LOGICAL STRUCTURE AND INTENTIONALITY:

FREGE AND RUSSELL ON DEFINITE DESCRIPTIONS

How are we able to think and talk successfully about objects in the world? This question has had a place at the heart of philosophical discourse from its beginnings. At a rough approximation, philosophical views about the question at issue can be divided into three approaches. The first claims that a thought is about something if it includes that thing as a constituent. We succeed in talking about something in that we express (and grasp) a thought about it. This approach has various realistic, idealistic and intermediate versions, some of them quite odd, and I do not intend to list them in detail. The second approach states that a thought is about something by virtue of having a constituent that "represents" this thing. There are, of course, many versions of the nature of this representations--nearly as many as there are proponents of this approach--but I will not list these either. The third approach claims that the question itself is not a good one, being based on an erroneous conception of thought and speech and the relation between them and the "world". This approach too has various versions which I will not go into.

In his classic paper “On Denoting” of 1905 (henceforth, OD; see the list of abbreviations), Russell proposed a logical theory which was intended to explain how we use general concepts (such as "king", "mass", "center") and descriptions formulated with general terms in order to think and talk about objects, and how our thoughts reach the objects that the propositions are about. Thus we can think about Hussein through the description "the present king of Jordan" and about a particular point in space through a description such as "the center of mass of the solar system." Russell's theory is an important version of the first approach listed above. Like many others, Russell assumed that it is relatively easy to understand the possibility of thinking and talking about an object when this object is a constituent of a proposition which we grasp, or when the

sentence in which we speak about the object contains a term that indicates or refers to the object directly. A great many of our thoughts and the sentences we utter, however, are not of this sort: The thoughts or propositions do not contain the object as a direct constituent, and the sentences do not contain terms that refer to it directly. According to Russell, his proposed theory explains the possibility of thinking and talking about objects even in these cases, as well as solving many problems which, in his opinion, alternative theories are unable to cope with. I am assuming here that Russell's theory ("the theory of definite descriptions") is generally known to the reader, and I will not present it in detail here.[1] In brief, it analyzes sentences of the type "The F is G" as sentences of the type "There is an F such that there is no other F, and all F are G." One of the alternatives Russell attacks in his paper is the one he attributes to Frege. Frege, however, as implied by his letters and posthumous writings, did not accept this criticism, nor did he consider it particularly valuable. Thus he did not accept Russell's theory either.

But why? Why did Frege reject Russell's theory of definite descriptions? We cannot be certain, since Frege never wrote anything explicitly about it, at least in the writings that have come down to us. Nevertheless, this paper presents what I think would have been his answer to this question--an answer which involves fundamental issues in the philosophy of logic and language, especially the logical structure of sentences and the connection between this structure and what might be called their "intentional structure" (what they are directed at and what they are about). The basis of my answer is my suggestion that Russell's theory, as it is generally understood and perhaps also as Frege understood it, does not explain how definite descriptions are conceived as singular terms constructed on the basis of general terms, and that it does not provide a coherent explanation of the fact that descriptive sentences (sentences containing definite descriptions) are sentences directed at objects and conceived as being about those

objects. My answer also touches peripherally on the ways that Frege and Russell understood the concept of meaning.

Nevertheless, as my opening remarks (third paragraph) suggest, and as I shall argue in the last part of the paper, Russell's theory should be understood differently, in a way that blunts most of the sting of the Fregean criticism and challenges some of Frege's basic principles about the connection between determining the reference of a sentence and its intentional structure (what it is about), and between both of these and the sentence's logical structure. Thus the issue between Frege and Russell on definite descriptions involves the fundamental general questions mentioned above.

Descriptions and terms lacking reference

Definite descriptions, such as "the present king of Jordan," are considered proper names (Eigennamen) in Frege's theory. As such, according to what is often taken to be Frege's "official" theory, they could have sense yet lack reference (see Frege, "Sense and reference", henceforth SR, 28/58).

This aspect of Frege's theory, as he himself believed, is extremely problematic, since he claimed that the sense of an expression is the way its reference is given, and it is hard to understand how its reference can be given in any way if it does not have any reference. Yet he considered his position to be the best possible approximation that could be given for the meaning of names in a natural language, many of which seem to lack reference. To be sure, Frege considered the fact that natural languages contain expressions of this sort to be an essential flaw in them (SR 40-1/69-70). A proper logical language should guarantee a reference to all sense-bearing expressions (ibid.; G&B, p. 104; and many other places). This is indeed how Frege constructed his logical language in BL (cf. Dummett, FPL, pp. 166-67).

Frege's strict position guaranteeing a reference to all sense-bearing expressions may perhaps be defensible for proper names (in the ordinary sense of this term) such as "Hussein" or "Joe," since it is difficult to see what their sense could be if they have no reference. Even those who accept this defense, however (and there are very few such people) would find it very difficult to defend a similar position for definite descriptions such as "the present king of Jordan" or "the class chess champion." We would understand these expressions even if they had no reference--if there were no king in Jordan at present, or if no chess championship had taken place in the class, or if it had taken place but three participants had tied for first place, and so on. We must not forget that definite descriptions form part of the structure of our linguistic competence: All speakers of a language can create and understand innumerable expressions of this sort, seemingly without any connection to their knowledge of the reference of the expressions. It thus appears that Frege should have seen the problem created by his position that definite descriptions are proper names, and that an appropriate logical language would guarantee them a reference; he should therefore have been very happy to adopt Russell's theory of definite descriptions. He did not do so, however, and in spite of the fact that he never mentioned it explicitly, it seems probable that he actually rejected it. Our question of why he did so thus remains in all its difficulty.

But could it be that Frege actually was unaware of Russell's theory? Although the theoretical possibility cannot be ruled out, it seems extremely unlikely. Russell was the first philosopher (at least outside of Germany) who acknowledged Frege's greatness and studied his work. He even devoted a long, detailed appendix to Frege in his The Principles of Mathematics of 1903 (henceforth PoM). Early in the twentieth century Frege and Russell conducted an intensive correspondence and exchanged papers (although always in German), and the topics they discussed included issues involving the meaning

of proper names. It is thus hard to believe that Frege never read Russell's paper "On Denoting," which was published in Mind in 1905, since Russell considered the paper of revolutionary significance. Moreover, Frege's position is discussed and criticized explicitly and at length in this paper, which is the only paper published at that time to boast this distinction.

