's argument is that he, of course, knew very well there was a problem of "ego-centricity", as he calls what I would call context-dependence. And indeed, as he points out, he did make some moves to deal with it in, for example, *Inquiry Into Meaning and Truth* and did so along the very lines that Strawson proposes. Russell argues that the difference between him and Strawson is that unlike the latter philosopher, Russell does not confuse the problem of ego-centricity with the problem of definite descriptions. (Russell and Strawson are both being unfair. It is Strawson's thesis, not confusion, that reference can only be dealt with in conjunction with ego-centricity, and similarly it is Russell's thesis that the two are separate problems, that by the time we start dealing with reference, we need not worry about context-relativity.)

But how does Russell envisage a theory of reference which need not deal with context? Russell points out that the problems he tries to deal with in "On Denoting" exist just as much in the case of context-free referring expressions. Indeed, the puzzle about the present king of France (the puzzle of non-denoting terms) is just as puzzling if we make it the puzzle about the king of France in 1905, and the problem of
finding the correct account of definite descriptions is no less severe if we consider descriptions like 'the least integer'.

All this is perhaps right, but anyone interested in reference cannot ignore the fact that most of the expressions we actually use are context-dependent, that is, their reference is determined in part by the context they occur in. Russell's, and probably Frege's view on this is that before we perform our analysis of a context-relative sentence or expression, we transform it into a context-free one. Thus:

16) The guy typing this.

is replaced by:

16') The guy typing such-and-such at 7:35, September 15, 1977 at 4467 Marine, West Vancouver.

or even (though I'm not sure about this):

16'') The guy at spatio-temporal co-ordinates abcd.

But what, exactly, is going on when we do this? It cannot be that we replace one synonymous sentence with another for 'this man' and its explicit context-free expansion are most emphatically not synonymous. Indeed the only thing that could be going on is that we take the context of the sentence into consideration, find out what proposition it expresses,
and then come up with another sentence, which is such that it can express nothing but this last proposition under any circumstances. But now consider how strange this procedure is. We propose to provide an analysis of reference, but as a first step we eliminate the vast majority of referring expressions in our language by replacing them all with non-synonymous context-free counterparts. And all this at a rather intuitive, non-theoretical level. We then proceed to analyze these new, very atypical, sentences constructed on the basis of what we thought to be the occasion-meanings of the real sentences of our language.

The preceding paragraph is deliberately unfair to the approach to language adopted by the classical theorists. To be fair, we must consider another factor which Strawson overlooked. The goals Frege and Russell had in mind in constructing their theories of reference were entirely different from the ones which I presupposed in the above paragraph, and which formal (and not so formal) semanticists set themselves today. Today we approach semantics as an empirical study of our natural language. But to Russell and Frege, natural language was hopelessly vague. What they were working on was a better, more precise language. A scientific language of mathematics, and, at least for Russell, philosophy. It was not their intention to describe how we speak, they wanted to construct a
new, technical way to speak. Thus it was perfectly legitimate for them to stipulate that the new, more ideal, language should "reduce to a minimum the ego-centric element in an assertion"\textsuperscript{22}, or claim, for example, that certain variations in sense "may be tolerated, although they are to be avoided in the theoretical structure of a demonstrative science and ought not to occur in a perfect language"\textsuperscript{23}.

It is very important, I believe, to keep in mind Frege's and Russell's goals, their interest in finding a logically perfect language. Russell agrees with Strawson's concluding remark that ordinary language has no exact logic, his aim is not to find this logic, nor yet to force ordinary language into some logical mould. In "On Denoting" he is in the process of trying to find a language more perfect than natural language. In such a language, there need be no context-relative sentences. This is much more plausible if we realize that both Russell and Frege had a special interest in the segment of language in which mathematics is done. In the case of mathematical discourse, the elimination of context-relative expressions can only bring more precision. Nothing essential is lost if we get rid of them.

In contrast to Russell and Frege, the more recent semanticist cannot ignore the fact that the reference of an expression often depends on the context of its utterance, that speakers
refer using expressions. For this reason, the classical theories cannot be expected to work for natural language without modification. They were not designed for it. Nevertheless, until quite recently, many philosophers were content to follow in Russell's and Frege's footsteps, feeling perhaps that contextual considerations are too bewilderingly complex (as is natural language, as a whole) to be susceptible to the kind of formal analysis that precision demands. This is not to say that useful, interesting, and even correct models for aspects of natural language cannot be, or have not been, found following such a restricted method. My only claim is that if we are to study reference in natural language, we cannot ignore the importance of demonstratives, pronouns, and definite descriptions which are uniquely referring only in a given context.

Unfortunately, until only a few years ago, there was general agreement that context is just too much to work with, too complex, or even without structure. Thus, one either did formal work and ignored contextual considerations, or one belonged to the "natural language school" and did not think formal analysis useful. Theory of reference lay dormant.

Apart from the above feature, which I think turns out to be a methodological restriction rather than a thesis of the classical theories, Strawson attacks Russell on a philosophically deeper point, albeit one that he, as well as myself, have some trouble expounding.
In considering the puzzle of identity, I hinted at its underpinnings by saying that it challenges our first intuitions about how reference works. I left this deliberately vague at that point because much more will be said about it both now, and in later sections. The idea that the identity puzzle arises in this way is due to David Kaplan, and I would like to take his way of approaching "our first intuitions about reference" as a starting point. I believe that the Frege-Russell thesis I will be discussing below is related in several ways to the methodological restriction I already discussed. I will try to locate these points of contact between them.

In his lectures on Russell's and Frege's theories of reference, David Kaplan claimed that the reason the identity puzzle arises is a certain theory of meaning which he calls 'naive'. I hope that by 'naive' he did not mean that it is of necessity simplistic and inadequate, but only that it is a theory which, to someone who has not thought about these matters a great deal, is prima facie plausible or even "obvious". The basis of the naive theory, its initial, and perhaps only, claim is that when we assert a declarative sentence (express a proposition, in other words), we first somehow identify the object of our discourse, and then (so to speak, it's not clear that there is always a temporal ordering
of the two acts), go on to say something about it. This is rather vague and indeed the naive theory is more a pre-theoretical bias or approach than a full theory of meaning. However, the denial of this approach gives rise to some quite specific theoretical results, as we will hopefully see later.

The naive theory might be seen to be incompatible with the approach the classical theories took to language because, as stated above, it is a claim about what speakers do, and not about expressions. Consequently, a theorist who holds that the actions of speakers are of no concern to semantics can just claim that the naive theory is irrelevant to his enterprise. But naive theory is only most naturally stated in terms of the actions of speakers, another way of describing the approach is as one which holds that the grammatical distinction between subject and predicate is a reflection of the distinction between the speech acts of reference and predication and has repercussions in the semantics of our language. In other words, that subject and predicate are more than just accidental categories of the surface structure of our language. So the connection between the denial of naive theory and the overall approach to language which concentrates on meanings of sentences is not clearly established in this way, though there might be something to it since the naive theory is, I think, most at home when we express it in terms of what people do in expressing propositions.
But another connection exists. As we have seen, Frege and Russell both have favorite referring expressions, and both the same ones - definite descriptions. I think there is a deeper reason for this than that definite descriptions just happened to fit best into their theories (which, as I have already stated, they do).

The thesis of the naive theory is that to refer is just to pick out an object. In non-context-relative terms, i.e., in terms not of speakers and their actions, but of expressions and their meanings, this means that the expression in the subject-part of a sentence has no meaning other than what it refers to. This last statement can be read in at least two ways. Relatively harmlessly (and perhaps vaguely) as saying that the only contribution the subject-term makes to the meaning of the whole sentence is that it points out what the sentence is about. Or rather more dangerously (and closer to how Russell or Frege may have read it), as saying that the meaning of the denoting phrase constituting the subject term just is its referent.

So, for the theorist who wants to deal with reference on the level of expressions, not speakers, the naive theory might appear to entail the once-popular thesis that the meaning of a name is its referent (where 'name' is used in the old fashion as roughly equivalent to the modern-day expression 'singular
term'). Though I think that naive theory need not, and indeed should not, entail this thesis, I believe that for Russell and Frege, and also their contemporary Wittgenstein it did.

If we accept the thesis that the meaning of a term is its referent, we are indeed in deep trouble with identity statements. The classical statement of the dilemma we find ourselves in comes from Wittgenstein's *Tractatus*\(^2\) where, it will be remembered, there is a one-to-one correspondence between names (logically simple ones), and (logically or metaphysically simple) objects which constitute the former's meaning. Wittgenstein was forced to reject the usefulness of identity, and since in his ideal language no object could have more than one name, nothing was lost. Identity cannot have much of a role in languages where \(a = a\) is the only form a true identity statement can have.

This is not so for most languages, and certainly not natural ones. Thus, Frege rejects the thesis that the meaning of a term is its referent, and replaces it with his doctrine that every expression has both a sense and a reference. There is some question whether he still takes reference to be a kind of meaning (Kaplan believes he does, Michael Dummett cautions against such a view\(^2\))\(^5\), but even if it is a kind of meaning, it is mediated by sense. Referring terms specify what I have called referring-conditions. Reference is achieved
via, or by means of these conditions. This amounts to a rejection not only of the strong claim that the meaning of a term is its reference, but also of the weaker claim that the contribution of the subject term is that it picks out the thing the sentence is about. For Frege, subject terms also describe what they refer to, and further more, the description is essential to the determination of the referent.

For deeply theoretical reasons, as well as because of a deep seated conviction that without terms that are directly linked to their referents (logically proper names) our language will loose connection with the world, and ostensive definitions will make no sense, Russell does not go as far as Frege in rejecting the naive theory. He sees just as clearly as Frege does that if identity statements are to make sense, and be useful, it cannot be that the meaning of terms is just their reference. But since he believes that the meaning of terms must be referent if there is to be a connection between language and the world, this only alternative is to claim first that definite descriptions are not really terms, can not really occur as subject-term in a sentence, and then that proper names can't do this either, etc., until every referring phrase of natural language is dealt with in this fashion.

As I have already noted, Russell seems to believe that the only natural-language logically proper names are demon-
stratives like 'this' or 'that'. As I have also noted, he seems to be mistaken in this belief. Demonstratives cannot be logically proper names because the puzzle of identity, which was one of the reasons why this status was denied to definite descriptions, and proper names like 'Socrates', can be set up with demonstratives as well. An even more serious reason for denying the status of logically proper names to demonstratives is that they are context-relative. Indeed, they are among the paradigmatic examples of expressions used in "ego-centric" sentences. On the thesis that ego-centricity is a separate problem, from reference such expressions have to be transformed into context-free ones prior to logical analysis. But in such a transformation, demonstratives will be replaced by definite descriptions since the only technique we have of expressing context-free, or eternal sentences is to add as many referring conditions as are needed to specify the referent uniquely regardless of context. It would seem then, that before we start with the logical analysis which would prove demonstratives to be logically proper names we have to transform them into referring expressions which most definitely are no such thing, namely definite descriptions. The only places left for logically proper names in Russell's theory are somewhere in the deep structure of language. We certainly cannot find any on the surface. Russell's logically proper names begin to look more like Wittgenstein's in the Tractatus.
Consequently, while the assumption of logically proper names is a theoretically important part of Russell's logical theory,27 as far as what interests us here, i.e., the analysis of reference in natural language, Russell and Frege offer substantially identical theories in the respect under discussion. They both reject the thesis that the meaning of a term is its reference, and with it (thus, as I will try to show, throwing the baby out with the bath water) the naive theory of reference. While Frege says that the meaning of terms is their sense which determines their reference (or a suitably modified view if reference is a kind of meaning), Russell holds that the meaning of "terms" is only their contribution to the meaning of the sentences they occur in. But this contribution is very different from the contribution the naive theory would ascribe to them. It is more like what Frege describes. In so far as a sentence is about anything, the thing is picked out via a description. There is, strictly speaking, no reference for Russell (since we speak mostly or wholly in general propositions), but what replaces it has much in common with Frege's reference. To find the object we are talking about we look for the object satisfying some condition we state. And the object we are talking about must satisfy the conditions. If it changes in the relevant aspect, we are not talking about it any more. This is counter-intuitive; it is not in our power to determine what we refer to, it is up to the sense of
the expression we use. Consequently, we can refer to things unknowingly, or fail to refer because the description we use specifies more than one object or none at all and this in spite of the fact that we know perfectly well what it is we want to talk about.

