

# *Chapter I*

# CHAPTER I

## Some Tools of Reference

Reference to objects, to single objects as well as to objects in general, is undoubtedly an important component of all kinds of communication, including verbal; and of all the diverse forms of reference, *singular* reference, i.e., reference to one single, particular object as distinct from all others, seems to be the most fundamental. Even if it is not *the* most fundamental mode of reference, it is one of its most fundamental modes. In the present chapter first I shall discuss some aspects of the concept of singular reference – the concept of referring to one particular object, as opposed to referring to objects in general or to objects of a certain kind.

Let us discuss about the idea of singular reference in the context of an assumption which seems to be widely held among philosophers, at least was widely held until recently. This assumption is that there is a well-defined class of expressions that may be called 'singular terms', that singular reference consists in the use of such expressions, and that anyone who uses such an expression makes singular reference.

The class of singular terms seems to be ever swelling. It contains proper names ('John', 'Socrates', 'Bucephalus', 'London'), definite descriptions ('the author of *Waverley*', 'the present King of France'), singular pronouns ('he', 'she', 'it'), demonstratives ('this', 'that'), indefinite descriptions in some of their uses ('*a man* has given me the information'), and, besides these more familiar items, according to some philosophers, variables ('x', 'y', 'z', often associated with pronouns, as in Quine), sentences (treated as proper names of truth-values by Frege),

and 'that'-clauses ('that  $2 + 2 = 4$ ' as a name or designation of the *proposition* expressed by the sentence ' $2 + 2 = 4$ '). I shall consider mainly three questions: first, *whether* they are referring expressions at all, second, if they are, *how* do they refer, and third, *what kind* of reference, if any, do they make.

Many philosophers have maintained that definite descriptions are referring expressions and that they can be used to make singular reference. Some of them have gone further by maintaining that they alone can be used to make singular reference, that all expressions which can be so used are in fact definite descriptions although they may not appear to be so. Those who have not gone to this extreme have maintained that these expressions – the expressions of the form 'the so-and-so' – constitute one among different kinds of expression which can be used for the purpose of singular reference. John Stuart Mill took this moderate view. Let us consider his view first.

Singular terms, says Mill, fall into two kinds: those which are connotative and those which are not<sup>1</sup>. The non-connotative singular terms, leaving out the problematic case of abstract singular terms, are what are called 'proper names'. It is the connotative singular terms which are the definite descriptions (the terminology is not Mill's it is Russell's). What is characteristic of a connotative term, whether it is a singular term, like 'the man in the iron mask', or a general term, like 'man', as opposed to a term which is non-connotative, is that its denotation is determined by its connotation: the term implies, in some sense, a number of properties or attributes which constitute the necessary and sufficient condition of a correct application of the term to a particular thing (when it is singular) or to any of an indefinite number of things (when it is general). Since there are no such properties implied by a proper name, a proper name is a singular term which is non-connotative. Definite descriptions like 'the man in the iron mask' do

imply such properties. Associated with a definite description there is always a set of properties which constitute a condition both necessary and sufficient for a correct application of the term to a particular object.

This view of Mill regarding the definite description has the great merit of being simple and straightforward. A definite description is a referring expression, it is designed to make singular reference, and we can refer to a particular object, pick it out from among others, by its use *if and only if* that particular object has all the attributes the term implies. If there can be any common sense view on a subject like this, Mill's view, I think, can be called the common sense view of definite descriptions.

Gottlob Frege's view of definite descriptions belongs fundamentally to the same kind. Definite descriptions, classed by Frege with proper names like 'John', 'Bill', and 'Gottlob', have both sense and reference, and their reference is determined by their sense. We could say that this view is the same as Mill's *if we could straightaway identify sense and reference respectively with connotation and denotation*. But this we cannot. Sense, says Frege, is the mode of presentation<sup>2</sup> of the object which is the reference of the expression whose sense it is. It is not clear whether this mode of presentation of an object is a property or set of properties of the object. On the other hand, we know that Frege explicitly identified a property with a concept,<sup>3</sup> and a concept, being, typically, the reference of a predicate, belongs to the realm of reference. But, if what Dummett<sup>4</sup> says about Frege is right, the realm of reference and the realm of sense are exclusive of each other; and so, the *sense of an expression*, of a definite description in particular, cannot be a property. There are difficulties also in identifying Frege's reference with Mill's denotation. The reference of the predicate, as we have just noted, is a *concept* for Frege, but the denotation of a predicate, for Mill, is any *object* of which it is true.

These differences are not however extremely important for our purpose. It is possible to formulate a view that would be maintained by both Frege and Mill, and what is important is to consider whether *this* view is the right view of the character and working of a definite description. This view is as follows : every definite description embodies a condition expressible by an open sentence, and the definite description refers to an object if and only if the object satisfies the condition. This way of representing a definite description does not necessarily commit us to the Russellian view. Thus, the definite description 'the author of *Waverley*' embodies a condition expressible by the open sentence 'x authored *Waverley*, and it refers to Walter Scott because, by having authored *Waverley*' does not refer to Charles Dickens because, by not having authored *Waverley*, he fails to satisfy the condition. The differences between the two philosophers, we can now say, lie in their differing *explanations* of how an object satisfies or fails to satisfy a condition, and thus belong to the ontology of satisfaction rather than to anything else.

This view of the working of a definite description may henceforward be called 'the Mill-Frege theory'. It must be kept in mind that the theory I am attributing to both Mill and Frege is only a theory about definite descriptions, and not about all singular terms. The case of a proper name may be very different. The sense of a proper name may not be definable at all in terms of any descriptive conditions.

This very general view that I have just attributed to both Mill and Frege can be contested on many grounds.