But although some slight doubt can be cast on Frege's acquaintance with Russell's theory of descriptions right after its publication, it seems certain that Frege knew about this theory at a later time, as can be seen from his answer to a letter sent him in January 1914 by the British mathematician and historian Jourdain. In this letter Jourdain asks Frege explicitly if the distinction between sense and reference should be maintained in light of Russell's new theory (see Letter VIII/11 in PMC 17-18). Frege does not refer explicitly to OD or the theory of descriptions in his reply, but it is clear that this is what Jourdain's question was about. Frege does refer explicitly to Russell and Whitehead's Principia Mathematica, in which the theory of descriptions is presented in a revised version (see Letter VIII/12-13 in PMC 78-84). Frege writes in his reply to Jourdain that his English is not good enough for noticing nuances such as the analogy between Russell's theory of types and his own theory of orders. Yet it is clear from Frege's words that he read the Principia in English, and a reading of the entire letter (in both versions) makes one suspect that Frege's admission of the limitations of his English was somewhat ironical, and that he actually considered Russell's view unclear and even confused. At any rate, it is clear that Frege read English at a level where he could easily understand the principles of the OD theory, and it is thus implausible that he was unacquainted with it. However, neither then nor at any later time did Frege change his mind and accept Russell's theory. Thus we remain with our original question: Why not?

In order to sharpen the question and see what exactly Frege did not like about Russell's theory, it is worth noting how close their views were in some of the insights Russell used in his theory. In a critical review of a book by Schoenfliess (apparently written in 1906) Frege writes:

> With the help of the definite article or demonstrative, language forms proper names out of concept-words.[...] If forming a proper name in this way is to be legitimate, the concept whose designation is used in its formationmust satisfy two conditions: 1. It may not be empty. 2. Only one object may fall under it. (PW 178; cf. also ibid. 192).

Thus we see that even though Frege clearly saw the uniqueness and existence conditions involved in a descriptive proposition--conditions which are at the heart of Russell's theory of descriptions--he remained loyal to his own view from the 1890s (in SR and BL) and refused to accept Russell's theory. Moreover, Frege thought that when certain conditions are fulfilled it is "legitimate" to create a definite description as a proper name. This may be plausibly interpreted to mean that it reflects the "real" logical structure of the thought--that is, that such a thought is a singular one about an object. As we shall see, this is a central issue for understanding Frege's position against Russell's theory of descriptions. But, on the other hand, one may ask what it means for these conditions to have to be satisfied in order for the term to be "legitimate". What happens when the conditions are not satisfied? Obviously the term is not legitimate, but what does this mean and how is it manifested? According to the accepted interpretation of Frege's theory, it means that in this case the description has no reference; and this implies that any sentence containing it also has no reference (since the reference of a sentence is a function of the reference of its constituents). In other words, the sentence has no truth value (since the reference of a sentence is its truth value). This in itself is a problem for Frege's view from a logical

standpoint, since his approach is based on the Law of the Excluded Middle (or the bi-polarity principle). This is another area in which Frege considered natural language to be "flawed", at least for scientific uses. I believe that Frege actually thought that sentences of this sort are not really sentences and do not express real thoughts, but are rather mock sentences expressing mock thoughts. I cannot go into this issue here,[2] but I would like to note that this position is supported by part of the quotation cited above, as the above interpretation seems a rather weak one for the expression "legitimate" in this context. It seems that Frege's intention, given the great care he is known to have taken in formulating his views, is that forming a definite description when the conditions are not satisfied is an invalid move that does not create a valid name in the language. Once more we see that Frege believed that it is not only "ideal" logical languages that contain no names that have sense but not reference. Rather, he thought this to be true of natural languages as well, and believed that it applies to definite descriptions and other names in such languages. All this only intensifies Frege's problems in the face of his position that definite descriptions are proper names. Russell's theory, in contrast, contains no such demand for the "legitimacy" of a name--both of Frege's conditions do have to be satisfied in order for an assertive sentence containing a definite description to be true, but if they are not both satisfied then the sentence is simply false, rather than lacking a truth value. Frege could therefore have made use of Russell's theory as a natural way out of the dilemma at issue, so our question of why he rejected this theory remains acute.

In his great work on Frege, Dummett bases the bulk of his answer to this question on the link between Russell's theory of descriptions and some implausible views of his, such as the theory of "logical names," which are such that whatever they denote must necessarily exist, or the view that ordinary proper names in natural languages are abbreviations of definite descriptions (see FPL, pp. 161-65).

Without entering into a detailed analysis of these issues, it seems to me that this is a weak explanation, for two reasons: 1) The link between Russell's theory of descriptions and his views about logical terms and proper names in natural languages is not obligatory, and Frege could easily have adopted the first without having to adopt the others as well. 2) Frege himself was not so far from a view similar to Russell's on logical terms. Actually, as we have seen, something quite similar constituted his position on all meaningful names--that they all necessarily have a reference. It is thus hard to imagine that it was precisely this aspect of Russell's philosophy that Frege disliked. In fact, Dummett himself admits that Frege's view involves difficulties almost as severe as Russell's (FPL, p. 166).

The answer to our question involves, as I said at the outset, some basic issues in the philosophy of logic and of language, first and foremost the very conception of meaning, on the one hand, and the conception of logical structure and its relation to intentional structure, on the other. I will now discuss these issues. First I will say a few words about meaning and then I will concentrate on the issue of logical and intentional structure.

Meaning

To Russell himself, the principal significance of his theory of definite descriptions was that such expressions, like other denoting phrases, are "incomplete symbols"--that is, they are expressions without any meaning of their own, but which contribute systematically to the meaning of the sentences in which they appear. "The present king of Jordan is bald" is a meaningful sentence, and the definite description (the denoting phrase) "the present king of Jordan" makes an important systematic contribution to its meaning, despite the fact that the description in and of itself has no meaning. (The word "systematic" in the preceding sentence is meant to express the fact that the description makes the same or a similar contribution to every sentence in which it has a function, in a

way that can be explicitly described.) The meaning of a sentence thus does not lie in the attribution of a property to the object denoted by the description "the present king of Jordan", for if that were the case then we would not be able to ascribe a meaning to the sentence "The present king of Israel is bald" (and we would also become involved in other problems which this is not the place to go into). The meaning of the first sentence, according to Russell, is something like "There is at least one thing such that it is presently king of Jordan and such that there is no other thing which is presently king of Jordan and such that it is bald." This can be represented in standard logical notation as follows:

(Ex)(Mx&(y)(My<-->y=x)&Bx)

Russell shows that such a translation or analysis can be performed for each sentential context in which the description "the present king of Jordan" appears. The analysis actually expresses the systematic contribution of the expression to the meaning of such sentences. Russell nevertheless insisted that the expression itself is totally devoid of meaning, and if we look carefully at the logical "translation" of the sentence we can indeed see that it has no element parallel to the description at issue--that is, it contains no expression denoting King Hussein.