There is more to the question of whether reference is always conditional, as Russell and Frege would have it, or sometimes direct and not mediated by a condition than meets the eye. There are, connected with it questions in the philosophy of mind such as whether or not we can have beliefs, hopes, wishes, etc. directed to an object not an object-under-a-description, but object simpliciter. A more famous and much-discussed metaphysical issue is that of Aristotelian essentialism, the theory that objects can have necessary properties. We will return later to the question of just how close the connection is between these issues and the theory of reference.
II. QUINE AND REFERENTIAL OPACITY

In the period between Russell's and Frege's introduction of theory of reference into standard philosophical lore and the present burst of interest in it, no one made a greater contribution to the subject than W. V. O. Quine. His influence is enormous both because he clarified many aspects of the theory, such as the relationship between quantification, substitutivity, reference, and oblique contexts, and because his views on intensional objects (e.g., propositions, attributes and concepts), and on model logic sent many an able philosopher looking for a better understanding and, perhaps, a defence of these important philosophical notions. In the present section I will attempt to set out some of the important aspects of Quine's views.

A. SINGULAR REFERENCE AND FAILURES OF SUBSTITUTIVITY

Terms, according to Quine, can occur in two very distinct ways. In certain positions a term is purely referential. What this means is that the term (whether it is in object or subject position in the sentence) is used only to specify what the rest of the sentence is about. When a term is in such a position, any term which specifies the same object can, of course, be substituted for it, preserving truth value. Thus
terms in purely referential position satisfy "one of the fundamental principles governing identity", the law of indiscernibility of identicals. The law states that if 'a' is identical with 'b' then whatever is true of 'a' is true of 'b' as well. Examples of purely referential occurrences of referring expressions are abundant, most simple English subject-predicate sentences will do. One can determine whether or not some position is purely referential (or transparent) by applying the substitutivity test. If the sentence remains true under any substitution of co-referential terms then the context is transparent, otherwise it is opaque (not purely referential). Quine calls substitutivity "a criterion" of transparency. This is somewhat misleading, I think, as it suggests that there is something to a position's being transparent over and above substitutability of co-referential terms salva veritate. In fact we are not presented with any other essential feature of transparent contexts, nor are there any examples in which substitutivity does not entail transparency. The relationship of transparency and substitutivity is not that of phenomenon and criterion for recognizing it, it is rather that of definiendum and definiens.

The law of indiscernibility of identicals, fundamental as it may be to the theory of identity, has some rather ordinal and frequent instances of failure, or at least apparent failure. We have already seen one such case which Russell considered and attempted to resolve, namely:
6) George IV wished to know whether \( \text{Scott} = \text{the author of Waverly} \).

which does not seem to yield a true sentence if we substitute 'Scott' for 'the author of Waverly' even though:

7) \( \text{Scott} = \text{the author of Waverly} \).

And there are numerous other cases. Quine's own famous example of an opaque context is:

17) Necessarily 9 is greater than 7.

which fails to result in a true sentence if we substitute 'the number of planets' for '9' despite the well-known fact that:

18) 9 the number of planets.

And just to add a fresh example to the two classic ones above, there is the sentence:

19) The lack of proper utensils is explained by the fact that the man who was supposed to bring them is ill.

which becomes false if we change the definite description for the co-referential 'Jack Smith' since the explanation would be lost.

With all three of the above examples, there might be readings on which they turn out to be transparent, i.e., such that the substitutions can be performed on (6), (17), or (19),
and their truth maintained. Thus far, all that matters is that there are opaque reading of them, that there are instances of English appear, if taken in one possible way, to provide counter-examples to Liebnitz's law of indiscernibility of identicals. In these sentences, expressions which otherwise would have a referential role occur in a not-purely-referential position, according to Quine's doctrine.

Having noted, with Quine's help, that terms in certain positions are not substitutable for other terms referring to the same object, why not leave the situation as it is? After all, our language works perfectly well despite its opaque contexts, we recognize the contexts easily as such, and moreover, we have some intuitive understanding of why substitutivity fails in any given contexts and which substitutions would not fail in it. So what is the problem of referential opacity which has exercised so many philosophers lately?

Obviously, one of the topics for philosophical investigation is the above-mentioned intuitions as to the reasons for failure of substitutivity in particular contexts. One of the time-honoured and important tasks of a philosopher is render more perspicuous and precise intuitions which people share but cannot clearly articulate. But that cannot be the sort of problem we are faced with here since the intuitions we have about the reasons for failure of substitutivity are often
intuitions on epistemology or on morality or perhaps necessity, whereas the problem of referential opacity is regarded as being a semantic one.

Furthermore, referential opacity is often said to engender something of quite a different order than the problem of clarifying some already existent intuitions. Instead referential opacity is supposed to present us with a serious dilemma. On the one hand we have our language which appears to contain referentially opaque contexts, and on the other there is Leibnitz's law which expressly forbids such contexts. Leibnitz's law is fundamental and about as easy to reject as the law of non-contradiction. Opaque constructions such as indirect speech reports and propositional attitude reports as well as contrary-to-fact conditionals are an important and indispensable part of natural language and it would be, to say the least, undesirable to label them all logically defective.

Thus we have seen Russell and Frege trying to reconcile Leibnitz's law with our language not by granting exceptions to the former or by rejecting it altogether, but by arguing that natural language only appears to provide counter examples to the law. So, while Russell went to find beneath the grammatical surface of sentences a deeper, more significant logical structure which did not exhibit the same faults, Frege argued that natural language does not have the fault even on the sur-
face since reference in oblique contexts "clearly" shifts. Both Russell's and Frege's solutions can be seen as addressed to the above-described dilemma that natural language and Leibnitz's law are, prima facie, in conflict and neither can be coherently dismissed.

But despite the example of those two great minds, we need not be convinced yet of the seriousness of the dilemma. After all, Leibnitz's law is a metaphysical principle governing identity and as yet we have not seen a reason for thinking that language must conform to it in the way which the famous examples of referential opacity challenge. What, precisely, does Leibnitz's law have to do with the linguistic principle of extensionality which our examples allegedly fail to instantiate? Why should we just accept that the indiscernibility of identicals entails that co-referential terms are everywhere substitutable salva veritate? Indeed, we could take the existence of opaque contexts to prove, given that Leibnitz's law holds, that it does not entail the principle of extensionality. That there is some connection between the principle of extensionality and Leibnitz's law is fairly clear. What the connection is, and why we should accept the former on the strength of the latter is harder to formulate. W. V. O. Quine has gone some way in getting clear about this, though he has not succeeded in his endeavour to the satisfaction of every philosopher.
In extensional contexts, singular terms are in purely referential position. So far, all we have are two ways of describing the same linguistic phenomenon. The other two idioms Quine uses are that of transparency and substitutivity of identicals. But talk of pure reference has the advantage of enabling us to escape this extremely tight conceptual circle. In purely referential positions a singular term "is used as a means simply of specifying its object, or purporting to, for the rest of the sentence to say something about." The purely referential context par excellence is predication. "Predication joins a general term and a singular term to form a sentence that is true or false according as the general term is true or false of the object, if any, to which the singular term refers." It is the true-of relation, the notion of an object satisfying a predicate which makes pure reference so important. In predication, the singular term has the sole function of pointing out the object asserted to satisfy the predicate. So long as the same object is specified the truth-value of the sentence can not change. The connection with Leibnitz's law becomes clear when we realize that one of the many ways of stating that law is: if a = b then whatever is true of 'a' is true of 'b'. But sentences asserting that something is true of an object are instances of predication and thus of pure reference and extensionality. So if Leibnitz's law holds, then the principle of extensionality does as well,
at least for predication. The only question that remains is why we should regard all contexts as extensional. Why have co-referential terms substitutable salva veritate in all contexts. After all might there not be contexts which are unlike predication?

Quine, unlike Russell or Frege, allows for such contexts: "I do not disallow failure of substitutivity, but only take it as evidence of non-referential position; nor do I envisage shifts of reference under opaque constructions"\(^{33}\). What are for Quine failures of substitutivity are for Frege instances of shifted reference and so substitutivity of co-referential terms doesn't fail after all. Russell does away with such failures by eliminating the not-purely-referential term by paraphrase. Quine seems content to simply note the deviation.

Nonetheless, he is not happy about referential opacity. It is not at first easy to see why, if Quine is simply content to note the phenomenon of referential opacity, he calls it "an infirmity worth worrying about"\(^{34}\), includes it in \(W & Q\) under the heading "vagaries of reference", argues against model logic on the basis that it involves dealing with opaque contexts in improper ways and worries about propositional attitude contexts for much the same reason. Quine may be content to note the existence of referentially opaque contexts, but he is not prepared to pass over it lightly. Referential opacity may be just a fact of language but it is a deeply troubling one.
Quine is willing to give up what Frege could not, the extensionality of all contexts. He is not willing to give up something more important, however. We have already seen the connection between pure reference and the function of singular terms in predication. While Quine will allow that not all contexts are like predication in being extensional, he will not allow extensionality and singular reference to be separated. Linsky says the principle of substitutivity is explicative of the idea of singular reference, and argues that the principle is a necessary condition of reference. This is no doubt close to Quine's own view. The principle is "one of the fundamental principles governing identity" says Quine, and we might add for him that it is the fundamental principle which related identity and singular reference. Where extensionality fails, there can be no reference. Indeed it is hard to see what Quine has in mind when he cautiously reminds us that not-purely-referential contexts need not be not-referential-at-all. We are left in the dark about what this "im-pure" reference might be and Quine himself often hints at assimilating non-referential occurrences of expressions to merely accidental ones. Thus he speaks of assimilating of all opaque contexts to quotation as being not necessarily desirable but perhaps possible. But in quotation-contexts expressions occur accidentally and can be eliminated by paraphrasing the sentence using the device of spelling.
The reason there is no need to force all not-purely-referential contexts into the quotational mode is that "we are not unaccustomed to passing over occurrences that somehow 'do not count' -- 'mary' in 'summary', 'can' in 'canary'; and we can allow similarly for all non-referential occurrences of terms, once we know what to look for". While I wholeheartedly agree with Kaplan that "the further evidence of Word and Object belies any simplistic characterization of Quine's attitudes toward intermediate (i.e., not-purely-referential) occurrences", I do find it rather difficult to see what alternatives there are for Quine to treating not-purely-referential occurrences of expressions as merely-accidental.

So Quine's attitude toward failure of extensionality is that he allows that it happens, but treats such failures rather seriously as failures of reference. Such at least is his strongest tendency. The tight connection which exists between substitutivity and singular reference also exists between substitutivity and quantification. On the standard objectual interpretation of quantifiers, the variables perform the function of singular reference. '(Ex)Fx' is true just in case the predicate F is true of at least one object in our domain of discourse. The principle embodied in the operations of universal instantiation and existential generalization is what links quantified statements and singular statements which are their
instances. But this link can operate only in cases where we are genuinely speaking of objects. If it were not for the fact that in saying that Socrates is a man we say that Socrates, under whatever name or none, satisfies the predicate is-a-man, we could not go on to infer that some object satisfies that predicate. Such are the notions of object and satisfaction. Existential generalization only works in transparent contexts. And since opaque contexts are characterized as involving some operator which we write at the beginning of the context and which creates the opacity, we get the famous dictum that we cannot quantify across the operator and into an opaque context. Whether or not we are satisfied that this conclusion follows from Quine's arguments, it certainly re-affirms our earlier claim that opaque contexts are assimilated to contexts in which expressions occur accidentally. If we cannot quantify into an opaque context, we cannot single out parts of what occurs in it and relate them to expressions outside. What appears inside an opaque contexts is treated semantically as a unit without significant structure. This is evident when Quine claims to find "as appealing as any" the alternative of treating propositional attitude sentences as being of simple subject-predicate form so that in:

20) Tom believes that Mary is deceiving him.

'Tom' is the subject and the rest is a simple predicate.
B. TRANSPARENT PROPOSITIONAL ATTITUDES

The contrast between this and Frege's view of oblique contexts is interesting. Like Quine, Frege treats oblique contexts as in one sense opaque. Quantifying into such contexts makes no sense to Frege and thus any cross-reference between what would normally be regarded as co-referential expressions inside and outside the context is impossible. Similarly substitutions which Tom would approve of in (20) above as reporting the same state of mind such as the one yielding:

21) Tom believes that his girlfriend is deceiving him.

are just not allowed on Frege's or Quine's view. But after this similarity, two dissimilarities appear, one in favour of Frege's view, one in favour of Quine's. Frege, but not Quine, at least as far as I can see, allows that whatever occurs inside opaque contexts has semantical structure, it refers to a proposition composed of senses. This, apart from being intuitively better than treating everything in the context en bloc, allows for embellishments of Frege's theory such as I already discussed and were carried out to their fullest by David Kaplan in "Quantifying In". This embellishment, we will recall, consists very roughly of specifying a range of descriptions, or more generally: conditions, under which the
person who has the propositional attitude "perceives" the object of his attitude. This allows for limited substitutability and moves like the one from (20) to (21) above. Although the details of such a programme are not nearly worked out yet, its possibility speaks strongly in favour of the Fregean approach to propositional attitude context.