First, Keith Donnellan, partly anticipated by Leonard Linsky, distinguishes two uses of a definite description, and *attributive* use and a *referential* use, and argues that while in the former the reference of the



definite description is wholly determined by the condition it embodies, in the latter it is not so. I know that Smith has been murdered, and although I do not know who has murdered Smith, the fact that Smith was so lovable a man, together with the fact that the murder was so gruesome, prompts me to say, 'Smith's murderer is insane'. In this case, 'Smith's murderer' (i.e., 'the murderer of Smith') refers to a particular individual if and only if the individual satisfies the condition expressed in the open sentence 'x murdered Smith'. But the same sentence 'Smith's murderer is insane' can be used in a different way under different circumstances. Suppose that an individual is *accused* of Smith's murder and is put on trial, during which he behaves in a most abnormal manner. Referring to *this* man, I say, 'Smith's murderer is insane.' I intend to refer to a particular individual, the individual who is accused of Smith's murder, and my success in referring in this particular case does not depend upon the individual's satisfying the condition 'x murdered Smith'. It is quite possible that the accused did not murder Smith, and someone totally unknown did, and yet I succeed in referring to the man I want to refer to, the man under trial, and the person to whom I make this remark understands who I am referring to and does not suppose that I am referring to the real murderer, although, let us suppose further, he knows who the real murderer is. So, in this case, I am using the definite description to refer to an individual who does not satisfy the associated condition, and not to the individual who does. The first use of 'Smith's murderer', the attributive, thus, accords with the Mill-Frege theory, but the second use, the referential, does not.

The second ground on which the Mill-Frege theory can be contested is this. A definite description is an expression of the form '(ix) ox', in which we can distinguish two parts, '(x)', the uniqueness operator, and 'ox', the descriptive condition, the idea being that these two parts together accomplish singular reference to the unique individual (the x such that) which satisfies the descriptive condition ('ox'). But, we

can say, all that the uniqueness operator does is express an *intention* of the speaker to refer to an unique individual, in the sense that from the fact that a speaker or author uses it we can infer that he or she intends to make unique reference, and, obviously, this intention by itself does not ensure its own fulfillment. The intention expressed by ('x') can be fulfilled, if at all, by the descriptive condition 'ox', only if the condition is such that one and only one object could satisfy it. But the intention expressed by ('ix') cannot be fulfilled by 'ox'. Being general – *it is only to the general term that we can apply the definite article 'the' – ox'* stands for a condition which can be satisfied by any number of individuals and fails to pick out any single individual for the intention expressed by the uniqueness operator to be fulfilled. 'x murdered Smith' gives the hearer a condition which any number of individuals can satisfy, and so when he hears the speaker utter the expression 'the murderer of Smith', he can at most grasp the intention of the speaker to refer to a unique individual, but does not know anything about who that unique individual might be.

It must be admitted that there are example of descriptive conditions which seem to falsify this argument against the Frege-Russell theory. They are the descriptive conditions which, apparently, only one object can possibly satisfy. A good example of such a condition is 'x = 343×985'. Not more than one number can possibly satisfy it : it is *always* a *unique* number which is the product of two given numbers. However, we have to recall that the main point of our argument has been that it is only to a general term that we can apply the definite article 'the', and so the uniqueness operator cannot be applied to a condition 'ox' *unless* the condition is truly general. (The iota operator applies precisely to those expressions to which the quantifiers apply, and so do the class abstraction and lambda operators). So long as we do not find a conclusive answer to this absolutely general argument, we shall have to look with suspicion at those descriptive conditions which, like 'x = 343×985', seems to be satisfiable only uniquely. How can a condition

which is essentially general have this uniqueness about it? The conclusion which is derived from the existence of descriptive conditions like the above is not unavoidable. There may be — and we want to argue that there is — a difference between uniqueness and singularity, and so a descriptive condition may be unique and yet fail to be singular in the strict sense.

It should be noted that this objection to the Mill-Frege thesis does not apply where a referential, as opposed to an attributive, use is made of the definite description. And that is what it should be, because the referential use of the definite description is isolated just to show that the Mill-Frege thesis is inadequate for it applies to the attributive use alone. Taken together, Donnellan's objection and the objection we have just worked out amount to this : it is not the case that associated with a definite description there is always a condition which is either necessary or sufficient for an object to fulfill so that the definite description could refer to it. Donnellan's referential use shows that the condition associated with the definite description may be neither necessary nor sufficient for such reference — for it can refer to an object which does not satisfy the condition and can fail to refer to an object although it does satisfy it. What we have just said about the failure of uniqueness shows that it is extremely difficult to understand how any condition associated with a definite description can ever be sufficient to locate any particular individual uniquely.

The third ground on which the Mill-Frege thesis can be challenged is provided by a profound insight of Russell. What I have in mind here is not his celebrated theory of definite descriptions. This theory is in fact designed to show that an expression of the form 'the so-and-so' is not a referring expression at all, that it is an incomplete symbol having no meaning in isolation, that it can be eliminated altogether from the sentences in which they might happen to occur, and

that these sentences are existential sentences which do not involve any reference to any particular. Wonderful as it is in many ways, this theory is wrong at least on denying that definite descriptions are genuinely referring expressions. It is sometimes argued that, as it was done by Prof. Sen in his *Logic, Induction and Ontology*,<sup>5</sup> Russell was wrong in supposing that since definite descriptions had some descriptive content, it could have a descriptive function only, and could not be used for the purpose of referring. But Russell got an extremely important point right. It is that even if the definite description is a referring expression, it is not possible to make *singular* reference by means of it if by singular reference we mean reference to some definite particular object which the speaker may have in his mind. This impossibility of making singular reference, let us call it failure of singular reference, is not to be confused with the possible failure of uniqueness to which our second objection calls attention. Uniqueness is not singularity. We may know that there is a unique object which satisfies a certain condition, even that there cannot possibly be more than one object satisfying it, without knowing *who* or *which* that particular object is. We know that there is exactly one number  $x$  such that  $x = 343 \times 985$ . The descriptive condition here is such that not more than one number can satisfy it. Still we do not know until we work it out, *which* that one and unique number is. What Russell wanted to emphasize is that in the absence of this knowledge we cannot *refer* to the object which satisfies the descriptive condition. He wanted to maintain that besides the purely semantical condition of *fit* – an object satisfying, and uniquely satisfying, some descriptive condition – there is another condition which has to be fulfilled so that the definite description may be used to refer to an object, *even* to the object which may uniquely satisfy the description. This other condition is *epistemological*. To be able to refer to an object, Russell maintains, in effect at least, the *identity* of the individual has to be known. And *this* can be known only in what he calls 'knowledge by acquaintance'.