This is not the place to discuss in detail what brought Russell to hold this view, but it is clearly related to his position that the meaning of an expression is something in the world--generally an object--which the expression signifies.

In Frege's view this a wrong conception of meaning: He sees the meaning of an expression as its systematic contribution to the meaning of the sentences in which it appears.[3] It is thus impossible for an expression which has such a systematic contribution to be meaningless itself--this contribution is its meaning. The fact that this contribution--this meaning--is represented by an object or something else in the world that the expression refers to, or which it expresses, is an important fact with many profound

philosophical implications, but recognizing (or claiming) this is a separate move in Frege's theory of meaning--it is not his actual concept of meaning.

Many people consider Frege one of the founding fathers of the theory of "incomplete symbols" (as a sort of extension of the medieval theory of "syncategorematics"). It was Frege who developed the theory of logical connectives ("and", "not", "or", "if-then", and the like) as truth functions, as well as the modern theory of the quantifiers ("all" and "there exists"). In both cases it seems as though he showed that these expressions are "incomplete symbols" whose meaning is given by the (recursive) determination of the truth conditions of the sentences in which they can appear.[4]

This is a fundamental error, however, since the very concept of an incomplete symbol cannot be reconciled with the basic principles of Frege's theory of meaning. Each of these expressions is conceived by Frege as having independent meaning which is given precisely by the abovementioned truth conditions, since this is its systematic contribution to the meaning of the sentences in which it appears. And like all other meaningful expressions, these too refer to things in the world (first-order functions in the case of the connectives, and higher-order ones in the case of the quantifiers). It is these things that represent their meaning--their systematic contribution to the meaning of the sentences.

In sum, Frege could not have accepted Russell's theory of descriptions as a theory of "incomplete symbols" (as Russell conceived it) because the very concept of an "incomplete symbol" is incoherent in Frege's view.

Not only do Frege and Russell have different concepts of meaning, but the entire system of concepts in their theories of meaning are so different that some of the key terms they use are not even comparable. Frege has no term parallel to Russell's "proposition," while Russell uses this term ambivalently, sometimes to denote a linguistic entity--in which case the closest Fregean term is "sentence" (Satz)--but generally to

denote a fact or state of affairs with a non-linguistic ontological status, which has no parallel in Frege's system. Moreover, despite Russell's claim, his system has no parallel to Frege's concept of reference (Bedeutung), and it clearly has no parallel to Frege's concept of sense, which Russell explicitly and systematically rejected. On the other hand, Frege's system has no parallels for Russell's concepts of denotation and constituents. It is thus clear that in order to compare the two theories it will often be necessary to miss the mark and use the terms at issue somewhat imprecisely.

Logical structure in Frege's view

The issue of logical structure--the logical structure of a sentence and the significance of attributing a particular logical structure to a sentence--has many aspects. It is associated first and foremost with the issue of the relations of implication in which the sentence at issue is involved. The logical structure of a sentence must reflect the formal logical aspects that determine these implication relations. From this viewpoint the concepts in terms of which the logical structure is presented, and the way it is presented, are subject to the logical theory of implication relations, according to which the relations of implication in which a given sentence is involved are determined by its logical structure. This association between the logical structure attributed to a sentence and the implication relations in which the sentence is involved is at the basis of logic, but it was explicitly conceived and formulated by Frege, who was then followed by most of the logicians and philosophers of modern logic. Logic had always been considered the theory of implications among sentences, nor was the idea that sentences have a formal structure an invention of Frege's. What was new in Frege's approach to this issue is the conception of the inherent connection between the two, so that the theory of structure is no longer separate from the theory of implication relations. (The title of Carnap's famous book, The Logical Syntax of Language, can be seen as a sort of slogan expressing this awareness.

Syntax deals with the structure of sentences, while logic deals with the implication relations among sentences, as it is conceived and constrained by the theory of implication relations.)

But the logical structure of a sentence (as hinted at by the connection just described) is linked not only with its implication relations with other sentences but also with the way the sentence itself is understood. The logical structure thus reflects the way we understand the sentence on the basis of our knowledge of the meaning of its constituents. There are, to be sure, important mutual relations between this aspect, which involves the way a sentence and its meaning are understood, and the previous aspect involving the implication relations of the sentence. But if the phrase "to be sure" is in place here, it is only thanks to Frege, who made this issue one of the basic elements of his general logical approach. For this link is far from being obvious, and there are many systems and logical calculi which seem to deal with implication relations without committing themselves to the idea that structures they impose on sentences are indeed the ones that enable us to understand the sentences on the basis of their constituents. This claim was actually one of Frege's main arguments against Boolean logic, which prevailed in his time. It was also the basis of his insistence that his logical system was a complete language in which all sentential contents could be fully expressed.[5]

But what is the nature of this link and how tight is it? Can different logical structures be ascribed to the same sentence? Are there objective reasons for preferring some of them rather than others? What are the guiding considerations here? Frege frequently notes that a sentence can be ascribed different logical structures and that sometimes it is especially convenient to do this. He nevertheless insisted that a thought has a particular structure, on the basis of which it is constructed out of its constituents, and that any sentence expressing the thought reflects this. These might seem to be contradictory

claims, but it becomes easier to understand Frege's view if we make use of the distinction proposed by Dummett between decomposition and analysis (see IF, Chap. 15 and the references there). For the purposes of deduction and proof it is possible, and sometimes even convenient, to decompose the content of a given sentence in a specific logical structure which does not necessarily reflect the way the sentence is understood on the basis of its constituents--the latter constituting an analysis of the sentence. In Dummett's terms, the content of a sentence may be represented by many decompositions, but in general only one of them presents the "proper analysis" of the sentence.

This idea can be illustrated by the following simple example. The sentence

(1) Joe sees a snake.

can be decomposed as a subject-predicate sentence in which the property of seeing a snake (Sx) is ascribed to Joe (a), yielding the sentence Sa. For certain logical purposes this decomposition even seems most convenient and natural

Consider an inference like this:

(1) Joe sees a snake.	(1') Sa
(2) Anyone who sees a snake is afraid.	(2') (x)(Sx->Ax)
(3) Joe is afraid.	(3') Aa

This is clearly a valid inference, which is easy to prove through the use of these logical structures. From this standpoint it is presented as a special case of the familiar logical pattern which yields inferences such as

(A) Joe is human.

(B) All humans are mortal.

(C) Joe is mortal.