Quine's theory, on the other hand, has an advantage which Russell was perhaps on the brink of discovering with his notion that primary eliminations were possible in sentences like:

6) George IV wished to know whether Scott = the author of Waverly.

yielding sentences like:

6p) One and only one man is Scott and George IV wished to know whether that man = the author of Waverly.

Now Russell was not exactly sure what one would mean to say by a sentence which brought the object of a propositional attitude outside the opaque context, so to speak. Quine brought to a fine art such exportation of terms and insisted, furthermore, that such exported terms are no longer in an opaque position. Herein lies one of the large differences between Frege and Quine. Both of them saw opacity as something occurring within a linguistic context formed by an opacity-causing operator. But while Frege saw the presence or
absence of such an operator as fully determining the obliqueness or directness of the context, Quine does not. Thus, he remarks that quotation does not necessarily destroy the referentiality of a context, it only can do so\textsuperscript{43}.

Not only are some propositional-attitude contexts transparent, according to Quine, some are both transparent and opaque, though of course with respect to different terms. (6P\textsubscript{s}) above is one such example. 'The author of Waverly' occupies a non-referential position, while 'Scott' has been exported and so does not, even though it still occurs within the context in the form of a variable referring back outside the context. In the English version above, I render the variable as 'that man'. So in a sense you can quantify into an opaque context and the context stays opaque but the position bound by the outside quantifier becomes transparent. A large part of the famous "Quantifiers and propositional attitudes" and the sections on propositional attitudes in Word and Object\textsuperscript{44} are devoted to working out the details of a technique of "so-phrasing our statements of propositional attitude as to keep selected positions referential and others not". The possibility of doing this is a large point in favour of Quine's, and perhaps Russell's theories.

The distinction between opaque and transparent propositional attitudes (or notional and relational respectively, as
Quine sometimes calls them) is, thanks to Quine, "part of the conventional wisdom of our philosophical times". Nevertheless, a brief exposition and illustrative example are in order here. Quine's own examples have mostly indefinite terms in the crucial position. Thus we have the relational:

22) There is someone such that Ralph believes that he is a spy.

and the notional:

23) Ralph believes that there is someone such that he is a spy.

With 'he' referring back to 'someone', not to 'Ralph', the marked contrast between the two sentences is that (23) ascribes to Ralph a belief most of us share, that there are spies; while (22) says that Ralph knows of a particular person who he thinks is a spy. Since the only difference between definite and indefinite terms is, on Quine's view (following Russell) the presence of a uniqueness-clause in the case of the former, we can see how the distinction carries over to cases involving definite descriptions and names.

Taking existence to be a predicate for the moment, we can construct the following historically relevant pair of examples:

24) The being greater than which none can be conceived is such that Anselm believes that it exists of necessity.
25) Anselm believes that the being greater than which none can be conceived exists of necessity.

In (24) 'God' can replace the initial description thus making it clear that the sentence ascribes to St. Anselm the belief that the conclusion of his ontological argument is true. (25), on the other hand, says that he believes one of the essential premisses of his argument, the description cannot be replaced by the simple term as in (29). The belief we ascribe to Anselm in (25) is not about God, but could be better expressed as the belief that to be the being than which none greater can be conceived is to exist of necessity. While the conclusion of Anselm's argument is that a certain object exists of necessity, the premiss which we say he believes in (25) expresses a certain relation between the notions of a being greater than which none can be conceived and of necessary existence.

(24) and (22), the ascriptions of relational belief take the propositional attitude to be a three (or more if we "export" more terms) place relation between the believer, the object referred to by the exported term, and the complex predicate inside the propositional-attitude context. The belief ascribed is belief about an object. In the notional cases, what is believed is some proposition. This is why in addition to the relational-notional and transparent-opaque terminology the medieval De Re- De Dicto one is sometimes used.
Quine recognizes that De Re propositional attitudes are necessary if we want to express certain propositions which require cross-reference between terms inside and outside the context, but he does have qualms about such constructions. We have already seen that one might have misgivings about:

\[(6P_g) \text{ One and only one man is Scott and George IV wished to know whether that man = the author of } \text{Waverly.}\]

as an interpretation of:

\[(6) \text{ George IV wished to know whether Scott = the author of } \text{Waverly.}\]

since appropriate substitution would yield a sentence which, prior to rephrasing into quantificational form reads:

\[26) \text{ George IV wished to know whether the author of } \text{Waverly = the author of } \text{Waverly.}\]

The problem is perhaps not as great as it is made out to be. While constructions like \((26)\) are somewhat unusual, especially if they are to be interpreted De Dicto, in the De Re version which interests us here they certainly do occur. In such occurrences the first 'the author of \text{Waverly}' would quite naturally be taken as merely pointing out the object of George's belief to the audience with no reflection on how he refers to the object. The case is similar to the much more familiar sort of example such as when I comment on the confusion of a misguided friend:
27) He thinks that cold-blooded monster is his dearest friend.

Read De Dicto, (27) is almost certainly false, indeed a similar case could be made out where the description used to refer to the object of my friend's belief was clearly logically incompatible with what is said of it. But read De Re (27) makes perfect sense and might indeed be true. It is obvious that 'that cold-blooded monster' is my description of the person, not my friends. Cases like (27) are frequent and not very puzzling. The more unusual (26) ought to be seen only as an unfamiliar instance of a familiar way of speaking.

Quine sees something else odd about transparent belief. If all the following sentences are read as De Re belief ascriptions, an apparently paradoxical conclusion follows.

28) Fred believes that his neighbour's cat is a witch in disguise.

29) Fred believes that his own cat is not a witch in disguise.

But unbeknownst to Fred, Mitzi has simply been switching houses and so:

30) Fred's neighbour's cat = Fred's own cat.

and so, with appropriate substitution in (29), we get both (28) and
31) Fred believes that his neighbour's cat is not a witch in disguise.

Quine suggests that perhaps this is alright so long as we don't take (28) and (31) as jointly implying:

32) Fred believes that his neighbour's cat is and is not a witch in disguise.

Kaplan claims that such an implication can easily be blocked and shows how to do it in his neo-Fregean way of getting substitutivity and quantifying-in back into oblique contexts. But as I have already attempted to show, Kaplan's programme, important as it is, is not the same as the equally important programme of rendering selected positions transparent. If we are to seriously pursue the idea of De Re belief ascriptions, we must allow (32) as a consequence of (28) and (31).

If (38) and (29) are re-written as unambiguously De Re, then together they entail:

33) Fred's neighbour's cat and Fred's own cat are such that Fred believes of the former and does not believe of the latter that it is a witch in disguise.

But given (30) and the full extensionality of everything before 'believes' as well as of the positions occupied by the variables 'former' and 'latter' how can the move to (32) possibly be blocked?
It is interesting to note that while Quine insists in "Quantifiers and Propositional Attitudes" that we can somehow block the inference from:

34) Ralph believes that Ortcutt is a spy.

and

35) Ralph believes that Ortcutt is not a spy.

to:

36) Ralph believes that Ortcutt is and Ortcutt is not a spy.

that we are free to deny this implication, at any rate, in *Word and Object* he seems to have retreated from this position and maintains merely that we can block the implication from (36) to:

37) Ralph believes that Ortcutt is and is not a spy.

What Quine seems to be doing here is splitting hairs in order to avoid what he thinks are intolerable conclusions. But why, exactly, is (37) intolerable? It is certainly not logically defective in any way. It attributes a necessarily false belief to Ralph, but that in itself is not odd at all. It is an unfortunate but true condition of the human mind that it holds inconsistent beliefs. One might also point out that
old Ralph would not agree that he hold the belief. But we do have beliefs which we would most vehemently deny holding if they were presented in a different, perhaps more perspicuous, form than the one we use to affirm them. It is only if we show a person that what he believes is inconsistent that he will admit it and, if he is rational and honest with himself, do his best not to believe it any more. The classical examples of this process are found in the Socratic dialogues. Thus Thrasymachus claims in the Republic 338c that justice is the advantage of the stronger and by 339d Socrates shows that Thrasymachus believes not only that, but also its denial, that justice is what is not the advantage of the stronger. We find nothing intolerable about Thrasymachus' both holding an inconsistent belief and vehemently denying that he does.

Perhaps there is a more complex reason why Quine finds (37) so odd. In the case of Thrasymachus, the logically defective belief arises because he has an inconsistent definition of justice. He believes two non-empirical propositions which are inconsistent because their subjects are, of necessity, identical. But Ralph believes two empirical propositions, (34) and (35) and the only reason he believes them both is that he is mistaken about an empirical, contingent identity viz. that the suspicious-looking man in the brown hat is Ortcutt, the pillar of the community often seen at the beach. Ralph,
unlike Thrasymachus, is only making a logically harmless empirical mistake and it should not saddle him with logically inconsistent beliefs.

In view of the fact that '2 + 3 = 5, and 2 + 3 ≠ 5', and 'I am typing, and I am not typing' express equally inconsistent propositions, the above reasoning is a bit odd. It doesn't matter whether the inconsistent components are empirical or non-empirical in themselves, the law of non-contradiction applies indiscriminately. This is certainly true but we can still distinguish between cases where someone believes two inconsistent propositions because of a logical mistake he is making, in which case we are entitled to attribute a self-contradictory belief to him, and cases like Ralph's where he is merely wrong about a matter of fact.

C. REFERENCE, MODALITY AND ESSENTIALISM

A major development which Quine could be said to have provoked rather than initiated is the renewed interest in, and approval of, a theory for which he coined the name "Aristotelian essentialism", "subject to contradiction by scholars, such being the penalty for attributions to Aristotle". Quine finds the existence of such a doctrine in philosophical tradition "curious" and the doctrine itself 'indefensible'. To further illustrate his attitude towards it, we can quote his calling it "unreasonable", "bewildering", a "metaphysical
jungle"⁵¹, and at the very least "uncogenial" to him⁵². The most clear and succinct definition of this doctrine is perhaps found in "Three Grades of Modal Involvement":

Aristotelian essentialism is the doctrine that some of the attributes of a thing (quite independently of the language in which the thing is referred to, if at all) may be essential to the thing, and others accidental. E.g., a man, or talking animal, or featherless biped (for they are in fact all the same things) is essentially rational and accidentally two-legged and talkative, not merely qua man but qua itself ⁵²

We will return to what Quine and other philosophers think is wrong with the doctrine of Aristotelian essentialism, but first let us see how the theory came to play such a large role in the discussion of quantified model logic.

Quine is convinced that a logic of necessity and possibility is doomed from the start. The notion of necessity is, after all, based on the notion of analyticity "as follows: a statement of the form 'Necessarily . . .' is true if and only if the statement which 'necessarily' governs is analytic . . ." ⁵⁴ and mutatis mutandis for statements of the form 'Possibly . . .', of course. Quine was therefore not predisposed toward model logic to start with due to his well known scepticism concerning the analytic-synthetic distinction. But even if analyticity is temporarily accepted as intelligible, Quine has the following argument against quantified modal logic.
If quantified modal logic is to be of any more use than propositional modal logic, it must be possible to have the necessity operator embedded in the formulae, not merely attached to complete sentences. Unfortunately, for reasons we have already discussed, this is quite impossible. We will recall that a modal context like:

17) Necessarily 9 is greater than 7.

is opaque since substitution of co-referential terms will yield:

38) Necessarily the number of planets is greater than 7.

which is a manifest falsehood since there could have been 5 planets, or any other number of them. We have also seen that one can not quantify across an opacity-forming operator into the opaque context. The problem, we have seen, is not that such a procedure would yield false statements, it is that it would not yield any intelligible statements at all. Quantifying into opaque contexts simply does not make sense. It is clear, therefore, that we cannot quantify into modal contexts and thus that quantified modal logic is doomed.