It may however be said that Russell's epistemological requirement has nothing to do with the reference of the definite description *itself*. It only relates to the conditions a *speaker* has to satisfy so that he or she can make a singular reference to an object by means of the definite description. There is a difference between the reference made by an expression and the reference made by a speaker. The former is always determined, and determined exclusively, by the semantical condition of fit, even if the latter is not.

Now, it is true that there is this ambiguity about the term 'reference', an ambiguity which threatens the validity of many observations usually made on the nature and conditions of reference. But we need not worry too much about it if our question is what it is, viz. whether definite descriptions would ever allow singular reference. If the question is understood as a question regarding the reference of the definite description, it is a purely semantical question of fit, and then what stands in the way of singular reference is the essential generality of the descriptive condition. If, on the other hand, the question is understood as a question regarding the speaker's reference, it is also a question about the speaker's *ability* to refer, and then what stands in the way of singular reference is the failure of the epistemological condition, for the knowledge that an object satisfies the descriptive condition does not ensure any knowledge of the identity of the object even if the condition is specific enough to pick out an object uniquely.

It is not necessary, however, to go to the extreme of maintaining that *no* reference can be made by use of a definite description. But I think we have to accept that no *singular* reference can be made by its use. In the absence of a knowledge of the identity of the individual, what we can have is only a 'blind' reference (which would be like hitting a target in the dark). This blind reference is also a *general* reference, strictly speaking. To refer to the author of *Waverley*, without knowing

who the authors, is to refer to *whoever* wrote *Waverley*. But 'whoever' involves generality, in fact a universal quantification across possible worlds in which different individuals author *Waverley*. Since the definite description picks out *just one* individual in any given world it can be said to achieve uniqueness of reference. Nevertheless its reference fails to be singular, and remains general across possible worlds.

What we have discussed so far shows not only that the Mill-Frege theory concerning the working of a definite description as an instrument of reference is wrong ; it also shows that there cannot be any singular reference by means of definite description is used referentially then it can be used to make singular reference. This is right, but misleading on a very important point. It is right because it is not the case that a definite description always achieves reference *via* the descriptive condition. But it is misleading because it fails to take into account a very important point about our use of definite descriptions. In the case of a referential use it is not *necessary* to use a definite description; instead of using it we could use a proper name, or a demonstrative, or at least a different description from the one which we actually use. It is only in the attributive case that the use of the definite description becomes essential. And here the reference *is via* the descriptive condition and hence anything but singular.

The negative result that we have reached may be misconstrued. It may be taken to show that a speaker who uses a definite description can never get the hearer to identify the object of his reference. But this cannot be true. The hearer does quite often succeed in identifying the object of the speaker's reference. What is important is that even when the hearer does this, he does not do this by the help of the clue provided by the definite description taken all by itself. He has to depend upon the *context*. But matters of context are not *matters of semantical force*, and it is only with the latter that we are concerned here. Once we allow the

context to play its part in communication we need not, and do not, depend on any particular type of expression to achieve our goal.

This brings us to proper names. Can we treat the proper name rather than the definite description as the right instrument of singular reference? The reason why this seems hopeful is that what frustrates singular reference in the case of a definite description is its dependence on descriptive conditions which cannot but be general. A proper name, if it is what Mill took it to be, does not depend on any associated condition for achieving reference. It is related directly, if at all, to its object. So, either it refers to the particular object or it does not refer at all. This view of proper names has, however, been challenged by many, especially by Frege and his followers. Frege maintains that like a definite description, a proper name also has a sense, and it refers to the object to which it refers because of the sense, which it has. So, let us see whether we can accept the Fregean view.

There are mainly two kinds of argument which can be advanced against the Fregean view. The first is due to Mill. The correctness of the application of proper name does not depend upon the satisfaction of any condition (property, attribute) by an object. The second argument is due mainly to Saul Kripke. Frege failed to realize the peculiar role that proper names play in our language. A proper name is a means of presenting or getting at an object in a manner which enables us to raise, *with respect to any descriptive condition we wish*, the question whether or *not* the object satisfies the descriptive condition. There is thus *no* such condition which can be said to determine the very reference of a proper name. For, *if* there were any such condition, we could not have asked with respect to *that* condition whether or not the object fulfilled it. If 'Aristotle' means 'the teacher of Alexander the Great', *we cannot ask* whether Aristotle did teach Alexander the Great. Not only does a proper name enable us to ask with regard to a particular object whether or not it

satisfies a descriptive condition, it also enables us to say that a thing which satisfies such a condition *might* not have satisfied it.

What about Frege's basic argument for his view that proper names have sense? The argument is that the sentences :

(1) Tully = Cicero, and

(2) Tully = Tully

do not have the same cognitive value. The first is contingent and a *posteriori*, while the second is necessary and *a priori*. But Kripke has argued, rightly, that if both the names are used as proper names, i.e., as names of the *individual*, under any possible circumstance (in all possible worlds), then if the first sentence is true, it must be necessarily true: if Tully is the same as Cicero then the sentence asserts, let us say, Tully's self-identity : and Tully's self-identity is not a contingent matter of fact.<sup>6</sup>

But what about Frege's claim that the first sentence is only a *posteriori* while the second is *a priori*? We must realize that if the second sentence is *a priori*, it is just a derivation from the sentence '(x) (x=x)'. But in that case it is quite independent of any knowledge of *who* Tully is. In order to know who Tully is we have to know at least that 'Tully' stands for Tully. But this we cannot know without being able to identify Tully independently of the name and by empirical means.