We see that the logical structure ascribed to the sentences here constitutes a natural, convenient decomposition of the sentence for the purpose of the inference at issue.

Nevertheless, as one learns in any elementary logic course, this decomposition is not the only possible one and is actually not the correct analysis of (1). We do not understand (1) on the basis of our knowledge of the meaning of "Joe" and of the "property" of seeing a snake, since the expression "sees a snake" is not understood as referring to a simple property, the way we understand "is human" or "is a snake." Understanding the expression "sees a snake" is a complicated process that we perform on the basis of understanding the simple relation "sees" and the common noun "snake." I do not intend to go into this process in detail, since the general idea should be clear enough. It thus turns out that the logical structure derived from the "correct" analysis of (1) must be given in terms of the name "Joe," the relation "x sees y" (Rxy) and the common noun "snake" (Sx). The structure we end up with is

(1'') (Ex)(Sx&Rax).[6]

This result is radically different from the previous decomposition, (1'). We tried to show that (1'') is actually the correct analysis of (1), through the use of concepts which allow us to understand this sort of sentence on the basis of its constituents. This is clearly a global constraint which affects not only this sentence and this inference but all sentences in which the relevant expressions appear. There are obviously many inferences and implication relations involving (1) which require a decomposition of the sort provided by (1''), while decompostions of the sort provided by (1') would not be of any help and would seem obviously wrong. Consider, for example, a case in which we want to say that Jack (b) saw the same snake that Joe saw: (Ex)(Sx&Rax&Rbx), or that Joe killed (K) the snake he saw: (Ex)(Sx&Rax&Kax), or that Joe saw two snakes: (Ex,y) (Sx&Sy&Rax&Ray&-x=y). In each of these cases, which seem essentially related to the meaning of (1), we require an analysis like (1'') rather than one like (1').

These considerations suggest the following important question: Is the concept of the "correct" analysis any different from that of the "ideal" decompostion--the one which is useful in all, or most, inferences, and in the presentation of all the relevant implication relations? Is there such an "ideal" decomposition at all? Or do we have no choice but to make do with the use of different logical structures for different purposes, without any "ideal" or "correct" one? This is not the place to clarify the difficult issues involved in these questions. Frege, however, thought that the considerations determining which possible logical decomposition constitutes the "correct" analysis of a sentence do not involve merely a sort of maximization of the number of relevant inferences in which the sentence appears, but also include various semantic and epistemic considerations connected with the way the sentence is understood and learned and the way its constituents are given.[7]

An important way of looking at these semantic and epistemic considerations involves the concept of "aboutness"--that is, Frege's realization that every meaningful sentence is about specific things, and that it is this relation between the sentence (or the thought it expresses) and the things (objects, functions) it is about that constitutes the meaning of the sentence and the way it is given to us. We will see later that this point is important in understanding Frege's opposition to Russell's theory of descriptions. Frege's basic idea here is composed of two complementary principles. The first is that a sentence is about what is mentioned in it explicitly, that is, the references of the names appearing in it (this is a typical Fregean extension of the traditional conception that a sentence is about its subject). The second is that what a sentence is about serves a vital function in understanding the sentence and determining its truth or falsity.[8]

Sentence (1), for example, is about Joe, the concept of a snake and the relation "x sees y". The sentence is not about any particular snake, because no particular snake is mentioned in it (it does not contain a name of any particular snake), but the sentence <u>is</u>

about the concept of a snake: It says that this concept is not empty, that there is something that is a snake. It also says that the concept "a snake Joe sees" is not empty, and this is actually the concept that the sentence is first and foremost about: Existential quantifiers, in Frege's view, are second-order predicates denoting second-order properties of first-order concepts.[9] Thus, when we say "There is an apple on the table" we are making an assertion about the concept "apple on the table" and saying that it applies to something. Likewise, in our case we were making an assertion about the concept “a snake Joe sees” and saying that it applies to something. (These formulations of Frege's ideas are not entirely precise but they should be sufficient for the present purpose.)

This view of the concept of aboutness is of great significance for understanding major aspects of Frege's system which cannot be discussed here, but there is one point that is essential for the rest of the present discussion. This view of Frege's, especially its first principle, is an expression of what may be called the "local lexical" position on the concept of aboutness: What a sentence is about is determined by aspects of its constituents themselves, and this is accomplished "locally", that is, irrespective of global aspects of the sentence as a whole. On Frege’s view, every name and expression in the sentence determines its own reference on the basis of its own sense, and these references constitute what the sentence is about. The global aspects of the sentence, such as its structure, its truth, and its relations with other sentences, play no role in determining this relation of aboutness.

With this background we can now briefly formulate the main thrust of Frege's opposition to Russell's theory of descriptions as follows: Russell's theory claims that a descriptive sentence (one containing a definite description) is an existentially quantified sentence in which the object described in the sentence is not named in the sentence in any way. This

theory thus misses the basic insight that such a sentence is about an object--that this is the way we understand it, this is the way we try to determine if it is true or false, and the like. Since, in Russell's analysis, the object being described is not named in the sentence, it turns out that according to Frege's principles the sentence is not about this object, which seems counterintuitive and opposed to our understanding of the sentence the way it is given to us. Instead Russell's theory interprets the sentence as an existentially quantified one--that is, as Frege sees it, a sentence about a concept.

Definite descriptions in Frege's logic

We have seen what Frege thought of definite descriptions in natural languages: He considered them proper names. According to a moderate version of his theory they could lack reference, and then sentences containing them would lack a truth value. On a stricter view the concept of a name that has sense but not reference is incoherent, and Frege's willingness to accept this notion is a sort of conciliatory gesture of his toward natural language, which he considers a logically flawed instrument in any case. Actually, an expression lacking reference cannot be a name or a meaningful sentence, but at most a "mock name" or "mock sentence."

In a logic such as Frege's, which is constructed by assigning different functions to different levels, there are in principle two different ways to functionally create a proper name (e.g., "the present king of Jordan"):

(I) As a first-order function with a specific object as argument: f'(x).

(II) As a second-order function of a first-order concept: f''(Gx).

Frege was aware of both methods, but he generally preferred to use the first one. This method is very convenient for introducing arithmetic functions, for example, as it is natural to consider them first-order functions. Frege also defines the description functor, which is introduced in the logical language proposed in his great book Basic Laws of Arithmetic, in

the first way, as a first-order function of objects--the value ranges of first-order predicates (these value ranges are, more or less, sets of extensions of concepts). The definition is the following (the slash represents the description function and the expression x^(Fx) the range of values of the concept F): \x^F(x) = n, where n is the only object to which the concept F applies. In this case we also say that the expression to the left of the equality sign signifies n. In all other cases (that is, when F applies to more than one object or to no object at all), then \x^F(x) = x^F(x), that is, the value of the function in this case is the range of values of the function F itself (see BL, 50). As mentioned, this is a first-order function, and in all cases the description functor is defined in such a way that any expression of which it is a consitutent has (one and only one) reference.