There are at least two ways in which the preceding argument is incomplete. One of them we have located already in the not entirely convincing argument against quantification into opaque contexts. Its weakest part is the move from Leibnitz's
law of indiscernability of identicals to the rule that co-referential expressions are everywhere substitutable salva veritate. Quine's conclusion was, it will be recalled, that where substitutivity doesn't hold the expressions are not purely referential. There is an absence of a theory of impure reference and some indication that such reference is no reference at all. Although Quine's arguments are less than entirely convincing, and there certainly are ways of having reference in opaque contexts, his conclusion that reference and transparency go hand in hand is intuitively attractive not only to me, but to most of the theorists who are responsible for the important changes in the semantics of reference I will discuss. One of the ways of avoiding Quine's conclusion is, of course, Kaplan's in "Quantifying-in". This provides for impure reference in oblique contexts with the device of specifying which terms will and which will not refer, restricting substitutivity to standard names of objects in modal contexts. A somewhat similar theory seems to be that of R. B. Marcus who uses the name 'tag' for her terms which essentially denote an object the way standard names do for Kaplan. She doesn't quantify over expressions like Kaplan, but her substitutional interpretation of quantifiers (roughly: 'Ex . . . x . . .' is true if there is a substitution instance '... a ...' of it which is true) accomplishes much the same result: that some but not all denoting expressions can be
substituted in modal contexts salva veritate and reference in opaque contexts is thus possible, if impure\textsuperscript{55}. For our purposes, let us assume along with Quine and many others that reference and substitutivity do go together and so quantifiers ranging over objects and not expressions or intensions cannot reach across opacity-forming operators. For convenience, I will call this assumption 'Quine's thesis.' in what follows.

The other problem with the argument against quantification into modal contexts is that it is not actually shown that modal contexts are opaque. After all, there is a perfectly legitimate and prima facie harmless reading of (38) which takes it to be transparent.

38T) The number which in fact numbers the planets is necessarily greater than 7.

Arthur Smullyan noticed this in his 1948 "Modality and Description"\textsuperscript{56}. In that paper he does what Russell could not have done because modal logic was not initiated by C. I. Lewis until many years after "On Denoting"\textsuperscript{57}. Russell's distinction between primary and secondary scopes of descriptions applies to Quine's famous example (38):

\[ (38P) \quad (\exists x) (x \text{ is the no. of planets}) \& N (x \text{ is greater than } 7). \]

\[ (38S) \quad N (\exists x) (x \text{ is the no. of planets } \& x \text{ is greater than } 7). \]

(38P) is, of course, just a translation (38T) into its proper
Russellian form (where, however, 'the' is used instead of Russell's uniqueness-condition which it would be merely cumbersome to write out in full every time). In this version of (38), the term referring to 9 has been "exported" out of the opaque context in much the way Quine is willing to selectively render transparent certain positions in propositional-attitude contexts.

Quine does not, however, want to allow such exportation in the case of modal contexts. There are two possible and equally conclusive reasons for this unwillingness to do in the case of modality what he strove to do for propositional attitudes. Both reasons have to do with Quine's belief, quite common among other 20th century philosophers, that for all sentences p, Np if and only if 'p' is analytic. In the first possible reason this thesis figures rather directly. Definitions of analyticity vary and seldom are precise, but one thing emerges from them. Whether analyticity is defined as truth in virtue of the meaning of the words, or truth revealed by a correct analysis of the sentence at hand, or as Wittgenstein envisages it in the Tractatus, a truth which is shown by the structure of our language, a kind of by-product of our notation, it is evident that analyticity is a property of sentences dependent as it is on the very words used (or at least their meanings). Clearly, substitution of co-referential terms is
not going to preserve analyticity unless the terms happen to be synonymous. Quantification into modal contexts if these are to be mere stylistic variants for attributions of analyticity makes about as much sense as quantifying into quotational contexts and deriving from (Quine's example):

39) 'Cicero' contains six letters.

40) (Ex) ('x' contains six letters).

The analyticity of a sentence depends just as much on the meanings of its words and its grammatical structure as what a phrase in quotation marks refers to depends on the letter-types and their concatenation. If 'Np' is just another way of saying 'p is analytic' then it is not surprising or difficult to see that 'N' forms an opaque context.

Quine doesn't use this short argument. Instead he concedes that positions within the modal context can be rendered transparent, but only at the price of Aristotelian essentialism. It is not hard to see that he is right, given the way he defined Aristotelian essentialism. If a position is transparent then the term occupying it is purely referential, its function is to pick out an object. This after all is why any other term will, if it is co-referential, preserve truth-value. Since it is an object we are talking about, and what we are saying about it is necessarily true, what we are doing is
attributing a necessary property to an object \textit{qua} itself, as Quine says. This is Aristotelian essentialism, as Quine defines it.

The view that analyticity is the mother of necessity comes in again in the way Quine dismisses essentialism as a metaphysical jungle:

Perhaps I can evoke the appropriate sense of bewilderment as follows. Mathematicians may conceivably be said to be necessarily rational and not necessarily two-legged; and cyclists necessarily two-legged and not necessarily rational. But what of an individual who counts among his eccentricities both mathematics and cycling? \ldots insofar as we are talking referentially of an object, with no special bias of background grouping of mathematicians as against cyclists or vice versa, there is no semblance of sense in rating some of his attributes as necessary and others as contingent\textsuperscript{58}.

Necessary attributes can only have one basis, Quine is saying. They must be based on a certain way of specifying an individual as opposed to others. This man is necessarily rational because he is a mathematician and 'All mathematicians are rational' is analytic. In arguing against essentialism, Quine doesn't allow the essentialist to attribute necessary properties to objects under whatever description or none as he himself says the essentialist must. Since necessity is based on analyticity there must be a description under which the necessary property is attributed to the object. It is truly absurd to then pretend that the necessary attribute is of the object, eliminating
the necessity-providing description once it has been used. Quine doesn't attack an essentialist view, there cannot be one for him to attack. If necessity is based on analyticity, essentialism doesn't get off the ground.

I discussed the difference between the goals of Russell and Frege and the more recent attempts to study natural language. It would be an over-simplification to say that Quine is in search of a logically perfect language of science. He is not, however, just looking for the semantics of natural language. He is willing to say that our natural language is incoherent, in some areas, and he would have to say this about our natural propensity to speak in essentialist sentences. We ascribe modal attributes to objects, i.e., treat modal contexts as transparent, all the time. For example when we say such things as that Nixon could have lost the election, or that Ann Landers could not have learned to swim.

It could be argued that these natural-language instances of ascriptions of modal attributes to objects are not cases of genuine Aristotelian essentialism since the necessities involved are not of the metaphysical alethic kind, but instead psychological, physical, or otherwise conditional necessities and possibilities. This is undoubtedly true but it has been argued quite plausibly that these necessities are not different in kind but only in strength from the hard logical necessity
of Aristotelian essentialism. But even if this is not so, the issue of kinds or strengths of necessity is quite different from the issue of attributions of (any kind of) necessity to objects. The only reason strong essentialism doesn't occur is that the metaphysical or logical sense of 'necessarily' does not occur in natural language, it is a philosopher's necessity. But if the concept of logical necessity is supplied to the natural language speaker, he has no problems extending his essentialist tendencies to logically necessary attributes of objects. He will not be taken aback by the fact that 9 is essentially odd and contingently the number of planets or that Socrates ceases to exist when he dies but not when he gets a tan and so is essentially alive but contingently pale. Essentialism seems to be not just an exotic metaphysical theory, but a fact about natural language to be investigated.
III. THE NEW THEORIES OF REFERENCE

It would be impossible to cover more than a fraction of what has recently happened in the field of reference in this section. Some of the most important new ideas about reference have to do with a whole series of distinctions, variously related, culminating, I believe in the distinction between direct and conditional reference. In the following pages, I will try to find my way through what has become a maze of distinctions.

A. WHAT IS ESSENTIALISM?

When Smullyan applied the notion of the scope of definite descriptions to modal contexts, he was merely trying to find a formalized equivalent of an informal distinction we can make between the following two statements:

41) The so-and-so satisfies the condition that it is necessary that Fx.

42) It is necessary that the so-and-so satisfies the condition that Fx.

Smullyan's two formulations succeed on the informal level in capturing the difference between the transparent and opaque senses of modality, or rather they succeed in being examples of sentences which are most naturally construed as opaque and transparent respectively. What Russell's theory allowed him
to come up with were what he took to be formal equivalences of what he took to be sentences expressing the essentialist and non-essentialist construals of necessity\textsuperscript{60}.

An unfortunate thing happened, however. Smullyan’s characterization of the distinction in terms of the order of quantifiers and modal operators has led many philosophers to equate essentialism with the syntactic property of predicate-calculus sentences of having the modal operator anywhere but at the front (for an outstanding example of this misconception see T. Parsons and R. B. Marcus\textsuperscript{61}). The situation did not become any clearer when to the identification of transparency, essentialism, and a certain order of operators in quantified modal sentences, De Re modality was added. The medieval De Re - De Dicto distinction, intuitively fairly clear, is in fact not at all simple and clear-cut. I will now attempt to disentangle this mass of distinctions at the risk of appearing to be merely splitting hairs.

What we are trying to do is to locate the difference between the two senses of:

38) The number of planets is necessarily greater than 7.

In one sense, (38) is true and says (in the language of possible-world semantics which I will simply take for granted here) that the number of planets in this world, that is the number 9, is
in every possible world greater than 7. In another sense, (38) is false and says that in every possible world, there are more than seven planets. Thus far there is no problem, save the problem of identity through possible worlds. This is the problem of how it is possible (or what it means) for one object to exist in many possible worlds or perhaps how we could ever tell that we have the same object in these worlds. Philosophers are divided into two camps on this problem. Those who think there is a problem (David Lewis, R. Chisholm, B. Brody, and formerly D. Kaplan), and those who don't (A. Plantinga, S. Kripke, D. Wiggins, and lately D. Kaplan). The latter camp seems to be getting larger, the switch-over of David Kaplan is just one example of this. I count myself among those who have never been able to see what the problem is supposed to be, over and above the problem of what it is to be the same object in this world, and therefore will not discuss the matter.

In the first sense of (38) we are attributing a necessary property to an object, the description 'the number of planets' only serves to fix on the object we wish to predicate something of. The description plays no part in the necessity which binds the attribute to the object. The necessity is thus not based on analyticity which is something wholly dependent on the sense of the expressions in a sentence. The denoting phrase is in a transparent position here and to preserve truth-value it is enough to preserve its reference.
In the other sense of (38), the necessity we are attributing is of a different kind. 'The number of planets' is in an opaque position since if we substituted '9' the truth-value would change. This kind of necessity is based on analyticity and (38) is false because 'The number of planets is greater than 7' is not analytic. As Quine puts it: "Being necessarily or possibly thus and so is in general not a trait of the object concerned, but depends on the manner of referring to the object."62.

What sort of a distinction is this? On the surface, we are merely distinguishing two sorts of ways of reading 'the number of planets', i.e., noting an ambiguity in certain constructions in English. But just as to note the ambiguity of 'bank' is in one way to distinguish river banks from financial institutions so making the distinction between the two readings of (38) is also in part distinguishing two real phenomena. And since Quine calls one of these a metaphysical jungle it would seem that it is the essentialist view of reality that Quine is objecting to, not to the reading of (38) in this way per se, but only because it is an instance of an essentialist statement (as noted in II (C), Quine doesn't use the "short argument" against transparent necessity).

In disambiguating (38) we could be distinguishing between two kinds of necessity, which we will for now call 'opaque'
and 'transparent', or between two ways of construing certain constructions. The two distinction we could be making happen to be co-extensional in this instance because one reading of the construction exemplifies opaque necessity, the other the transparent kind. But there is no reason to suppose that all and only opaque constructions will exemplify opaque necessity and all and only transparent will yield transparent necessity. One distinction is linguistic, the other metaphysical. In what follows we will keep in mind that it is the metaphysical distinction that matters, linguistic expressions of transparent necessity being nonsense only because the metaphysics of essentialism are incoherent. First let us look at some of the difficulties in trying to find an easy linguistic criterion of transparent vs. opaque necessity. In the course of our search we will also try to justify our using the terms 'transparent' and 'opaque' which properly apply to linguistic contexts for a metaphysical distinction.

Can Russell's distinction between primary and secondary scope capture the ambiguity of:

38) The number of planets is necessarily greater than 7?

I don't thins so, at least not as easily as is sometimes thought. The trouble is with the opaque reading which, to follow Smullyan and keep the modal operator outside, is
(38S) \( N(\exists x) \ (x \text{ is the number of planets and } x \text{ is greater than 7}) \)

Now it may be argued that this rendering is right, but I think this would be a mistake caused by paying to close an attention to the special features of the example. The rendering only works if what we are talking about are abstract objects (such as numbers) or God. Nothing else exists necessarily. If we take:

43) \( N(\exists x) \ (x \text{ is the bachelor next door and } x \text{ is unmarried}) \)

as the correct way of expressing in predicate calculus the opaque and true reading of:

44) The bachelor next door is necessarily unmarried.

the mistake becomes more apparent. The problem is that (43) attributes more necessity than (44). If we leave (43) as it is, it reads that there is something in every possible world which is the bachelor next door. We could attempt to get around this by changing (43) to:

45) \( N(\exists x) \ (\text{if } x \text{ is the bachelor next door, then } x \text{ is unmarried}) \).