So, we can dispose of the views which make the reference of a proper name depend on fulfillment of general conditions. And once we are able to do this we can restore singular reference to proper names.

One can certainly say, at this point, that it is unfair to ascribe to Frege any view which maintains that the reference of a proper name depends on the fulfillment of some general condition. Frege did hold the view that the reference of a proper name was determined by its sense, but did not identify this sense with any general condition. The sense of

an expression is the *mode of presentation* of the object which is its reference, and the idea of the mode of presentation of an object is not the same as that of any general condition the object has to satisfy. It is not necessary to enter into an exegetical controversy over the question of how sense was actually conceived by Frege. It would be sufficient to point out two things here. First, this interpretation of the Fregean sense in terms of the mode of presentation, in opposition to that of a descriptive condition, has been put forward (almost in a kind of hindsight, one could suspect) to defend Frege's view, that a proper name *as well as* a definite description has sense, against the objections raised in recent years by Kripke and others, with hardly any recognition of the following odd consequence : If this interpretation is right then we have to admit sense in the case of a definite description. For, this interpretation would have us say that while sense in the latter case *is* to be understood in terms of general conditions objects have to satisfy, sense in the former case cannot be so understood. (It is indeed unbelievable that Frege wanted to maintain that the sense of the definite description 'the least rapidly converging series' had nothing to do with the satisfaction of the condition 'x is a converging series'). Secondly, if the sense of a proper name is really made totally independent of the idea of a general condition the object does or does not satisfy, then it is not clear at all how sense can *determine* reference, how the sense of a proper name can help us in deciding whether or not it has a particular object as its reference. But, in that case, neither is it clear what the Fregean sense has to do with the question we have been trying to answer. (Also, there need not be any opposition either between Frege's view that a proper name has sense and Mill's view that it does not have any connotation.)

Are all referring devices singular? There is a tradition in philosophical logic and philosophy of language according to which all reference is singular. Bertrand Russell has done so much for bringing

this tradition into being that it would be quite appropriate to say that this is a Russellian tradition. People have now started looking askance at this tradition. The philosopher who argued very strongly against this tradition is P.F. Strawson, and many people have followed suit.

The Russellian tradition would have it that there is no non-singular reference – that all reference is singular. Russell thought in terms of the dichotomy of referring and describing, and this dichotomy is understood by him in the context of a simple (atomic) subject-predicate statement, the paradigm of which, for Russell, is a singular statement like 'This is scarlet'. The demonstrative 'this' in the subject position refers to an object, a patch of colour, and the predicate describes the same object. The predicate does not, because it cannot, refer; it only describes; on the other hand, the subject does not, because it cannot, describe, it only refers. Grammatically, a general term does occasionally occur in a statement in the position of the subject, which is the position for referring expressions. But we can always remove them from that position, and show that they are actually doing something other than referring to the thing or things of which the statement says something. This is true not only of general terms, which can simply be removed to the predicate position (from 'Tigers are dangerous' we get 'For all  $x$  if  $x$  a *tiger* then  $x$  is dangerous'), but any term which can be shown to introduce various elements – predicates, variables, quantifiers binding variables and identity. (From 'The author of *Waverley* is a poet' we get 'at least one  $x$  authored *Waverley*, and, for all  $y$ ,  $y$  authored *Waverley* if and only if  $y$  is identical with  $x$  and  $x$  is a poet'). In fact, the same can be shown to be true of such (ordinary) proper names as 'Socrates' (which are disguised definite descriptions). The only expressions which can be said to refer are the expressions which *strictly* qualify for the position of the subject, by being irremovable, in theory, from that position. The only expressions that strictly qualify in this way for the position of the subject are the expressions that do nothing but refer. It is only a (*genuinely*) singular term which does nothing but refer. (All non-singular, general,

terms really describe; since they have a descriptive content, they can have a descriptive function only). But, of course, the kind of reference which a singular term is capable of making is singular. Therefore, the only kind of reference that is possible is the singular reference.

In fact, the tradition which acknowledges singular reference as the only kind of reference possible can perhaps be traced back to Frege. Although both the subject and the predicate in a typical subject-predicate statement are, for Frege, referring expressions, both of them refer to just *one* thing, the subject to an object and the predicate to a concept, and thus the reference is singular in either case. (Even if the concept itself is general, or universal, *reference* to the concept, as opposed to a range of objects falling under it, is singular, for it is a reference to one single entity. ( Although redness is general, 'redness' is a singular term standing for one single property). There indeed are differences between the two philosophers: Frege did not believe, while Russell did, that the presence of some descriptive in content would necessarily disqualify an expression as referring; neither did he believe that this would render the reference non-singular. On the contrary, Frege believed that reference itself is possible only because of the presence of this so-called 'descriptive' content. (It is debatable whether sense is the same as the descriptive content, but that is the nearest thing to a descriptive content we find in Frege). There cannot be any reference without sense, maintained Frege. But, in spite of all these differences between them, both Frege and Russell can be said to have shared the belief that reference is always singular.

What is gradually becoming clear is that we should now break away from this tradition, which is also dying in any case. It is no longer generally accepted that all reference is singular. What we shall try to argue (briefly though) is that not only is non-singular reference possible, there actually are *various* forms, and not just one form, on non-singular

reference. But before doing that, we should like to make one or two remarks on the Russellian position.

Russell's mistake lay in the supposition that there is no difference between having a descriptive *content* and having a descriptive *function*. Thus, from the fact that the definite description has some descriptive content Russell jumped to the conclusion that it could not have a referring function, that it can never be used for the purpose of referring. But, certainly, his argument was a *non sequitur*. There can be an opposition between having a descriptive *function* and having a referring function, but there is no such obvious opposition between having a descriptive *content* and having a referring function. And, besides, on different occasions, and in different contexts, the same expression can, conceivably, have different functions as well.

Frege was also wrong, though for a very different kind of reason. He did not realize that there is a very important way in which the presence of a descriptive content *can* destroy the singularity of reference.

