

MEANING AND NECESSITY

A Study in Semantics and Modal Logic

By RUDOLF CARNAP

Professor of Philosophy in the University of Chicago



THE UNIVERSITY OF CHICAGO PRESS
CHICAGO • ILLINOIS

§ 28. Frege's Distinction between Nominatum and Sense

Frege distinguishes for any name between its nominatum, i.e., the object named, and its sense, i.e., the way in which the object is given by it. We see from Frege's discussion that his concept of nominatum fulfils the principles of the name-relation stated earlier (§ 24); thus his method of semantical analysis is a particular form of what we call the method of the name-relation. According to Frege, the nominatum of an isolated sentence is its truth-value, and its sense is the proposition expressed by it. However, if the sentence stands in an oblique (i.e., nonextensional) context, then its nominatum is that same proposition.

Frege²⁰ has made a very interesting distinction between the nominatum of an expression and its sense.²¹ This distinction will now be explained and then, in the next section, compared with our distinction between extension and intension. It will be seen that in some respects there is a close similarity between the two kinds of distinctions; and it was, indeed, Frege's pair of concepts that first suggested to me the concepts of extension and intension as applied to designators in general. On the other hand, we shall find differences between the two conceptions, based chiefly upon the fact that Frege's conception is a particular form of what I have previously called the method of the name-relation.

The purpose of Frege's paper, described here in modern terminology, is to carry out a semantical analysis of certain kinds of expressions in the ordinary word language and to propose, examine, and apply semantical concepts as instruments for this analysis. His discussions seem to me of great importance for the method of logical analysis; but, like his other works, this paper has not found the attention it deserves. Except for Russell, [Denoting], who has discussed Frege's analysis in detail but rejected most of it, Frege's paper seems to have been neglected for about half a century, until Alonzo Church²² began, several years ago, to point

²⁰ [Sinn].

²¹ I list here the English terms which I shall use as *translations of Frege's terms*, following, in most cases, Russell, [Denoting], and Church (see n. 22). 'Ausdrücken' is translated into 'to express' ('to connote' might perhaps also be taken into consideration, in analogy to 'to denote', although it often has in ordinary usage a quite different sense which concerns not the designative meaning component but other ones, especially the associative and emotive); 'Sinn'—'sense' (so Church; Russell uses 'meaning'; 'connotatum' or 'connotation' might also be considered); 'bezeichnen'—'to be a name of' or 'to name' (Russell and Church: 'to denote'; see the remark on the ambiguity of this term in n. 1, § 24); 'Bedeutung'—'nominatum' (Russell and Church: 'denotation'); 'Begriff'—'property' (Frege uses 'Begriff' for attributes of degree one only; for attributes in general he uses the phrase 'Begriff oder Beziehung'); 'Gedanke'—'proposition' (see Church's justification for this translation, [Review Q.], p. 47); 'gewöhnlich (Rede, Bedeutung, Sinn)'—'ordinary'; 'ungerade (Rede, Bedeutung, Sinn)'—'oblique'; 'Gegenstand'—'object'; 'Wertverlauf'—'value distribution'; 'Behauptungssatz'—'(declarative) sentence'.

²² In reviews in the *Journal of Symbolic Logic*, V (1940), 162, 163; VII (1942), 101; see also an abstract of a paper of his, *ibid.*, VII, 47; further, more in detail, in [Dictionary] article, "Descriptions", [Review C.], and [Review Q.].

out repeatedly the importance of Frege's conception, defending its basic idea while beginning to develop further the details of its application.

Frege's distinction between *nominatum* and *sense* is made in the following way: Certain expressions are names of objects (this term is to be understood in a wide sense, including abstract, as well as concrete, objects) and are said to name ('bezeichnen') the objects. From the *nominatum* of an expression, that is, the object named by it, we must distinguish its *sense*; this is the way in which the *nominatum* is given by the expression. This is illustrated by the following example:

28-1. The two expressions 'the morning star' and 'the evening star' have the same *nominatum*.