Now we are no longer saying that in every possible world the bachelor next door exists, but only that something exists which has the complex attribute specified by the open sentence
following '(Ex)'. But everything satisfies that attribute, we don't specify even the object in this world which is the bachelor next door and surely we want to do this. Otherwise why would we use a definite description at all?

We want, then, to retain the reference to an object in this world but not make it necessary that the description we use refer in every world. We can try:

46) (Ex) N (x is the bachelor next door and x is unmarried).

If we take (46) as the correct way to render (44) we abandon the imperative that the modal operator precede the quantifier. But clearly we must abandon it if we don't want to predicate necessary existence. In (46) we are quantifying into an opaque context, in contrast to the primary scope reading where the context we quantify into is transparent. We can ask following Quine: Who is this person who is necessarily both a bachelor and unmarried, is it George, the man whose wedding we are going to celebrate this Friday? Apart from this problem, (46) also has the disadvantage of stating that there is an object in this world which is in every world both the bachelor next door and unmarried. This is not only not what we mean by the opaque reading of (44), it is also false and (44) is not. If we attempt to combine the features of (45) and (46) we get:
(Ex) N (if x is the bachelor next door then x is unmarried).

which can't capture the opaque sense of necessity since it is transparent. Not only will every substitution instance preserve truth value so long as the substituted terms are co-referential, truth value is preserved using any term so long as it refers to all.

But perhaps this is too facile a criticism. Granted, (47) will not do for the opaque reading of (44). But the reason for this is that the open sentence following 'N' is simply true of every object and the reference to George which plays some role in (44) is lost. Furthermore, the fact that the open sentence is true of every object seems to play some role in the reason the opaque reading of (44) is true. Perhaps we can combine these two insights into a new transcription:

(Ex) [(x is the bachelor next door) and N (if x is the bachelor next door then x is unmarried)].

This may not be the correct rendering, but I think it is at least very close to it. There is reference to George but no claims of necessary existence. The necessary property George is said to have is shared by all objects and is based on the analytical relation between being the bachelor next door and being unmarried. Also intuitively right is the fact that (48) entails both that George is a bachelor and that he is unmarried, but not that he is either of these necessarily.
The most obvious lesson to be drawn from the fact that (48) is at the very least much closer to the correct version of the opaque reading of (44) than (43) is that nothing as simple as the primary-scope secondary-scope distinction will do as the characterization of the difference between our two senses of necessity. But much more serious lessons follow as well. (48), as we have seen in the case of (47), is an instance of a transparent modal context. We are quantifying into the context and there is no lack of sense because of it. Worse than that, our search for a non-essentialist reading of (44) has led us to an essentialist sentence. We are clearly ascribing to a necessary attribute to an object, viz. George, under any description. What was supposed to be the De Dicto version of (44) is De Re on two separate and quite different criteria of what it is to be De Re. According to one criterion, a sentence is De Re if the description referring to its subject has primary scope, i.e., the modal operator is within the scope of the description. According to the more traditional criterion a proposition is De Re. Have we simply collapsed the distinction we were trying to make more precise?

I don't think so. After all, there are still two senses to be distinguished of:

44) The bachelor next door is necessarily unmarried.
One on which the sentence is true, one on which it is false. There is some sense in which the false version is De Re and transparent. The sense in which it is transparent is clear. 'The bachelor next door' can be replaced by a co-referential expression without changing the truth value. There is also some sense in which the true version is De Dicto and a clear way in which it is opaque. We have tried to follow out the true version and came to what seems like a good approximation, (48). Without even going into reclassification of (48) as essentialist, transparent and De Re, we can see that it does not collapse into the false version of (44), because (48) is clearly true.

We can take this as a reason to doubt that (48) is the right translation of the true reading of (44). I prefer to take it as very good evidence that the distinctions which so many philosophers seem to take as reasonably clear and easily applicable, the distinction between De Re and De Dicto, essentialist and non-essentialist, and between opaque and transparent modality, are in fact either incoherent or more likely much too crude for the kind of work we would like to put them to. That I also see our results as showing that the distinctions are not identical with Russell's scope-distinction goes without saying.
It appears that we have been using two distinct criteria of transparency in the above discussion. Take, for example:

46) (Ex) N (x is the bachelor next door and x is unmarried).

Is the necessity transparent or opaque? The existential quantifier is outside the context and so if (46) makes sense and we are quantifying into the modal context, it must be transparent. (46) makes sense and says that there is something in this world which is both a bachelor and unmarried in every possible world, thus it is transparent. On the other hand, if we ask the question Quine asks, i.e., "Who is this person who is necessarily both a bachelor and unmarried?" we see that the context is opaque. The open sentence following the quantifier becomes true when certain referring expressions are inserted, e.g., 'the bachelor next door', and false with other co-referential ones.

We wanted to find the true version of (44) so the necessity in (46) cannot be transparent. But can we go through with the opaque reading? Of course not, because ex hypothesi on this reading the position occupied by 'x' is opaque so cannot be occupied by a variable bound by the existential quantifier. Bound variables are the paradigmatic vehicles of reference (the only ones for Quine) and if a term refers, it is in a transparent position. Furthermore, while we want a true sentence,
the attempted opaque reading would be at best indeterminate (depending as it does on what referring expression goes in the position occupied by 'x' for its truth value) and at worst, as well as in fact, just nonsense.

In (47) the conjunction is replaced by a conditional, making for a true sentence. But now the sentence must be transparent, since it is true and a fortiori makes sense. The paradoxical fact this exercise presents us with is that to express singular statements of opaque necessity we must put them in transparent form. Upon reflection, this is not surprising since to express anything in predicate calculus we must allow the bound variables to be in transparent positions. It is of the essence of bound variables that they only occur transparently. This holds true even in sentences where the existential quantifier follows the necessity operator, since it is simply a consequence of the objectual interpretation of quantifiers and Quine's thesis.

The opacity of the true reading of (44) cannot then be expressed by the opacity of the predicate-calculus sentence. The referring expressions of predicate-calculus sentences do not occur in opaque positions. Perhaps the following way of looking at opacity will help us gain some understanding of how opacity is expressed in transparent sentences. I have already noted the similarity, or perhaps identity, of Frege's
sense and the part of the denoting phrase Russell analyses as a predicate. I have called this feature of the phrase the referring condition and argued that both Russell and Frege maintain that it is by means of this condition that reference is accomplished. On the basis of this similarity, we might profitably switch from discussing the problem from Quine's basically Russellian point of view to the vocabulary of sense and reference.

Whether or not a given occurrence of a referring expression is opaque or transparent can be seen as a matter of the importance of the expressions sense to the truth-value of the sentence. In transparent contexts the sense determines the truth value only to the extent that it determines the reference. The particular sense of the expression isn't essential and any other sense would do as well so long as it determine the same referent. This is not the case in opaque contexts. There the particular sense is instrumental in determining the truth-value. (This way of putting it is of course closer to Carnap in Meaning and Necessity than to Frege for whom only reference determines t-value. Frege achieves the same end by his doctrine of indirect reference.) The reference of the denoting phrase remains the same regardless of transparency or opacity, only the importance of the sense changes. Now in the case of opaque necessity, what determines
the truth value is the relationship of the sense of the denoting phrase to the sense of the rest of the sentence. Analyticity is just a certain relation between the meanings of expressions. What we want to do then is to express this relation between the senses in the part of the analysis which, for Russell, corresponds to the sense of denoting phrases. We see from this another inadequency of what is normally taken to be the opaque reading:

43) \( N(\exists x) (x \text{ is the bachelor next door and } x \text{ is unmarried}). \)

The analytic relation between the two predicates is not clearly shown. Surely the reason the opaque reading of (44) is true is because it is quite generally the case that:

49) \( N(x) (\text{if } x \text{ is a bachelor then } x \text{ is unmarried}). \)

This relation between being the bachelor next door and being unmarried is not expressed in (43) which just says that in every possible world there is something which is both the bachelor and unmarried whereas what we want to say is that bachelorhood entails unmarriedness. It is not necessary that something either in this world or in every possible world is both unmarried and the bachelor next door. What is necessary is that whatever is a bachelor next door is also unmarried.
We see then how to represent opaque necessity, i.e., how to construct opaquely necessary sentences, in transparent contexts. Our best rendering of (44) does this.

48) (Ex) (x is the bachelor next door and N (if x is the bachelor next door then x is unmarried)).

We also see why we can call the transparent (48) a statement of opaque necessity, since we have found a broader concept of opaque necessity as truth in virtue of the relation of the senses of the words constituting the sentence. It will create opaque contexts only in sentences where the referring condition and the "vehicle" of reference are identical. This is not the case in predicate calculus.

It is worth noting the disparity between Quine's conception of referential opacity and Frege's view of oblique contexts. For Quine substitutivity of co-referential terms salva veritate is the criterion of transparency and any context which fails in this is opaque. Frege's conception is much more specific. We don't have to subscribe to his doctrine of shifted reference to agree with his insight that in opaque contexts senses play a more important role and help determine the truth-value. There seems to be a world of difference since Frege's conception has enabled us to speak of opaque necessity independently of whether the context is opaque or transparent in Quine's sense. (I'm using 'opaque' even for Frege's conception because
'oblique' refers to contexts where a shift in reference occurs and I certainly don't want to commit myself to this theory of the troublesome contexts by using this terminology.)

But this great difference is only illusory. Quine's conception of opacity and transparency can be extended to cover more than just the behaviour of referring expressions. There are co-extensional predicates as well co-extensional terms and Frege's opaque contexts are the same as Quine's if we only stop insisting that it is the exclusive property of referring expressions to be opaque or transparent. Perhaps we can get away from both Frege's and Quine's biases by using the terminology 'extensional' and 'intensional' which doesn't prejudge the issue either in favour of Frege's referential shifts or in favour of Quine's tendency to concentrate on referring expressions. That Quine did have this tendency is apparent in his insistence that quantifying into opaque contexts will inevitably require an essentialist metaphysics. This, of course, is not true since in (48) we quantify into the intensional context, 'N (if x is the bachelor next door then x is unmarried)', and the result makes sense and is not an instance of the metaphysical jungle of essentialism but only of the not too surprising fact that we can compound predicates which are analytically true of everything. Quantified modal logic per se does not commit us to essentialism. There
are intensional contexts we can quantify into because they are not opaque. Quine outlaws quantified modal logic because he fails to take note that when analysed singular non-essentialist statements will involve quantifying across the necessity operator into a transparent but intensional context.

This is not to say that Quine was wrong in insisting that to read (42) as:

\[(38\phi) (\exists x) (x \text{ is the number of planets}) \text{ and } N (x \text{ is greater than 7}).\]

is to commit oneself to an essentialist metaphysics, at least when one takes (38P) to be true. (38P) is true not because the predicate is not analytical. So while (38P) could be a false statement of non-essentialist necessity, if it is true, then the necessity it attributes is essentialist.

Our suggested definition of essentialist necessity makes it the kind of necessity not determined by the relation between the senses of the expressions in a particular sentence, i.e., necessity not based on analyticity (or any other linguistic feature, for that matter) but inherent in, or determined by the nature of what is referred to. This may agree with the spirit of what Quine says, but it does not with his actual definition of essentialism. Essentialism is, according to Quine's official statement, the doctrine that objects, under
whatever description or none at all, have some of their properties essentially and others accidently. But on this definition George next door has essentially the property of being unmarried-if-a-bachelor. If we follow what Quine says is objectionable instead of what he seems to mean, then our (48) is an essentialist statement and so is every other singular statement of necessity. The very point of singular reference is to pick out an object under whatever description or none (i.e., so that the particular sense or referring condition are not essential), and so by Quine's own definition of singular reference (Quine's thesis), every such sentence must be essentialist. But what Quine is worried about is not properties which are had essentially simply because their logical form makes them true of everything, he is worried about deeper essentialism, one that cannot be explained by the meanings of words.

There are predicates, such as 'is unmarried if a bachelor', which exclude no possible or actual objects from their extension. Other predicates, such as 'is both a bachelor and married' exclude all the objects. Surely Quine doesn't mean to suggest that this fact is part of the metaphysical jungle of essentialism. Essentialism is the view that there is a kind of necessity which is not as obviously verbal as analyticity. The view which (380) commits us to is that 9, the object, has a necessary property not because the senses of the words '9', 'is', 'greater', 'than', and '7' interact in certain ways but just because that is the nature of the object.
The working of our language which make certain predicates necessary of every object may be too complex and/or mysterious to allow us to distinguish predicates of this sort from others. That Quine thinks so is well known and documented in "Two Dogmas of Empiricism". But this view is no part of Aristotelian essentialism, which has more of a claim to being a "metaphysical jungle".