Let us first ask this question : Granting that Russell was wrong in denying that a definite description can ever have any referential use, what kind of reference can be made by a definite description? It might appear that since a definite description is, after all, a *singular* term – notice the definite article 'the' in the singular – if any reference is made by a definite description at all, the reference cannot but be singular. But this is not quite correct, not at least in an unqualified manner. Whether or not the reference by use of the definite description is singular really depends upon what *kind* of use it is put to. Recalling Donnellan's distinction between the (purely) referential and attributive uses of a definite description, we can say that, if the use to which the definite description is put is (purely) referential, the reference which is made by it is singular, but if, on the other hand, the use to which it is put is *attributive*, the reference is in a very important sense *general*.

It is necessary to remove at the very outset one possible misunderstanding about Donnellan's distinction itself. The terminology of 'referential' vs. 'attributive' use might suggest that when a definite description is put to an attributive use, no reference is made with it. (What else could be the significance of the *opposition* between the referential and the attributive uses?) But Donnellan's terminology is a little misleading, and one should not depend exclusively on this terminology to be clear about his meaning. A careful reading of the relevant passages makes it clear that the referential/attributive distinction Donnellan is talking about is really a distinction *within* a broader distinction between the referential and *non-referential* uses, and falls under the kind which is referential (in, perhaps, a broader sense). The use which *is* called 'referential' by Donnellan is really *purely* referential, in the sense of having no other function than that of referring; while the use which he calls 'attributive' is not purely referential, since it does not have the function of referring *alone*, but has some other functions as well. So the distinction to which Donnellan is trying to call our attention is a distinction between two kinds of *referential* use, one, the purely referential, and, the other, not purely so. I am ready to concede that Donnellan himself was a little uncertain over this and might have been responsible for the misunderstanding that in the so-called attributive use we have a use which is totally non-referential. But note the following points:

*First*, Donnellan accuses not only Russell, but also *Strawson*, for having failed to realize that there is a use of the definite description which *he* calls 'referential'. (Isn't it Strawson who insisted against Russell that a definite description *is* a referring expression, an expression which can be, and often actually is, *used to refer*?).

*Second*, both the referential and attributive uses of the definite description have a presupposition, or implication, of the existence of a thing answering to it. (Isn't the presence of existential import, whether by

way of presupposition or by way of implication, a sure mark of a referential use?).

*Third*, Donnellan himself says, 'If there is anything which might be identified as reference here [i.e., in case of an attributive use], it is reference in a very *weak* sense – namely, reference to *whatever* is the one and only, 0 if there is any such'.

But, certainly, what is more important is not what Donnellan says about the distinction he himself draws, but what this distinction actually implies; and one of the things it does imply is that the attributive use is also referential in a very basic sense. The best evidence in support of this conclusion is that, like the referential use, this use also has an existential import. Given the utterance of the sentence 'Smith's murderer is insane' in which the definite description 'Smith's murderer' is used attributively, we can infer, by existential generalization, 'Someone is insane (whoever that someone may be)'. i.e., that there is at least one  $x$  such that  $x$  is insane.

Thus the difference between the referential and attributive is *not* a difference between the presence and absence of reference, but between two different *kinds* of reference. It is necessary, then, to be clear about *this* difference, and to try to be clear about whether this difference throws any light on the question of the possibility of non-singular reference.

Let us begin by characterizing Donnellan's referential use. The following are the essential features of a referential use:

(a) A (purely) referential use tolerates inappropriateness of the descriptions. In Donnellan's example, the description 'Smith's murderer' may be inappropriate for the man accused of Smith's murder, and now standing in the dock – he may be quite innocent of the crime – but I may

still manage to refer to him by using it in the utterance 'Smith's murderer is insane'.

(b) This use relates only to what the speaker has in his mind. If the speaker has in his mind the man in the dock when he makes the utterance, then it does not matter whether the man is in fact Smith's murderer, the speaker *is* referring to the man in the dock. On the other hand, the speaker is *not* referring to the man who may have actually committed the crime, for it is not he who the speaker has in his mind.

(c) A (purely) referential use is always what is sometimes called 'sighted' (as opposed to 'blind'). This means that the speaker knows *who* he is referring to by his description. In the example, the speaker knows who, i.e., which particular individual, he wants to describe as insane. It is only because he knows the individual identity of his object of reference that he can have the object in his mind and can make a purely referential use with respect to it.

(d) Another important feature of this use of the definite description is that the *choice* of the definite description, i.e., of the particular description which is chosen, rather than any other, is not essential for what is said. It is not essential for reference to go through, for the speaker could have used some other description than the one which he chooses and yet succeed in making the reference. (He could have used 'the man *accused* of Smith's murder', or 'the man standing in the dock', or 'Mary's brother, in case the speaker knows that the individual he has in his mind satisfies all these descriptions, or even by the name 'Jones' in case he knows that is his name). But this is only one side of the vacuity of the choice of the definite description. The choice is vacuous, i.e. inessential, in another way too. It is not necessary for the speaker to choose the particular description he does in order to say what he wants to say about the individual his description is supposed to pick out. In Donnellan's story there is no (essential) connection between referring to the man in question and his being described as insane. (It is not

because the speaker thinks that he is Smith's murderer that he considers the person to be insane).

We should make special note of the fact that in case of a purely referential use of the definite description the use of the definite description is inessential not only in the sense, as I have explained, that it is not necessary to use the particular definite description which is used, that the speaker could have used some other definite description as well. Use of the definite description is inessential here in a more fundamental sense, in the sense that it was not necessary for the speaker to have used *any* definite description at all. Instead of using a definite description, the speaker could have used a proper name. (Maybe he does not know the name of the man standing in the dock, maybe he thinks the hearer does not know it, but that certainly is irrelevant to the point I am trying to make here). As we shall see, this is one other respect in which the referential use differs from the attributive.

(e) Closely connected with this inessential character of the occurrence of a definite description used (purely) referentially is the fact that a definite description used in this manner can be replaced by any other definite description having the same reference, *salva veritate*.