Frege suggests that there is a great similarity between this function and definite descriptions in natural languages, and adds that the function could replace the definite article in such languages. Frege makes two important claims in support of his definition. First, he repeats his claim that definite descriptions, as understood in natural languages, can be ambiguous (e.g., "the square root of 2") or lack any reference at all (e.g., "the rational square root of 2"), which he considers grave flaws that are avoided by his proposed system. Second, his system also avoids arbitrarily fixing a reference for such a failed description. The central point he is making here is that an arbitrary determination of a reference for a definite description (or any other name) would prevent any logical connection between it and the way the name is created. The way we understand descriptions in natural language involves the principle that "the F is F" is conceived as a logical necessity, and arbitrarily fixing the reference of a failed description would flout this principle. Frege claims that the definition he presents in BL avoids this flaw.

It seems to me that this proposal of Frege's is a correction of a previous proposal of his (in SR 41/70), where he himself suggested arbitrarily fixing reference in cases of failed

descriptions. This correction is extremely significant, yet it seems to have escaped Frege's commentators, beginning with Russell, who took Frege to task in OD for the arbitrary determination of reference in his system, and ending with contemporary commentators (see, e.g., Linsky, pp. 1-30). I am not claiming that Frege's corrected proposal is free of the problem of arbitrariness, but rather that he himself gave this problem some consideration. Anyone who claims that Frege failed in his attempts to overcome this problem must show that this is the case even with regard to the corrected proposal. It is important here to understand that the range of values of a function is not given merely as an ordinary set given extensionally, but is defined through the function, even when it is empty. Thus, in order for Frege to determine the identity conditions of the value range, he needed to use his problematic Axiom V. This is why I used the reservation "more or less" in my above explanation of this definition of Frege's. A more detailed discussion of this issue would, however, be out of place here and must be left for another occasion.

From Frege's point of view, the best approximation of Russell's theory of description is as a theory that considers definite descriptions to be second-order functions (of type II above). And indeed, Russell's description operator (the iota) seems on the face of it to be a second-order functor (operating on first-order functions). But it is clear that this description is misleading, for if it were correct there would be no reason to consider definite descriptions "incomplete symbols" that are meaningless in and of themselves. After all, the entire point of Russell's theory and proposed analysis shows that this apparent approximation from Frege's viewpoint is illusory, as the resulting expression (the description) is meaningless and certainly does not refer to an object. It therefore seems that Russell's theory should not be seen as claiming that the description operator signifies a second-order function (and certainly not a first-order one).

Here we arrive at the heart of the issue between Frege and Russell and the problem in understanding Russell's theory. According to Russell's proposed analysis of descriptive sentences, they are basically existential quantifications, and so they must be understood as being about concepts rather than objects, which is contrary to common sense and the accepted understanding of such sentences. Is it indeed correct that Russell's theory of descriptions cannot be understood in a way that would preserve the basic intuition that descriptive sentences are about objects, even though these objects are not explicitly referred to in the sentences? Is Frege right in his "local lexical" claim that the only way to understand the fact that a descriptive sentence is about the object under description is by saying that the sentence contains a constituent that refers to the object? In presenting now what seems to me to be the main philosophical significance of Russell's theory of description, I want to claim that the answer to these questions is "No," and that Russell's theory of descriptions actually suggests a revolutionary alternative to Frege's localist approach.

Logical structure and intentionality in Russell's theory of descriptions

The prime significance of Russell's theory of definite descriptions is that it constitutes an analysis and explanation of the "mechanism" of descriptive reference--the way definite descriptions enable us to think and talk about the objects they describe. It is very easy to get this wrong, and indeed many people have mistakenly believed that the entire significance of Russell's theory is the proposal to replace one way of speaking--descriptive sentences containing definite descriptions--with another--existentially quantified sentences. For example, the sentence "The king of Jordan is bald" would be replaced by the sentence "There is one and only one thing that is a king of Jordan and it is bald." This substitution, as Russell showed, solves many problems raised by the original sentence; the details are well-known and I shall not repeat them here. According

to this interpretation, the most Russell's theory does is to reduce descriptive reference to an object to a "pure" quantification; I call the quantification "pure" because in the final analysis only variables and general predicates appear within the scope of the quantifiers. A good deal of support for this idea may be found in what Russell himself said. He claimed that expressions such as "the king of Jordan" are meaningless in and of themselves (incomplete symbols), that King Hussein is not a "constituent" of the proposition expressed by the sentence "the present king of Jordan is bald" (of course, his examples were different), and that the substitution he proposed permits the elimination of definite descriptions as well as other denoting expressions. Yet I believe that a deeper understanding of Russell's position presents a different picture in which his theory of descriptions constitutes an analysis of the descriptive way of thinking and speaking. This is a philosophical analysis which points out an important conceptual connection between our ability to describe objects and our understanding of quantification--a connection which is not a reduction of one to the other or a total elimination of one in favor of the other. As I see it, Russell is basically claiming that descriptive sentences, in the ordinary sense of the term and in the case when they are true, are indeed about the objects they describe, and his theory of descriptions proposes an analysis of this idea and explains how it works from a conceptual standpoint.

In order to see this clearly we must discuss a number of points, which I briefly review in what follows. These points should bring to light a radically different picture from the Fregean one regarding the connection between logical structure and the aboutness relation. A descriptive sentence may be about something it does not mention or does not refer to explicitly, and which is not one of its constituents: What such a sentence is about is not determined "locally" by a particular term or by the meaning of that term, but by the logical structure of the sentence as a whole.

(i) The status of the aboutness relation

Russell held the generally accepted, intuitive position that every meaningful sentence is about something and that this property is an essential aspect of its meaning. Even though, to the best of my knowledge, he never formulated this principle as clearly as I would have liked, it underlies most of the work he did at that time in the areas under discussion. In The Principles of Mathematics, for example, he distinguished between two categories that constitute what he called a "proposition" (which he considered an ontological rather than a linguistic concept at that time, even though he was not careful about this distinction and was rightly blamed for that): a term and an assertion. He claimed that every proposition contains an assertion about some term (or several terms, if a relation is involved; see, e.g., pp. 39, 44). Russell introduces the denotation relation, which is the core of the book, as a relation that is meant to explain how a proposition can be about things that are not its direct constituents. His explanation relies on a special logical relation between a denoting concept and the object it denotes. Moreover, a denoting concept is defined in the book as a concept contained in a proposition as a constituent, such that the proposition is not about the constituent but about the object it denotes, by means of this special logical relation (p. 53).