Although it is not as much of a jungle as Quine thinks it is, essentialism does have some very difficult questions to answer. It would go beyond my present purposes to explore these, but I will briefly exhibit some of them in this paragraph. The claim that there are objects in the world which, even if we don't single them out and describe them in language, have similarly language-independent essential characteristics, has recently seen a revival in the work of Putnam, Kripke, Wiggins, and others. The essentialist theory of natural kinds is certainly promising. Nevertheless, there is the nagging question which Aristotle already asked in the Metaphysics: What is substance? In its more readily digestible form, the question is asked in On Generation and Corruption: Is there unqualified coming to be and passing away? The white thing is necessarily white. If it gets painted green it ceases to be white. But are there things which have essential properties such that if they lost them they would unqualifiedly cease to
be? Why when Socrates drinks the poison and dies do we want to say that something ceased to be? Doesn't it just cease to be Socrates? After all, are not the following statements exactly parallel?

50) When Socrates gets a tan the white thing ceases to exist.

51) When the white thing is shot Socrates ceases to exist.

If they are, what is the sense of saying that some object just of itself is essentially Socrates but accidentally white? If they are not, why exactly are they not? What makes Socrates a substance and the white thing not? These questions don't have as much to do with singular reference as with the problem of individuation of objects, the theory of natural-kind terms, etc. They are largely beyond the scope of my present endeavour.

We have found two senses of the opaque/translucent distinction. One is Quine's, where opacity or transparency are properties of a context occupied by a term of singular reference and the other better characterized as intensional/extensional, has to do with the role of the senses of expressions in determining the truth value of a sentence. Corresponding to this, we have essentialist sentences on the one hand as ones expressing necessity not determined by the sense of the expressions used, and on the other as ones in which different
co-extensional referring expressions can be substituted salva veritate. Thus the essentialist by the second criterion:

52) George is necessarily unmarried if a bachelor.

is not essentialist because, even though they do not occur in the referring expression, the senses of 'unmarried' and 'bachelor' make the necessity true. This is easily verified by supposing, e.g., that all and only bachelors lived in Virginia. In this case the co-extensional 'in Virginia' could not be substituted for 'a bachelor' without changing the truth-value of the sentence.

In the philosophical literature of essentialism, the two very different conceptions are not kept clearly separate. Plantinga, for example, feels that (52) is essentialist while Wiggins when he speaks of "irreducible" essentialism means, I think, to exclude it. Quine explicitly defines essentialism as including sentences like (52), but his best arguments only hold against the stronger essentialism which takes necessity to be other than strictly language-based. Obviously, the identification of very different sorts of phenomena, viz. opaque occurrences of natural language referring expressions, necessity based on analyticity, secondary scope of definite descriptions in Russell's analysis, etc. have not helped to keep the distinctions clear. Even though there is a good
sense in which the definition of essentialism which excludes
(50) is more basic because it defines an essentialist kind of
necessity, i.e., necessity in virtue of the nature of the
object to which it is attributed, for the purposes of a dis­
cussion of reference it is better to concentrate on the other
sense of essentialism which, as it turns out, is based on the
way the referring expressions in modal sentences function.
Out of the profusion of available terms I will, more or less
arbitrarily, pick 'De Re' to label this kind of essentialist
sentences. But first we must do some clarifying of the uses
the De Re - De Dicto terminology is sometimes put to.

B. RIGID DESIGNATION

The medieval De Re / De Dicto distinction has lately been
used a great deal with little or only very sketchy and intu­
tive understanding of just what sorts of things it can dis­
tinguish. Because it has never been clear what it applies to
and has been used rather indiscriminately, it has been one of
the main reasons Russell's scope-distinction has been tacitly
or explicitly supposed to be adequate to deal with a range of
issues including some of the problems just discussed. One of
the ways of intuitively understanding the phrase "De Dicto
necessity' is as indicating that the necessity attaches to
sentences as a whole. There is only a small step from this
view to regarding only modal sentences in which the necessity
operator occurs at the front (or at most after a negation-sign or other one-place operator taking whole sentences as values) of complete quantified sentences. Quantifying-in, De Re necessity and other related phenomena are thus easily, and as I hope to have indicated, superficially linked if not identified. At the other extreme of the scale of possible interpretations ranging from superficial syntactical to deep metaphysical phenomena, the De Re / De Dicto distinction can be identified with the important distinction between essentialist, and opaque or language-based necessity we have just finished looking at. Again, there is a good intuitive basis for this. Essentialist necessity relates properties to objects, while non-essentialist necessity is an accident of the way we speak which happens when words with certain senses are strung together in a specific order. There are at least two, perhaps more, ways of drawing the distinction at intermediate levels between the two extremes. Before turning to my interpretation, I want to discuss one that is fairly current and found, e.g., in Plantinga.65

The intuitive basis for this distinction goes as follows. An assertion of De Dicto necessity attributes necessity to a sentence, one of De Re necessity does not. We can start by seeing the difference between this and some of the other distinctions we have seen already. The present De Re / De Dicto
distinction is meant to apply to sentences in the natural language, I think, with referring expressions left intact and not subjected to Russellian analysis. Thus the distinction is not the same as the one based on the order of operators in analyzed sentences since, as we have seen, the De Dicto:

53) It is necessary that the bachelor next door is unmarried.

does not analyze into a sentence with the necessity operator in front. That it is not the same as the deep metaphysical distinction between kinds of necessity is also clear from the fact that:

50) George is necessarily married if a bachelor.

is both De Re, and not essentialist by the deep criteria.

The other distinction mentioned above is the essentialist/non-essentialist distinction as defined by Quine. Essentialist, or De Re as I will call them, sentences are ones attributing to an object, under whatever description or none, a necessary attribute. The other sentences are De Dicto or non-essentialist. An obvious difference between the two De Re / De Dicto distinctions is that Plantinga's defines De Dicto and leaves the rest De Re whereas this last distinction does the reverse. There is clearly a possibility of cases which lie in between the classifications and are thus De Re on one distinction,
De Dicto on the other. Such a class of sentences does indeed exist and is very important and interesting.

This class of sentences is interesting in part because there have been various efforts to reduce De Re necessity to De Dicto which is considered less troublesome. The reason De Re necessity is considered so troublesome is, in a nutshell, either that it involves identifying an individual across possible worlds, or that it is supposed to commit us to essentialism. We have already seen that the latter supposition is false. The problem of identity across is one which I will not discuss here, as I have already indicated in the preceding section.

But do these efforts at reduction really succeed in eliminating the supposedly troublesome De Re necessity? They invariably reduce what are, on anyone's criterion, De Re sentences to what are De Dicto sentences on the criterion favoured by Plantinga. Thus:

54) The teacher of Aristotle is necessarily human.

which on one's reading would be taken to mean that Aristotle couldn't have been schooled by a trained poodle, becomes:

55) It is necessarily true that Plato is human.

which is definitely De Dicto on Plantinga's criterion and does indeed capture what we would normally mean by (54). But clearly
just because (54) and (55) say the same thing, if (54) attributes a necessary property to an object then so does (55); so it too must be De Re despite appearances. It would seem that Plantinga's way of drawing the distinction does not cut as deep as the other way since his allows for two sentences which say the same thing to differ, while the distinction I favour is between the propositions expressed and so will not differentiate between two ways of saying the same thing on the basis of their surface structure. I think it is desirable to locate the distinction at the level of what is said rather than how it is said, if only because if we locate it at the level of propositions rather than sentences we can make the notions more precise within the apparatus of possible-world semantics.

I have already said that I want my De Re - De Dicto distinction to reflect Quine's explicit definition of essentialism. On this view a proposition is essentialist or De Re if a necessary property is attributed to an object. This means that a De Re sentence states that some thing is such that in every possible world it has such-and-such a property. Clearly, the problem of identity through possible worlds exists for this sense of 'De Re', but we have already decided not to spend time on this.
It should also be clear that every essentialist statement as defined by the "metaphysical" criteria some pages back is also De Re. On the other hand, there are De Re statements of opaque or non-essentialist necessity, in particular attributions of analytically necessary properties. The situation of this De Re / De Dicto distinction and the distinctions between the two kinds of necessity is the same as the one just noted between Platinga's and my notions of De Re and De Dicto. One defines opaque necessity and leaves the rest essentialist, the other defines De Re and leaves the rest De Dicto. There is an overlap of sentences which attribute opaque necessity to an object. The three distinctions are so arranged that there are sentences like:

56) It is necessarily true that Plato is a triangle-if-a-three-sided-figure.

which are De Dicto on the surface criterion favoured by Plantinga, De Re on the criterion that we are attributing a necessary property to an object and De Dicto (non-essentialist) again on the deepest criterion of two kinds of necessity. If we favour the criterion of Russell's scope-distinctions, the sentence is once again De Re (with some reservations).

The distinction I wish to call De Re / De Dicto is the most relevant to theories of reference because, as it turns out, it is the one where whether a sentence is De Re or De Dicto
is determined simply by how the referring expression functions, this feature being irrelevant to either the distinctions between the two kinds of necessity or Plantinga's De Re / De Dicto distinction.

It is a sufficient condition of a proposition being De Re that the referring expression which denotes the "Re" be rigid. A rigid designator, first defined and theorized about by Saul Kripke, is a referring expression which designates the same individual in every possible world. (There is an interesting problem of whether a rigid designator refers to the same thing in every possible world or only in the worlds were its referrent exists. Kripke maintains the second thesis while Kaplan presents convincing arguments to show that Kripke's definition is defective. Though I tend to side with Kaplan on this issue, I will not discuss it at this point.)

In a De Re sentence we want to predicate a necessary attribute of an object no matter how referred to. This is why it is important that the same object be denoted by the referring expression in every possible situation and irrelevant what the expression is so long as it picks out this object. Rigid designators are always in transparent positions, co-extensionality is sufficient for the preservation of truth-value. Quine's thesis also tells us that rigid designators are vehicles of pure reference. The bound variable is the paradigmatic rigid designator.
We are now in a better position to understand our troubles with Quine’s opaque-transparent distinction and Russell’s scope-distinction. Quine’s distinction, in so far as it applies as it seems to the referring expressions or the positions occupied by them, is the same as our De Re – De Dicto distinction. In a transparent position co-extensionality is enough for substitutability because the term’s only function is to refer while in opaque contexts the terms do not refer rigidly to one object in every possible situation but to any object which happens to satisfy the referring condition or the sense of the expression. Obviously, if the sense is changed, so will the reference in some possible situation and hence the truth-value of the whole.

But it is of the essence of singular reference that the referring expression is in transparent position, i.e., be a rigid designator, at least if the context is a modal one. What follows from this is a bit surprising, though. No singular statement can be opaque. Statements which are genuinely about an object can never be De Dicto. Once this is seen, we can also see why we had such problems capturing the De Dicto reading of:

44) The bachelor next door is necessarily not married.

Once we decided that 'the bachelor next door' ought to refer
to George, we could not have a De Dicto reading in the sense we are discussing now. The only De Dicto sentences possible are ones which are not singular but general like:

\[(43) \quad N (\text{Ex}) (x \text{ is the bachelor next door and } x \text{ is unmarried}).\]

which doesn't purport to refer to any object but only asserts that a certain kind is necessarily instantiated.

In so far as there is a purely De Dicto reading of \((44)\), it ought to be transcribed something like:

\[(57) \quad N (x) (\text{if } x \text{ is the bachelor next door then } x \text{ is unmarried}).\]

but this makes the function of the definite description in \((49)\) very different from how Russell thought definite descriptions worked. There is no assertion of existence involved in it. But the more likely analysis of \((44)\), the one we have already given, makes the function of the description two-fold. It works in the normal way of referring expressions to purely refer to an object, but it also functions in the way we have it functioning in \((57)\). This is why it occurs once inside and once outside the scope of the necessity operator in our analysis \((48)\) as will be recalled.

It is now generally agreed that proper names are rigid designators. The arguments for this can be found in Kripke,
Donnellan, and others. A proper name refers to the same thing in every possible world, namely to whatever it is used to refer to in this world. We see why the reduction of De Re to De Dicto sentences works if we define De Dicto simply as attributing necessity to a whole sentence. If a rigid designator, like the proper name 'Plato' is used, it makes no difference what form the sentence takes, the referring expression will still pick out the same object in every possible world. It makes little difference whether, as in (54), the claim is that the object has a necessary attribute or that a certain proposition is necessarily true of it as in (56). This same property of certain referring expressions accounts for the importance of standard names in Kaplan's and tags in Marcus' theory of intermediate or semi-transparent, as they might well be called, contexts mentioned earlier.