(f) Finally, and most importantly for our purpose, a (purely) referential use of the definite description results in a *singular* reference. The speaker has a particular individual in his mind, and he wants to make reference to *that* individual, and to no other; and if the circumstances are favourable, he will also succeed in making his hearer pick out that particular individual as the object of the speaker's reference. (So long as the hearer has not done so, he has not been able to pick out the *right* object, the object the speaker is talking about.)

An attributive use of a definite description differs from the (purely) referential in all these respects, in spite of the fact that it too is referential in the basic sense. The essential features of the attributive use are the following.

An attributive use does not tolerate any inappropriateness of the description. It is of the very essence of this use that it refers to *whatever* object satisfies that description. If I say that *the inventor of the easy chair* is a genius, being ignorant, like all else, of the identity of this inventor, and meaning that he is a genius *by virtue* of having made such a clever invention, I make a typically attributive use of the definite description 'the inventor of the easy chair'. Since what I mean here is just that *whoever* is the inventor of the easy chair is a genius, my sole purpose of referring by means of the description is to refer to the inventor, if at all there is any such inventor, and to nobody else; and hence there cannot be any possibility of referring to an individual by its means even if the description is inappropriate for the individual.

(a) In an attributive use the speaker does not necessarily have any particular individual in his mind. In order to have a particular individual in mind, the speaker must know the identity of the individual, he must know *who* that particular individual is. What is characteristic of an attributive use is that it does not demand any such knowledge on the part of the speaker.

(b) What we have just said means that an attributive use need not be sighted, it can well be blind. If I make a reference to the inventor of the easy chair, I do it without knowing who that inventor is.

(c) It is also obvious, when we think about it, that the choice of the particular definite description is not vacuous in the case of an attributive use, or, to be more precise, it is not in general so. The only way in which

I can refer to the inventor of the easy chair is by using the phrase 'the inventor of the easy chair' or some other equivalent phrase; for the only thing I know is that there is a unique inventor of the easy chair, and not only do I not know the identity of the inventor, I do not know anything *else* about the inventor, which means that I do not know what other definite descriptions that individual satisfies. It is thus quite essential for me to use the definite description that I do.

(d) In the most distinctive cases, though not in all, the attributive use introduces a 'by virtue of' – clause (Smith's murderer is insane by virtue of being Smith's murderer, and the inventor of the easy chair is a genius by virtue of being the inventor of the easy chair), a definite description which is put to this use cannot be freely substituted, *salva veritate*, by any and every description just on the ground that it is co-referential. Smith's murderer is Mary's brother, but while Smith's murderer is insane by virtue of being Mary's brother. (This, by the way, shows that we can delink existential generalization from substitutive : since the attributive use is *also* referential, we can have an existential generalization over a term which is used attributively, but, as we have just seen, we cannot in general substitute a co-referential term for it without affecting the truth-value).

(e) Finally, and most importantly for us, an attributive use of a definite description cannot result in a *strictly* singular reference. There is an essential generality about any reference which can be made by such a use of the definite description, and that follows from everything that we have said so far. It is necessary to be clear about this now.

To be quite clear about the functioning of a definite description used attributively, we have to hold the following points together.

(i) The definite description is used to refer, even though it is used attributively. (The fact that the use is attributive prevents it from being *purely* referential; and it may present the object of reference in a certain manner which is essential for what is being said about it; but that does not prevent it from being referential).

(ii) The reference, although it is made by a term which is apparently singular, is in a very important way general. The speaker does not have any particular individual in mind when he says that Smith's murderer is insane. Circumstances may even be such that he cannot possibly have any particular individual in mind: he may not know *who* Smith's murderer is, and his reference to the murderer may be *blind*. And the point is that for what he is saying knowledge of the identity of the murderer is not essential. He does not actually care who, in particular, can be blamed for the murder for what he is saying is that *whoever* has committed this is (must be) insane: his judgement is provoked by the nature of the crime itself and not by the identity of the criminal. The only condition, therefore, which an individual has to satisfy to count as the referent of the phrase 'Smith's murderer' is the condition which the phrase itself embodies, i.e., the individual must have committed the murder. As far as the speaker's utterance goes, *any* individual might have committed it, and, so, any individual might have been the referent of the definite description. This is the generality essentially involved in the reference which could be made by a definite description used attributively.

(iii) But this generality is not to be equated with the kind of generality which Russell ascribed to all statements involving definite descriptions. The generality which Russell had in his mind is the generality of an existential proposition; he thought that, basically, we assert the existence of a thing, which satisfies a description – and that is the real import of any statement containing a definite description. And it

is precisely here that Russell went wrong, and the generality we are talking about differs from the generality Russell did not have generality of *reference* in his mind, a definite description is not a referring expression at all). The speaker does not assert the *existence* of an individual which simultaneously satisfies the condition of being Smith's murderer and being insane. What the speaker asserts is that *the murderer is insane, having presupposed*, as both Frege and Strawson saw clearly, that he exists. The generality we are talking about is also different from the generality which would be involved in any reference by a straightforwardly general term. If the general term can at all be used for the purpose of referring. The definite article which is an integral component of the description imposes a certain restriction that prevents it from having what we can call strong or 'full-blooded' generality. The point of the definite article is that there is just one individual who satisfies the condition of being Smith's murderer. So what the speaker means when he says that Smith's murderer is insane is not that there are (indefinitely) many murderers of Smith, and each one of them, by virtue of being so, is insane. That is what the speaker would mean if he said 'All Smith's murderers are insane'. What then is the kind of generality of reference introduced by the attributive use of the definite description? It is, I think, generality *through possible worlds*, to borrow a convenient term from the semantics of modal logic. Any possible world, including the actual, would contain just one individual satisfying the speaker's description, if at all, but different possible worlds could contain different individuals satisfying it. So what the speaker says is something like this: For all  $w$ , if  $w$  is a possible world, and there is one and only one individual  $x$  in  $w$  such that  $x$  has murdered Smith, then  $x$  is insane (in  $w$ ).