It is simply impossible to understand the issues under discussion and the concepts involved in them without considering the central status of the problem of intentionality and the concept of aboutness. In PoM Russell did admit the possibility of "empty descriptions" (that is, denoting concepts such that there is no object they denote), but what he said on the subject was brief and amazingly obscure. What are propostions that contain such concepts about? They cannot be about the concepts themselves, by the very definition of a denoting concept, nor about the object they denote, since no such object exists. Thus it turns out that such propositions are not about anything, a notion that is hard to fit into

Russell's system of ideas at that time. These remarks are especially apt in light of the fact that in PoM Russell conceived the denotation relation as a primitive logical relation. How can we reconcile the idea that a denoting concept has an independent, essential, primitive logical relation to an object with the idea that the existence of such an object is a contingent empirical matter, and even if the object does not exist the denoting concept retains its force as a constituent of the proposition in which it appears?[10]

This thorny issue is resolved in the 1905 theory of descriptions, in which the denoting concepts of PoM disappear entirely, along with the mysterious logical relation between them and the objects they denote. The new theory allowed Russell to hold the aboutness principle without qualification: Every proposition is about something--its constituents, which it always has--and a descriptive proposition is also about the object its description denotes, when such an object exists. (The significance of this issue will be discussed later.[11]) Thus according to this view there cannot be a case in which a proposition is not about anything.

(ii) <u>The object-directedness of descriptive propositions</u>

Descriptive propositions are not merely "about something," they are typically about objects--those they describe. "Typically" here means that this is how descriptive propositions are ordinarily grasped in the paradigmatic cases that constitute the basis for understanding them. It does not mean that a descriptive proposition cannot fail in that the object it describes does not exist, but that the possibility of such a failure, and the fact that it is then grasped as a failure, do not undermine the fact that descriptive propositions are typically and paradigmatically grasped as referring to the object they describe and being about this object. This view is opposed to most interpretations (sometimes called "universalistic") of Russell's theory, which claim that the quantificational analysis of descriptive propositions makes it necessary not to conceive them as directed at, or being

about an object, and that such a conception is definitely not vital for understanding them.[12] But these interpretations seem to me to miss the point of Russell's intention and the significance of his theory as the analysis of an essential aspect of our referential ability.

I will mention three points in which Russell expresses the conception of descriptive propositions as directed at objects. First, Russell's theory, as the title of the paper indicates, is about denoting. For Russell the problem of denoting is the question of how a proposition or thought (or a sentence) can be about objects or other things in the world. The main purpose of the theory was thus to discover and explain the concepts and modes that are involved in this relation and make it possible. The problem that occupied Russell in OD was first and foremost the possibility of explaining successful descriptive reference: How can a descriptive proposition be about or refer to objects that are not its constituents? The universalistic interpretation claims that descriptive propositions are actually (in contrast to their surface appearance) not about objects at all. If this were correct as a general interpretation of Russell's theory, and not merely in some particular cases, then it would remove the basis of the very problem the theory was designed to resolve. True, the universalistic interpretation relies on an important aspect of Russell's theory, which enabled him to explain the meaning of sentences containing empty descriptions. I do not deny this important aspect, but excessive focus on it is liable to distract our attention from the primary significance of the theory: explaining the possibility of successful descriptive reference - our ability to think about objects by means of descriptions. Recall that, after presenting his theory in OD, Russell defines the denotation of a descriptive sentence. This would hardly have a point if he really meant to get rid of the concept of denotation and show that it is merely a superficial feature of the surface

structure of sentences--that descriptive sentences are not actually directed at any denotation but are just ordinary quantified sentences.

Second, it is important to look carefully at the way Russell himself presents his primary interest and the philosophical motivation of his theory. This is how he presents it near the beginning of OD:

> We know that the centre of mass of the solar system at a definite instant is some definite point, and we can affirm a number of propositions about it; but we have no immediate acquaintance with this point, which is only known to us by description. The distinction between acquaintance and knowledge about is the distinction between things we have presentations of, and the things we only reach by means of denoting phrases. (p. 41)

Russell does not speak in terms of "denoting concepts" here, as he does in PoM, but in terms of "denoting phrases" instead; he nevertheless remains faithful to an important element of the old notion: that it is by means of them that we reach the things themselves, even though they are not the constituents of the proposition. A little later in the paper Russell writes:

> We do not necessarily have acquaintance with the objects denoted by phrases composed of words with whose meaning we are acquainted. ... hence, what we know about [other people's minds] is obtained through denoting. All thinking has to start from acquaintance; but it succeeds in thinking about many things with which we have no acquaintance. (p. 42)

This ability of our thinking is what Russell was trying to explain in the paper--the success of our descriptive ability in referring to the objects being described.

Third, a central epistemic aspect of this issue became the basis of Russell's epistemology: the distinction between knowledge by acquaintance and knowledge by

description. To Russell the concept of knowledge by description is that of knowledge of objects: What we know is the described object, despite the fact that our knowledge is analyzed within a theory of descriptions which proposes a translation of descriptive sentences into existentially quantified ones. The theory of descriptions itself thus should not be understood in a way that eliminates the objectual nature of the description and the knowledge it contains. A fuller discussion of this issue would not be in place here; I have discussed it and its significance elsewhere.[13]

(iii) "Remote" intentionality

Earlier we discussed the Fregean principle that a sentence is only about what is mentioned in it explicitly--in other words, what constitutes the reference of the name appearing in it. If, for convenience, we call this reference a constituent of the sentence, then the principle says that a sentence can only be about its constituents. An important aspect of Russell's position, according to the interpretation proposed here, is that it rejected this principle. A descriptive sentence (or proposition--the distinction is not important here) can be about an object "external" to it--an object that is not one of its constituents. To see this we need only recall that a descriptive sentence never contains the object it denotes--that is, the one it describes--as one of its direct constituents; but in the paradigmatic case, when it does denote some object, it is about this object. Not only does Russell's position here differ from Frege's, but I cannot think of a theory preceding OD which explicitly expresses the position that a sentence (or a proposition) can be about an external object, which is not one of its constituents.