It appears then that there are certain kinds of referring expressions, like proper names, which function in such a way that they are always rigid designators, i.e., will only figure in De Re statements of necessity. The reason proper names function in this way is that they are unlike anything which Frege or Russell would describe as a referring expression. They do not denote by means of a referring condition which the referent must satisfy, instead they are linked to the referent by a sort of "causal chain" going from an initial
"baptism" or some other kind of "dubbing", which links an object to the name without any intervening sense or intension, to the present use. Consequently, rigid designators like proper names must denote the same thing in every possible world since they don't have any way of denoting anything else. The only function they have is to refer to the particular object they refer to. Are all rigid designators like this? It would seem that they are not.

To designate rigidly is to refer to the same thing in every possible world. One of the ways an expression can do this is to be directly referential. Directly referential expressions do not refer by means of a referring condition but instead are linked to the referent directly. Aside from proper names, other directly referential expressions would appear to be demonstratives and perhaps other kinds of phrases as well. But direct reference and rigidity are not the same things. As we have seen, definite descriptions can be rigid designators. Saul Kripke denies this, if I understand him right, but he seems to be plainly wrong about it. As we have seen, such sentences as:

38) The number of planets is necessarily greater than 7.

have a transparent or De Re reading. On this reading, the definite description 'the number of planets' is in a transparent
position which means that it refers to the same thing in every possible world. Its function in (44) is to refer to an object, the number 9, and it is this very object which has the attribute in question in every possible world. It is true that the description all by itself does not refer to the same thing in every possible world but refers in each world to whatever satisfies its referring condition, but within the context of (38) read De Re the description is rigid, though it is not directly referential. It is by means of a condition that it refers, and the reason it is rigid is that it refers in every possible world to whatever satisfies its condition in this world. It is this feature of definite descriptions which enables us to capture the De Re reading of sentences involving definite descriptions in Russell's way and get at some of these distinctions using the notion of scope. What we do is in effect fix the reference of the description in this world before evaluating the whole sentence in every possible world.

So definite descriptions do function as rigid designators in some contexts, though they are not directly referential. There is an easy method of transforming any definite description into a rigid designator which will denote the same thing in every possible world in any context. All we have to do is add to the description the clause 'in the actual world'. Such a description will be rigid regardless of its scope or any other factor. It will nevertheless not refer directly, but conditionally.
The distinction between rigid and non-rigid designators is an important one for our understanding of reference in modal contexts. It is even more important for our purposes, however, that in considering why it is that certain expressions are always rigid we come to notice direct as opposed to conditional reference. After all, since definite descriptions are capable of functioning as rigid designators even though they refer conditionally, a theory along the traditional lines of Russell's or Frege's could conceivably deal with the problems of rigid designation and modal logic by assimilating all referring expressions to definite descriptions as it tends to do and, combining with the possible-worlds view of necessity, use the idea of conditional reference in the actual world fixing the object in every possible world.

C. DIRECT REFERENCE

All directly referential expressions are rigid designators. This is clearly so because they lack sense or a referring condition which could be satisfied by different objects in different possible worlds. Their only "meaning" (read 'function in a sentence') is to designate the referent so when sentences which they occur in are evaluated in different possible worlds, the referent remains the same. As we have seen, not all rigid designators are directly referential. Some occurrence of definite descriptions are the former but not the latter.
Proper names are the best known directly-referential expressions. Others include demonstratives, which Russell already thought are different but did not seem to think this through. A theory of demonstratives as well as of direct reference in general is presented by David Kaplan in his Demonstratives manuscript, the details of which are fascinating and illuminating but beyond the scope of a sweeping presentation such as this one.

One of the most hotly debated thesis in recent semantics is Donnellan's claim which is, if I understand "Reference and Definite Descriptions" correctly, that definite descriptions are sometimes (or even frequently or mostly) used as directly referential expressions. In some ways, Donnellan's distinction is rather bewildering. It classifies uses of definite descriptions, leaving us in the dark about the relationship of these different uses to the linguistic contexts in which descriptions occur. It would seem, for example, that propositional-attitude contexts could gain some interesting bits of explanatory theory from Donnellan's distinction but it is not clear how this would go. Nor do we know whether we are to conclude that definite descriptions are ambiguous or not.

Rather than go on listing the problems, let us look at the distinction itself and see if any of the difficulties which people tend to find in it can be cleared up. Take the sentence:
58) The man who stole my wallet is dishonest.

there are two ways in which this sentence can be taken depending on whether the description is used attributively or referentially. In the first case, what we are saying is that whoever stole my wallet is dishonest. We could say the same thing more clearly by switching to:

59) The man, whoever he is, who stole my wallet is dishonest.

In the other case, what we would be saying is that some particular man, whom we are referring to as the man who stole my wallet but could just as easily have used any other means of drawing the audience's attention to, is dishonest. This time we have a particular person in mind and want to say about him that he is dishonest, in the first case we assumed that there was someone satisfying the referring condition we specified and attributed dishonesty to this person, whoever he might be.

I think that it is not hard to see that the attributive use of definite descriptions is very close to the understanding of definite descriptions which the traditional theorists had. A definite description specifies a referring condition which determines the referent. It is tempting to identify the referential use with direct reference, but this may well be a mistake. Is it really true that there is no referring condition
which plays a significant part in determining the referent in cases of referential use?

One of the problems is that Donnellan offers a mixed sort of classification. In the referential use all that matters is that the speaker have a particular object in mind he intends to refer to and intends the audiences recognition of this intention to be in part what leads the audience to fix on the object in question. This Gricean character of referential uses of definite descriptions or rather of the act of reference no matter what linguistic or other implemints it uses, has often been noted and worked out to its fullest in M. Beebe's Phd. dissertation A Gricean Theory of Reference. The attributive use of definite descriptions seems hardly to depend on intentions at all. The success of an attributive reference is measured purely by whether there is an object which satisfies the condition specified by the meaning of the definite description, much as it is measured on Russell's or Frege's view. Because the classification is mixed, there is little reason to suppose that it provides us with exclusive categories. Intuitively, this is as it should be. There is no reason to suppose that just because we have some particular object in mind we intend to refer to and use the description in say:

60) The idiot who stole my wallet is dishonest.
referentially, the description does not function **conditionally** as well. That is, our Gricean intentions concerning an object do not entail that our reference is direct and the referring condition plays **no** role in the utterance. It is not the **sole** function of the description to refer, it might also be attributing.

Conversely, if the Gricean intention concerning a particular object is missing we can't conclude that what the speaker wished to say will be such that success of the definite description's reference depends solely on the existence of an object which satisfies the condition which a normal understanding of the description gives us. Remark ing on the luxuriousness of a yacht, we might say:

61) The owner of this yacht is very rich.

What we meant to say doesn't become false or truth-value-less because the yacht is owned by three people and no-one who could be described as **the** owner of the yacht exists (for more examples of this kind as well as some other kinds of failure of exclusivity of Donnellan's distinction see Margolis and Fales: "Donnellan on Definite Descriptions"74).

Donnellan's distinction straddles two very different sorts of theories. One is the theory of speech-acts to which his definition of the referential use belongs and the other is
semantics which is what we have been discussing in this work. The first is concerned with what it is for a speaker to refer, the second with what it is for an expression to refer. We can locate the distinction firmly in either theory by simply taking the half that is already lodged in it and making an exclusive and exhaustive classification by proclaiming simply that whatever doesn't fit this half, belongs in the other.

The distinction in the speech-act theory would put to one side those uses of definite descriptions where the speaker has an object in mind which he wants to refer to and put to the other side all the other uses. In semantics, one would have the distinction between occurrences of definite descriptions where the referring condition determines the referent distinguished from all the other occurrences. Although within each theory the distinctions would be both exhaustive and exclusive, this would not be the case across theories. Thus (60) would appear to be both referential and attributive, while (61) is non-referential and non-attributive, or so it seems at first glance. Unfortunately, the distinction doesn't come out this clean for the rather interesting reason that semantics and speech-act theory are related in various ways. For example, if the referring condition doesn't determine the referent on a particular occasion, what does? It would seem that the only thing that can determine the referent in such a case is the context of which the speaker's intentions play a
large part. All that the sense of the referring expression gives on such occasion are some necessary conditions. Thus the expression 'he' provides us with the necessary condition the referent is to satisfy of being male, and perhaps also human. The particular object referred to is found by various contextual clues as to the speaker's intentions. Similarly, the context in general and speaker's intentions in particular are often instrumental in determining the referring condition the object has to satisfy. We have already seen this in our discussion of how Russell and Frege thought they could do semantics without regard to context. An understanding of how context relates to reference would seem to be crucial to the theory of reference, both direct and conditional.

D. CONTEXT

Even the linguistic context of an expression can have a crucial effect on how the expression refers. Russell thought that one could tell just by looking at a definite description that it was used for reference while the same description was not so used if 'a' replaced 'the' and an indefinite description emerged. But Charles Chastain shows, in his article "Reference and Context" that in certain contexts indefinite descriptions do refer and could not even be replaced in this function by definite ones. Take, for example, the linguistic context:
62) I met a man I have always admired last Thursday. Though it was the last place I would expect to find him. W. V. O. Quine came to the discoteque that night.

'a man' refers to the same object in the anaphoric chain 'a man ... him ... W. V. O. Quine ... ' as the other terms in it. Similarly, anyone convinced that demonstratives always refer directly should think about the prime facie counter examples of contexts like:

63) All night I could only think of her -- that woman, as yet unknown to me, who will one day join me in holy matrimony.

It is clear that a theory of how context determines reference is needed, since contextual clues play at the very least as much of a role in reference as semantical ones. As I have already said, it was believed until fairly recently that the role context played in determining reference was the same it plays in determining the meaning of predicates or of any other linguistic devices. This role is very simple. Context just fills out what we are too lazy (or efficient) to say explicitly. Thus context fills out the description 'the man in the corner' in such a way as to make it uniquely descriptive of something. The usual way is to add an indication of time and place. Similarly, context will fill out the meaning of 'this' in such a way that it specifies a uniquely satisfied referring condition. No doubt context often performs this function. In
(65), for example, it is clear that 'her' is an abbreviation of, and therefore means the same as, 'the woman who will one day join me in matrimony'. But the claim of the traditional semanticists is that all contributions of context to meaning are of this kind and the plan was to get on with the semantics since all the contribution the context makes will be in getting some of the implicit definite descriptions into explicit form. The context just brings more of the same to semantics and so if we figure out how definite descriptions refer we will have all the theory we need. The problem of context, or of egocentric particulars can and should be kept as a separate subject.

Unfortunately, there are problems. Take our old description 'the man in the corner'. What details does the context provide to make it uniquely satisfied? It will add spatio-temporal co-ordinates at which the object occurs. Now the original description seems to be idle. The condition that the object is a man and stands in the corner is now unnecessary since spatio-temporal co-ordinates determine the reference all by themselves. Still, we might admit the original condition since the truth-value of:

64) Necessarily the man in the corner is close to two walls.

is affected by the presence or absence of the condition.
But what of such expressions as demonstratives in contexts where there is an object we are referring to, not in ones like (63)? There is no very good way to choose referring conditions the demonstrative in such a case stands for and so it might be best to stay with the spatio-temporal co-ordinates as the meaning of the term. But do we really generally mean by 'this', 'the object at co-ordinates wxyz'? Are the two expressions synonymous given a context? If so, it is part of the meaning of 'this' uttered on an occasion that the object referred to is, say, present. It will be analytical to say, for example, that this is here. While it is true that we are not being very informative when we point at an object in our presence and say that it is in our presence, it is certainly not necessary. We want to be able to express the counterfactual claim that this object could have been elsewhere at this time. But if context really only specifies conditions the referent must satisfy, such contrary to fact suppositions will be necessarily false. The plain fact that they are not alone sufficient to show that the role of context in determining reference is at least sometimes quite different.

Quite recently several philosophers have developed a theory of how context, linguistic entities and truth-values are related. The theory is suggested by Grice's work on conversational implicature, worked out in substantial detail.
by Stalnaker in his various articles on pragmatics, formalized by Segerberg in "Two-dimensional Modal Logic," and applied to the problems of demonstratives and direct reference by David Kaplan.

The basic idea is that in determining the truth-value of a sentence, reality plays two roles which ought to be kept separate and in order. First we look at reality when we examine the context of the utterance to find out what proposition the sentence is expressing on that occasion. Only after we have determined the proposition do we evaluate its truth. In modal logic, the idea gets generalized from reality, or the actual world, to all the possible worlds. The term 'two-dimensional modal logic' reflects the fact that the same sentence can be true or false in the same possible world depending on the possible world it was uttered in.