This generality through possible worlds – in no world does the term refer to more than one individual, but it refers to different individuals in different worlds – is admittedly weak generality, and *not* strong or full-blooded generality. Votaries of the thesis that all reference

is singular can say that this is the most that we can achieve by way of generality or reference. We can never have full-blooded generality of reference. But many opine that it is a mistake.

We shall first take a quick look at some of W.V. Quine's fascinating ideas.

Whether or not they are the only instruments of reference, singular terms, proper names, and definite description, being the most important of them, have always been regarded as important items, indeed the most primitive items, of our referential vocabulary. But Quine was out to eliminate them<sup>7</sup> from the canonical notation of the first order predicate calculus (with identity). First the definite descriptions were eliminated in the manner taught by Russell, and then, alternative devices were suggested to eliminate the proper names too. (Thus 'Plato is a philosopher' becomes 'There is at least one  $x$  such that  $x$  Platonizes and  $x$  is a philosopher'). The question which inevitably arises as soon as all singular terms are eliminated is whether any reference would at all be possible now. A view largely shared by philosophers is that of all the terms which can at all be used for the purpose of referring, the singular terms are the basic, in the sense that all reference that we make with other kinds of expressions has finally to be cashed in terms of the reference made with the singular terms. ('Man' refers to men, if at all only because 'Socrates' refers to Socrates, and 'Plato' refers to Plato). Now, if following Quine's proposal we do eliminate all singular terms from the already sparse notation of the first order logic, will this notation enable us at all to make any reference? If it does not, then it would appear that all connection between this notation (language) and the world is snapped to the extent that we won't any longer be able to talk about the things of the world. What makes matters even more serious is that this notation (the canonical notation of the first order predicate calculus with identity) is claimed by Quine to be adequate for all, or at

least most, of science. This seems to have the disastrous consequence that our science will have no connection with the world of things, and will not tell us anything about it. Quine is not unaware that people may have such worries. He thinks that such worries are groundless, having their source in the mistaken idea that only the singular terms can do the job of referring. Bound variables, variables bound either by the existential or by the universal quantifier can do the job of referring. So if the singular terms are removed from the language, the language does not necessarily lose all its connection with reality, or its power of referring to the things which constitute it. In fact, Quine thinks that the primary instrument of reference is the bound variable. The bound variable is of the nature of (relative) pronouns, and it is the pronouns which do the job of referring in our language (not only in the language of logic) at the primary level. It is a superstition, he tells us, to suppose that the nouns (typical instruments of reference) precede the pronouns. In fact, it is the pronouns, which precede the nouns, and, so, he advises us to change our terminology and call the nouns themselves 'pro-pronouns'<sup>8</sup>.

There are many things in Quine's doctrine that are questionable. But we are not going to discuss this. We should like rather to concentrate on those aspects which are incontrovertible. They are also aspects which have remained rather neglected. Quine is right in maintaining that bound variables have a referential function, that they also provide us with a means of saying things about the world, or the objects in the world. Given the open sentence ' $\Phi x$ ', where ' $\Phi$ ' is any predicate whatever, what exactly is the significance of adding the universal quantifier 'for all  $x$ ' to it? What do we say in the quantified sentence 'For all  $x$ ,  $\Phi x$ '? I think that what we say is that the things (individuals) variable ' $x$ ', are such that all (i.e., each one) of them is  $\Phi$ . If we add the existential quantifier to the same open sentence, resulting in the closed sentence 'For some  $x$ ,  $\Phi x$ ', what we say is that the individuals that are the values of the variable ' $x$ ' are such that at least one of them is  $\Phi$ . (This is a slightly misleading way of explaining the

meaning of the quantified sentence, for it represents it as *mentioning*, rather than actually using, the variable. But I pass this over as a technical difficulty which we may ignore for the time being in a formulation which has the merit of being intuitively clear. But this is indeed a mistake for we are talking now in the context of what is called 'objectual' quantification as opposed to the 'substitutional'.) So it seems that whether we are asserting an existential or a universal proposition, so long as we are obtaining our closed sentence by binding the variable ('x'), we are talking about the objects that constitute the values of the variable – the same range of objects on both the occasions. Binding variables is a way of talking about their values. This is the sense in which we *can* say that bound variables are used to refer. Whether or not this reference by means of bound variables is enough to exhaust all the kinds of referential moves made in our language, whether or not this kind of reference can have a life of its own, absolutely independent of reference by means of singular terms, I have no doubt that we do make reference to the objects when we bind variables by quantifiers, and these objects are the objects that constitute the values of the variables.

Granting that Quine is right in concluding that bound variables are used for the purpose of referring, let us ask the question 'What kind of reference is it used to make? Let us ask, in particular, whether it is a singular reference, or a general (non-singular) reference which is made by means of the bound variable. I think it is pretty obvious that we do not make any singular reference by the variable 'x' either in the phrase 'for all x' or in the phrase 'for some x'. The reference must be non-singular, and we can say right away that it is general at least in this sense. But it would be instructive to inquire into the exact nature of the generality we have here.

Let us note first that what refers is the *variable* 'x' which occurs either in the phrase 'for all x' or in the phrase 'for some x', and *not* any of these phrases themselves. It is the variable itself which is made to refer,

by being bound by a quantifier, whether it is the existential or the universal quantifier. (It is the variables that range over the values, in the only sense in which a variable can be said to stand for anything at all. So if any reference is made to these values of the variable, then it is by means of the variables that the reference is made). It is true that the variable does not refer in isolation; it refers only in so far as it is bound. But, nevertheless, it is the variable which refers. Quine's use of the phrase 'bound variable' for what refers may mislead one into thinking that it is the result of binding the variable, the whole phrase, which refers; but, in fact, what refers is not the result of binding the variable, but the variable as a result of binding.