Russell's position on this issue in PoM is unclear. Many people have thought that in PoM too the object denoted by the denoting concept is external to the proposition and not a constituent of it. Hylton, for example, insisted on this point, turning it into one of the basic elements of Russell's system in PoM, since it allows us to grasp and think about infinite

totalities, which, as such, are not constituents of finite propositions. But this seems to me a very doubtful claim. To the best of my knowledge Russell never said this anywhere in PoM, and there are a number of places where he said precisely the opposite. For instance, concerning the proposition "Socrates is a man," he says that it has three constituents--a term (Socrates), a relation (apparently predication), and an object (the "disjunction") that is denoted by the denoting concept "man" (p. 54; see also pp. 44, 46, 47; I thank my student Yoel Katzav for pointing these out to me). The direct, simple interpretation of these citations is that the denoted object is indeed contained in the proposition as a constituent. But this is a problematic position, and Russell may not have been entirely clear on this point in PoM. Indeed, this may have been one of his reasons for abandoning this theory later on and developing the theory of descriptions in OD in its place.

(iv) Intentionality and logical structure

The last point, which is perhaps the most important one, is that Russell's theory of descriptions presents the position that the denotation of a sentence--what the sentence is about, when it has a denotation--is not determined solely by the "local" aspect of one or another of the constituents in the proposition, but by the logical structure of the proposition as a whole. This issue too constitutes a revolutionary turn from Frege's position, from that of PoM, and actually from all other previous conceptions of reference that I am aware of. In Frege's view, as noted before, the reference of an expressions, and what a sentence containing it is about, are determined locally, lexically, by an aspect of the expression itself, namely, its sense. Global aspects of the sentence as a whole, such as its logical structure, do not play any role in this. In Russell's theory of descriptions, by contrast, the denotation--what the sentence is about--is determined by the logical structure of the sentence as a whole. The logical structure thus gains major importance in

determining the intentional structure of sentences, as well as our ability to refer, to direct our thoughts at objects and things in the world about which we think, know and speak. It is in light of this that my earlier remarks on the significance of Russell's theory of descriptions should be understood: It is a theory that analyzes and explains our ability for descriptive reference in terms of the theory of quantification and the logical structure of quantified sentences. The procedure proposed by Russell might have appeared as a theory that reduces descriptive reference to quantification in such a way as to present the very concept of descriptive reference as redundant and misleading. But even if this were possible, it is not the way Russell himself perceived the issue. As far as the motives and deep philosophical significance underlying the theory of descriptions as Russell perceived it can be reconstructed, the theory does not eliminate the concept of descriptive reference and proves it to be superflous; on the contrary, it insists on the major significance of this concept, while explaining and analyzing it in terms of the theory of quantification. Russell's theory of descriptions, in this view, does not determine a one-way reduction of descriptive reference to quantification, but (on the assumption that it is correct) reveals a mutual conceptual connection between them.

At the outset I asserted that the debate between Frege and Russell on definite descriptions touches upon fundamental problems in philosophy, especially the nature of the connection between the logical and the intentional structure of sentences. We saw that Frege was in possession of all the insights about definite descriptions and all the logical tools needed for constructing a theory similar to Russell's. From this standpoint, and from a "pure" logical perspective, Russell's theory is only a moderate improvement over the ideas Frege had already developed on this issue. Moreover, we have shown that Russell's theory is somewhat unclear and suggests a view whose very coherence is debatable: It exists within a rather vague, narrow range between perceiving descriptive

propositions as directed at objects, on the one hand, or as "universalist" quantifiers, on the other; between perceiving them as being about objects or as only being about concepts and functions; between considering the theory as a proposal for a reductive elimination or as a conceptual explanation and analysis. Perhaps it was also Frege's desire for radical clarity that prevented him from accepting such an ambiguous view. But although Russell's theory, in my interpretation, is indeed somewhat ambiguous, I believe that this ambiguity is a fruitful one that expresses the mutual link between our ability for descriptive reference and our understanding of quantification concepts. But, in addition, the theory of descriptions, properly understood, undermines some of Frege's fundamental views about the intentional structure of propositions and thoughts and how it is determined. It is on these issues that Russell's theory of descriptions was most radically and significantly innovative--its "remote intentionality" and its determination of what a sentence is about by virtue of the logical structure of the sentence as a whole. This innovation of Russell's has far-reaching philosophical significance. Here I briefly mention two of its major aspects:

1. This view fits the radical philosophical significance of Frege's context principle and the primacy of whole sentences in explicating the basic concepts of a theory of meaning. According to these principles the meaning of an expression is conceived in terms of the contribution of the expression to the meaning of the sentence, in which it appears, as a whole (in Frege's system this is the case for both sense and reference). The logical structure of a sentence is a global, propositional property. The view that what a sentence is about is determined by such a propositional property fits coherently into a general picture of whole sentences and propositional properties as the basis for clarifying fundamental concepts in the theory of meaning.

2. The view under discussion also makes it possible to explain the problems that arise due to the existence of empty names and descriptions more convincingly than can be done with alternative views.

(a) We have seen (pace Hylton) that the problem of empty descriptions is not satisfactorily resolved in PoM. There Russell held three claims that are difficult to reconcile. One is that the question of whether there is an object that a descriptive proposition is about is determined by the relation between the denoting concept appearing in the proposition and the object it denotes. The second is that this relation is a primitive logical one. It is never explained within Russell's theory in PoM, but is presented there as one of the primitive bases of logic. The third claim is that sometimes a donoting concept does not denote anything, because there is no object for it to denote, and this is generally a contingent empirical fact (except in mathematics).

It is hard to see how these three claims can be defended together, especially the last two: If the relation between a denoting concept and the object it denotes is a primitive logical one, how can its existence in a given case be contingent or empirical?

(b) This problem is also a serious one for Frege, as we have seen. The "fact" that there are names which have sense but not reference seemed to Frege a flaw in natural language, which is unlikely to have a coherent explanation, at least if one wants to use the name seriously in making assertions. In a logical language, Frege insists, every meaningful expression has a reference, as long as it functions in a genuine statement, which may be either true or false, or a thought expressed by such an statement. However, says Frege, it is not always real statements or thoughts that we are interested in; sometimes we are concerned with mock statements or mock thoughts (cf. PW 141-42/130). Indeed, whenever Frege speaks about names lacking reference he is always careful to point out that these involve poetic or fictional contexts--in general, art rather

than science. Frege's attitude towards art was that it is essentially subjective, while he considered genuine thoughts and statements essentially objective. Therefore, in his view, thoughts and statements in artistic contexts cannot be grasped to be "genuine", with an objective status and a truth value, but are at most something resembling thoughts and statements--mock thoughts and mock-statements .