Part of determining what proposition a sentence expresses is finding out how its referring apparatus functions. The two-step theory of the evaluation of sentences gives us a new, clearer way of distinguishing direct from indirect reference. Directly referential expressions combine with the context of the utterance and determine the referent on the first level already. There is a very good sense in which the object the sentence is about is already in the proposition. In the case
of conditional reference, the context accomplishes what the traditional semanticists would have it do in all cases. It specifies the proposition in such a way as to allow it to uniquely specify the referent on the level of the "circumstance of evaluation" as Kaplan calls it, i.e., when the truth value of the proposition is being determined at the second occasion of checking the sentence against reality, on the model of possible worlds.

Perhaps we can now get clearer about Donnellan's distinction. The context determines whether a description is being used directly or conditionally since it is at the level of determining the proposition expressed that it is already decided whether there is a referent of only a means of determining the referent in the proposition. It is not clear what the criteria are on the basis of which this decision is made. They seem to be mixed. Sometimes the type of expression is sufficient to determine this. Proper names invariably put the referent right in the proposition. Other times the linguistic context is crucial, such things as the proximity of a 'whatever it may be' clause are sufficient to secure that only a referring condition goes in the proposition. But still other times the intentions of the speaker play the crucial role. This is the case in Donnellan's referential use of definite descriptions.
That much of what Donnellan has to say seems to fit our picture. The referential use is always a case of direct reference. But equally correctly, Donnellan claims that the attributive use is always a matter of conditional reference. The referring condition does indeed play the crucial role in determining the referent in the circumstance of evaluation. But this does not mean that the meaning of a description cannot play a role, even the decisive role, in determining the referent in the referential case. Indeed one may fully depend on the meaning of an expression to place the referent right in the proposition. This may very well be what is happening in (60). In (61) on the other hand, there is no problem so long as we let the context do one of its jobs, i.e., specify the proposition. If (61) is really still regarded as true by the speaker in spite of the fact that the yacht has no single owner, then it cannot be part of the proposition he was trying, unsuccessfully perhaps, to express that there is only one owner. We cannot take (61) alone to specify the proposition in the attributive case any more than we can in the referential one. The context, and that means in part the intentions of the speaker, always must be considered.
IV. CONCLUSION

It appears that some, if not most, of the occurrences of referring expressions are directly referential. To claim this is to agree with Strawson and Donnellan who claim that in referring our intentions is to pick out some particular thing we have in mind, the function of the subject of a sentence being primarily to draw the attention of the audience to that thing. The proposition such sentences express is about the thing already, it contains the object so to speak.

One of the interesting things we might conclude from this is that some sentences are De Re already before they are embedded in an opaque context. The sentence:

65) Socrates is human.

for example, or any other sentence where 'Socrates' is replaced by a co-referential directly referring expression cannot possibly figure in a De Dicto opaque context. This is easy to see in the case of modal contexts since a referring expression which is directly referential is always a rigid designator. This explains one of the prominent features of the referential use of definite descriptions, the fact that sentences like:

66) It is possible that the teacher of Plato does not teach Plato.
make sense and are not necessarily false. A singular proposition is De Re of itself. With the description 'the teacher of Plato' read attributively or conditionally, however, (66) is necessarily false and to be distinguished from:

67) The teacher of Plato is such that he possibly does not teach Plato.

(66) with a directly referential term has the same truth-conditions as (67). Both say that there is a world in which an individual in the actual world, viz. Socrates, does not teach Plato. But there is a difference between the ways the terms specify that individual. (66) has the individual directly in the proposition, while (67) has in it the complex condition which its referent must satisfy of being the teacher of Plato in this world.

So, while modal sentences involving conditional reference can be either De Re or De Dicto, ones with directly referential terms can only be De Re. Perhaps this offers some explanation of why there is some confusion as to the difference between Kripke's and Donnellan's distinctions.

But if some expressions are directly referential, the sentences they occur in are to be understood along the lines of what we have called the "naive theory" (Chapter I, Section C). In particular, identity statements such as our familiar:
1) Hesperus = Phosphorus

ought to be construed along the very way which led Wittgenstein to complain that if they are about two things they are nonsense, if about one they say nothing at all. Frege was led to abandon the naive theory on these grounds and if we are to maintain the notion of direct reference we have some explaining to do here.

First of all, we might correct Wittgenstein and point out that to say of two things that they are identical is not nonsense but something necessarily false and similarly, to say it of one thing is not to say nothing at all but to say something necessarily true. One might wish to defend Wittgenstein on the grounds that in the Tractatus Wittgenstein defends the thesis that tautologies and contradictions are without sense and so his dictum about necessity really is no different from the corrected version just stated. He does say, at 4,461, that tautologies and contradictions lack sense, but he also says in the next paragraph, 4,4611, that "tautologies and contradictions are not, however, nonsensical". Although the niceties of Wittgenstein's distinctions are not a proper subject for this work, it seems reasonably clear that his dictum about necessity ought to be corrected as I have indicated even within the system of the Tractatus.
Nonetheless a problem remains. (1) appears to be a contingent truth, was certainly ascertained by an astronomical discovery, not a logical investigation and is more informative than the sentence with which it is synonymous on the naive theory:

2) Hesperus = Phosphorus.

The proponents of direct reference have a solution to these problems. Although it is rather complicated in detail, the basic moves are these. We must distinguish between necessity and a prioricity. The fact that (1) is necessarily true does not entail that we must be able to learn its truth without appeal to things empirical. The fact that when we found out that (1) is true we found out something about this, the actual, world should not blind us to the fact that because of the way proper names function, if (1) is true in this world then it is true in every other possible world. So the naive theorist's defence against the problems raised by Frege is simply to accept that identity statements are necessary, if true, but deny that this makes them uninformative or a priori. The question of how (1) differs from (2) on this account can also be resolved. The two sentences express the same, necessarily true, proposition in contexts where 'Hesperus' and 'Phosphorus' rigidly designate the same object. (2) but not (1) expresses a necessarily true proposition in every context (on the
assumption that a name has only one referent in any given context) because of its special form, 'a = a'.

One would expect, since singular propositions in modal contexts always yield De Re, and thus transparent necessity, the same would apply to propositional-attitude contexts which ought to ascribe De Re beliefs, hopes, wonderings, etc., when containing singular propositions. Unfortunately, the issues are more complex than this. The problem is that such a context, e.g.,

68) George believes that R. C. Barcan is a logician.

while certainly De Re in contrast to the De Dicto (with the description read attributively),

69) George believes that the author of the book required in Phil. 203 is a logician.

still has two possible interpretations. One, on which it is true because we are ascribing to George the same belief about the same person as in:

70) George believes that R. B. Marcus is a logician.

The other on which it is false since George, being ignorant of R. B. Marcus' former name, believes what we ascribe to him in (70) but has no beliefs about R. C. Barcan as he himself would insist.
It is not possible to do much more, at this point, than point to some of the questions and ideas the above facts suggest. First of all, it would appear that while we can treat the object of George's belief as an object under whatever description or none, George's relation is not to the object simpliciter, but rather to the object-designated-by-a-certain-range-of-terms. The fact that some of these terms don't present a referring condition which George believes the object satisfies doesn't matter. In fact, since there is an object which George has in mind, all the terms designating, to George, the object must be directly referential as is clear from Donnellan's definition of the referential use of definite descriptions. So direct reference does not seem to commit us to a theory of mind on which people can have propositional attitudes about objects under no name at all.

The problem of specifying the range of terms which designate R. B. Marcus to George is, of course, still the problem already mentioned several times which David Kaplan tries to deal with in "Quantifying in". It would appear to be a question more within the philosophy of mind than within semantics, but (68) - (70) clearly show that no such division of the field is possible since the question clearly bears upon both.

A minor, but no less interesting question is whether there are two interpretations of (70) corresponding to the two of (68).
Both these versions would be true in the case of (70) of course, which would not speak in favour of making such a dual interpretation. On the other hand, it does seem that this is only because the version where we do the referring and the one where we let George do it coincide in (70).

The problem of propositional-attitude contexts has certainly still not been solved, although some progress has been made since Russell's and Frege's initial attempts at solutions.
V. FOOTNOTES


I am indebted to David Kaplan whose seminar on the classical theories at the University of British Columbia in 1976-7 has greatly influenced the approach I am taking to these theories.

2. For an account of some of these fundamental differences see David Kaplan, "How to Russell a Frege-Church", Journal of Philosophy, vol. LXXII (1975), pp. 716-726.


5. An obvious objection to this argument is that every statement's truth depends at least in part on how the component expressions are used. We can anticipate a distinction to be made in sec. III by replying that while the truth of every sentence depends on the meanings of its component expressions because these determine what proposition the sentence expresses, in the case of (3) the meanings play the additional role of determining whether the proposition expresses a truth.

We have already noted that Russell claimed that demonstratives like 'this' and 'that' are in fact logically proper names and not disguised improper terms. Apart from the problem that if this is so, a puzzle of identity can be constructed for them, there are difficulties with this claim which we will return to near the end of ch. I.

"On Denoting", p. 486. The reason I say "confusingly" is that it is very hard to imagine a situation in which, when we said that George IV wondered whether Scott was Scott, we would mean to attribute an interest in the law of identity to the first gentleman of Europe. More likely, the story would go like this: George, seeing a vaguely familiar-looking man, asks "Is that Scott?". I then report this using (8), since the man indeed is Scott as both George and I know now. Alternately, George could have pronounced the words 'Is Scott (really) Scott?' because he suspected that the man everyone calls 'Scott' is really Scott's identical twin, or for some other reason is not the man who really is Scott. Other stories can be invented, but it is hard to see how George IV could have been wondering about a law of logic instead of about some person.


The formulations are, of course, over-simplified. It is an important part of Russell's view that after analysis, the description 'the author of Waverly' does not appear. Thus the occurrence of the description in predicates such as 'is the author of Waverly' should be seen as abbreviations for what on Russell's analysis would come out as an indefinite description plus a uniqueness-clause. As far as the discussion of scope is concerned, writing the analysis out in detail would be merely cumbersome.
To attempt to disentangle whether Russell was dealing with propositions or sentences at this point would be sheer folly.

The strange triple occurrence of 'Scott' in this sentence is explained by the fact that if 'Scott' is not eliminated when it is substituted for 'the author of Waverly' then we are treating it as a logically proper name and one of the occurrence of the name within the opaque context functions rather as a variable bound by the outside occurrence.

The predicate 'is Scott' can be seen simply as part of the 'Socratized' name in the manner suggested by Quine in, eg. Word & Object, pp. 176-186. It would be more in accordance with Russell's thought, however, to see it as an abbreviation of a long complex description which the name 'Scott' presumably means. Which view of this predicate we choose does not appear to make any difference from the point of view of the present discussion.


New York, 1940, ch. vii.


Frege, op.cit., p.58.

Wittgenstein, op. cit.


27 See Kaplan, op. cit.

28 *Word & Object*, sec. 30.


30 *Word & Object*, p. 141.

31 Ibid., p. 99.


33 *Word & Object*, p. 151.

34 From a *Logical Point of View*, p. 145.


36 From a *Logical Point of View*, p. 139.


38 This has been pointed out, for example, by David Kaplan at the beginning of "Quantifying in" and L. Linsky, op. cit.
39 From a Logical Point of View, p. 143, Word & Object, p. 144.

40 Word & Object, p. 144.


42 Word & Object, p. 216.

43 From a Logical Point of View, p. 140.

44 Sections 31, 32, 35, and 44.


46 Word & Object, p. 199.

47 Loc. cit.

48 Loc. cit.

49 From a Logical Point of View, p. 156.

50 Word & Object, p. 199.

51 The Ways of Paradox, p. 176.


54 From a Logical Point of View, p. 143.


The Survey of Symbolic Logic was not published until 1918.

*Word & Object*, p. 199.


This is, of course, a very anachronistic description of what Smullyan was doing. His primary interest was not essentialist vs. non-essentialist modality but the formal device of scope which allowed him to block Quine's argument in the same way Russell was able to stop the one about George IV.


From a Logical Point of View, p. 148.

*Loc.cit.*

The University of Chicago Press, 1947 and 1956, ch. I.


For the best developed one of these see Plantinga, op. cit.


Cf. D. Kaplan, op. cit.


By Gricean we mean involving the mechanism of reciprocal intentions first described by H.P. Grice in his article "Meaning", Philosophical Review, vol. 66 (1957), pp. 377-388.


Demonstratives (unpublished).


For more on these interesting sorts of sentences see R. Stalnaker, "Assertion".
VI. BIBLIOGRAPHY