We have to note next that if it is the variable which refers, then what refers in the case of existential quantification is no different from what refers in the case of the universal, for it is the same variable which is bound, though in two different ways. One may, of course, say that although the variable is the same in both quantifications, because of the difference between the two quantifiers involved, what the variable refers to in one case is different from what it does in the other. But this, again, is a mistake. The quantified sentences 'for all  $x$ ,  $o x$ ' and 'for some  $x$ ,  $o x$ ' say, respectively, because of the significance of the variable as an *individual* variable, that *every individual is o*, and that *some individual are o*. Are we talking of different things in these two statements, or are we talking of the same things (s), but are saying different things about them? We can take help of a traditional insight at this point. The two propositions 'all philosophers are intellectuals' and 'some philosophers are intellectuals' will be said, rightly, by the traditional logicians to have the same *subject*. The crucial argument is that otherwise the two propositions 'All philosophers are intellectuals' and 'Some philosophers are not intellectuals' will not stand in the relation of contradiction to each other; neither will various other logical relations obtain between different propositions involving the terms 'intellectual' and 'philosopher'. So in both of them we say something, a different thing in each case, for sure,

about the same things, namely, philosophers. In exactly the same manner, we shall have to grant that in both the propositions 'for all  $x$ ,  $o x$ ' and 'for some  $x$ ,  $o x$ ' (meaning, respectively, as we have just pointed out, that every individual is  $o$  and that some individuals are  $o$ ), we talk about the same things, *individuals*. What we say is different in each case: in the first case we say that each of the individuals is  $f$ , and in the second case that at least one of them is so, but we say both these things about the same subject, namely, individuals.

Let us ask now a really interesting question: What is this identical thing (subject) about which we make these two different statements by means of quantification? We have said that it is *individuals*. But what does *that* mean? Does it mean that we are referring to each and every individual that falls within the range of values of the variable? Surely not. We do not mean so say about *each* of the individuals that each of them (or, it?), or that some of them (or, it?) is/are  $o$ . We cannot really mean that, for that is actually nonsense. Neither do we want to say – and this is perhaps ever more obvious – that at least one of them. Or a plurality of them is such that each of them (it?), or a plurality of them (it?) is/are  $o$ . That does not make any sense either. So we shall have to say that what we are talking about is *individuals in general*, and that is different from talking either about each or at least one individual. We shall have to recognize the concept of *individuals in general* as a distinct concept; and we shall have to try to understand the generality introduced by bound variables in terms of this concept.

Let us conclude this part of the discussion by noting these two points:

(i) The generality I have just spoken about is the generality that is indicated by *the indefinite plural*. It is nice that logicians are now paying attention to the behaviour of these devices of language. It may well be that the basic theory of generality will have to take its start from here.

(ii) If we are talking in both the cases of quantification about the same subject, viz. the individuals, then the quantifier itself belongs to *what is said* about these individuals. In the one case, we say that *each one of them is o*, while in the other case, we say that *at least one of them is o*. This really means that the quantifier belongs to, indeed, is *part of* the predicate, a consequence we have perhaps, and not anticipated at all. It would be worth our while to consider in this connection some of the things Frege says about the quantifier.

Let us pursue for a while the idea of the general reference involved in the use of an indefinite plural phrase.

We have seen that the full-blooded generality afforded by the use of bound variables is really the generality of the indefinite plural, i.e., the generality of the phrase 'the values of the variable "x", or, what is the same thing, 'individuals in general'. If this is so, there is no reason why we should not achieve generality in every case where the same kind of use is made of an indefinite plural phrase; there is no reason why, to achieve generality of reference, we should always have recourse to a bound *variable*, which is the most *generic* (and abstract) kind of indefinite plural we can have. Why should we necessarily fail to get generality of reference by the use of more specific, but still general, terms like 'man' and 'philosopher'? Each of the statements 'All philosophers are intellectuals', 'No philosophers are geologists', 'Some philosophers are not poets' can be shown to involve the indefinite plural 'philosophers' by the following paraphrases:

For the first: *Philosophers* are such that each one of them is an intellectual.

For the second: *Philosophers* are such that none of them is a geologist.

For the third: *Philosophers* are such that at least one of them is a mathematician.

For the fourth: *Philosophers* are such that at least one of them is not a poet.

And in each of them, we can say, the expression 'philosophers' is used to make a reference to philosophers in general, and, hence, a general reference; and in each of them the rest of the sentence, including the device for quantification is used to say something about this subject.

The only thing that stood in the way of saying what we have just said about the use of the plural term 'philosophers' is the general stricture against non-singular reference as such. Now that this stricture has been removed, we can feel free to say what we have said. Not only that, we can also say in defense of the traditional Aristotelian logic, and in support of Strawson's defense of that logic, that all the four statements noted above are *categorical*, and not conditional, as the Russellian restriction of all reference to reference by means of singular terms would have us say:

If the claim of the indefinite plural phrase as a device for making general reference is accepted, we can try to make a cautious approach to the thesis that in every case general reference in the full-blooded sense is, basically, the reference made by means of such a phrase; we can try to find out whether it can be maintained that whenever a statement involves a full-blooded general reference, the purely referential component of the statement consists on the (explicit or implicit) use of the indefinite plural, like 'philosophers' in the examples considered. There is, I think, much in favour of the thesis in question to feel optimistic about its prospects. Like the ones given above, the following paraphrases also sound plausible:

Of '*Many* philosophers are naturalists' into 'Philosophers are such that many of them are naturalists'; of '*Most* philosophers are non-conformists' into 'Philosophers are such that most of them are non-conformists'; of '*A few* Philosophers have been practicing physicists' into

'Philosophers are such that a few of them have been practicing physicists'; and of '*Ten* philosophers attended the conference' into 'Philosophers are such that ten of them attended the conference'.

If these paraphrases are correct, then the theory of the indefinite plural can well form the basis of a theory of numerical statements, and, thus, of a theory of number. In terms of this theory we can also look afresh at and try to answer the questions which all philosophers want to answer; viz. 'What is number?' and 'What is it that a number is a number of?'

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