(c) All this is entirely different in Russell's theory of descriptions, where the object denoted by a description or what a descriptive sentence is about is determined by the logical structure of the sentence as a whole rather than by any local, lexical factor. Such a position is not and need not be committed to a view in which the meaning of any expression (whether a definite description or some other denotative expression) or what a sentence containing that expression is about depends on the existence of the described (or denoted) object, since whereas the constituents of the logical structure are meaningful (and have a reference) by virtue of the existence of the things that constitute their meaning, the logical structure itself can fix upon an object as the thing that the sentence is about without the possibility of understanding the sentence or grasping its structure being dependent on the existence of this object. From this standpoint the logical structure is a propositional property of the sentence as a whole, and it is grasped and understood as such whether or not it "succeeds" in determining the denotation of the description (in case there is an object that satisfies the description), just as it is understood this way whether or not the sentence is true. The logical structure of a sentence is an essential factor in determining its truth or falsity, but it is understood as such independently of whether or not the sentence is actually true.

This rejection of the previous conception that the reference of expressions and what sentences are about are determined solely by local, lexical factors, and its replacement by a new theory of descriptions in which these are determined by the logical structure of the

sentence as a whole, are not "merely" a great innovation, nor even merely an innovation that fits remarkably well with the conception underlying the "context principle"; it also paves the way for the new approach Russell suggests for understanding sentences containing empty expressions.

I conclude with two somewhat "paradoxical" remarks about the historical status of Russell's theory of descriptions, which I present briefly as programmatic suggestions which require a separate discussion. One was hinted at above, namely, that it is precisely the major aspect of Russell's theory which I discussed mostly in its anti-Fregean aspect--determining reference by virtue of logical structure, which is a global property of the sentence as a whole--that fits the constitutive principle of Frege's entire theory of meaning: the context principle. For, after all, the main point of the context principle, and of the primacy of sentences derived from it--namely, that the meaning of any expression is its contribution to the meaning of the sentences in which it appears--can be interpreted, by means of a suitable generalization, as the requirement that all the basic concepts of the theory of meaning, including the concept of aboutness and the determination of reference, should be based on propositional concepts, such as the logical structure of the sentence as a whole. Elsewhere I have tried to show that the key concepts of Frege's theory of reference and the constitutive constraints on his concept of sense can and should be grounded in the concept of aboutness. I have also pointed out that one of the advantages of this approach is the propositional nature of the concept of aboutness, as it is the sentence as a whole that is about an object.[14] From this viewpoint Russell's theory of descriptions as I have presented it here constitutes a crucial additional step in this direction: Reference itself (at least of the descriptive sort) is determined by virtue of a clearly propositional property--the logical structure of the sentence as a whole. I cannot discuss the issue further here, but it is certainly of great significance, as it touches upon

one of the greatest and deepest foci of tension in all of Frege's philosophy: the tension between the local nature of his theory of sense (since every expression has a sense that determines its reference), on the one hand, and the context principle, together with the primacy of the sentence, on the other.

My second closing remark is about Kant. From many aspects Russell was an anti-Kantian philosopher who worked hard to revive classic British empiricism. If I am right, however, in my suggestions about the connection Russell established between the logical and the intentional structure of sentences, and about his revolutionary innovation with respect to Frege's view, then Russell's theory of descriptions could actually be interpreted as a revival and weighty explication of one of Kant's more obscure ideas: that objective reference--the way thought is directed at objects in the world--is a function of the categories of logic. It is very difficult to understand what exactly Kant meant by this obscure doctrine, which has been offered many interpretations. But Russell's view as presented here actually supports this doctrine and explains it: Descriptive reference, as a case of reference to objects, is determined by virtue of the fundamental concepts of the theory of quantification and the logical structure of quantified propositions. It is precisely Frege, who was in many respects an outstanding Kantian philosopher, who seems much further from Kant than Russell is on this issue.

Notes

1. For a survey see Linsky (1977); Neale (1990), Chap. 2.

2. In references to Frege's works, the numbers to the left of the slash refer to the German edition. In many places Frege writes as if he recognizes thoughts (and the sentences expressing them) that lack reference, i.e., truth value, when they have constituents with sense but no reference. See SR 36/62; PW 133/122; 208-10/191-94; 219/198; 243/225; PMC 80; 165. It would thus seem as though the existence of thoughts and the possibility of grasping them do not require them and their constituents to have reference and truth value. In all these places, however, Frege insists that there is no knowledge or "scientific" use involved, but only artistic or poetic uses. This seems like a strange, unclear position: It is as if we said that the issue of truth and reference does not belong to the essence of a thought and the possibility of its existing and being grasped, but only to the use we make of it. I believe that this was not Frege's true position: The issue of truth and reference involves the essence of the thought and the possibility of its existence. Thus a thought lacking truth value is an incoherent concept, and what seems to be such is not a genuine thought, but only a mock thought. I expand on this point in Chapter 3 of my book, The Sense of Reference: Intentionality in Frege, De Gruyter, 1996.

3. On this issue see my paper "Frege's Early Conception of Logic", Epistemologia VIII (1985), pp.125-40.

4. See Neale (1990), pp. 1-20. Although the topic of Neale's discussion is expressions that are not "genuine referring" ones, rather than incomplete symbols, he presents the discussion in the context of a summary of Russell's theory, and Russell considered such expressions incomplete symbols.

5. Obviously a distinction must be made here between sense and referemce, but the principle is true of both on the general level we are dealing with here, and so it will do no harm to use the comprehensive term "meaning."

6. Frege uses a similar example in “Introduction to Logic”, PW 203/187; his example is: “Christ converted some men to his teaching”.

7. See Chap. 8 of my book (see note 2).

8. I discuss this issue at length in Chap. 7 of my book (see note 2).

9. And not that of an object; see FA, around Sec. 56; Introduction to BL, p. 5; PW 274/254; and many other places. See also Chap. 7 of my book (see note 2).

10. These two points seem to have escaped Hylton (1992), who claims that Russell's theory of descriptions in PoM provides a plausible explanation for the problem of empty descriptions, even though Russell himself probably did not see it this way at the time. See Hylton (1992), pp. 73, 427.

11. This is in contrast to Neale's (1990) view that the fact that descriptions are not denoting expressions actually implies taht descriptive propositions can never be about the object denoted by a description, if such an object exists. See Neale (1990), pp. 2-21.

12. See, e.g., Linsky (1977); Blackburn (1984), p. 310; Neale (1990), Chap. 2.

13. See my paper: “Acquaintance, Knowledge and Description in Russell", Russell, vol 9\2, 1990, 133-157.

14. See chapts. 1and 7 in my book, op.cit., note 2.

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