This holds because both are names of the same thing, a certain planet; in other words, the following is a true statement of an astronomical fact:

28-2. The morning star is the same as the evening star.

On the other hand, the following holds:

28-3. The expressions 'the morning star' and 'the evening star' do not have the same *sense*.

The reason for this is that the two expressions refer to their common *nominatum*, that planet, in different ways. If we understand the language, then we can grasp the *sense* of the expressions; for instance, we are then aware that the *sense* of 'the morning star' is the same as that of the phrase 'the body which sometimes appears in the morning before sunrise in the eastern sky as a brightly shining point'. The *nominatum* is not, however, given by the *sense* but only, as Frege puts it, illuminated from one side ("einseitig beleuchtet"). To find the result 28-1, more is required than merely to understand the *sense* of the expressions (namely, observation of facts).

After having explained the distinction in a general way, Frege proceeds to apply it to sentences. In a (declarative) sentence we express a proposition ('Gedanke'). Is the proposition expressed by a sentence its *sense* or its *nominatum*? By a long and careful analysis, Frege arrives at the following two results:

28-4. The (ordinary) *sense* of a sentence is the proposition expressed by it.

28-5. The (ordinary) *nominatum* of a sentence is its truth value.

These are the results for ordinary cases; they hold, in particular, for any isolated sentence, that is, one which is not a part of a larger sentence; the exceptions will be discussed later. For our purposes the most important

question to be raised here concerns the method by which Frege arrives at these two results (and at the exceptions to them). They are clearly not meant simply as conventions, as, so to speak, part of the definitions of the terms 'sense' and 'nominatum'. If this had been Frege's intention, he probably would have chosen a simple general rule not complicated by exceptions. It becomes clear from his discussion that the situation is otherwise. Frege assumes that he knows quite clearly what he means by 'sense' and 'nominatum', that is, that he knows the way in which he intends to use these terms. On the basis of this knowledge, he investigates how these terms apply to various kinds of expressions. Thereby he discovers objective results, and these he reports as he finds them, whether they are simple or complicated. For the reader, however, it is not so clear as for Frege himself what is to be understood by his two terms. The preliminary explanations which he gives are certainly not sufficient to lead to the results, or even to make them plausible. The nominatum of an expression, for instance, is explained as that of which the expression is a name. This explanation, however, by no means succeeds in making the result 28-5 plausible. I think any unprepared reader would be inclined to regard a sentence as a name of a proposition rather than as a name of a truth-value—if, indeed, he is at all willing to regard a sentence as a name of anything. Another explanation for 'nominatum' which Frege gives is that a sentence is about the nominata of the expressions occurring in it (we have previously called this the principle of subject matter, 24-2). But this explanation, it seems to me, does not make 28-5 any more plausible. Take as an example the false sentence 'Hw' (see rules 1-1 and 1-2) as part of ' \sim Hw'. (According to Frege, this is an ordinary case, that is to say, 28-4 and 28-5 also hold for 'Hw' in this context.) The question here is whether the nominatum of 'Hw' as part of ' \sim Hw' is (i) falsity or (ii) the (false) proposition that the book Waverley is a human being. According to the principle of subject matter, the sentence ' \sim Hw' is in case (i) about falsity (presumably saying that falsity does not hold), and in case (ii) about the proposition mentioned (presumably saying that it does not hold). I believe that the first alternative, which is Frege's result 28-5, would appear to any unprepared reader far less natural than the second.

The foregoing considerations are by no means intended as refutations of or objections to Frege's results. They are merely meant to show that Frege's preliminary explanations of his terms are not sufficient as a basis for his results. In order to understand the specific sense in which Frege means his terms, we have to look not so much at his preliminary explana-

tions as at the reasoning by which he reaches his results. When we do this, we find that Frege makes use of certain assumptions as if they were self-evident or at least familiar and plausible, without formulating them explicitly as the basic principles of his method. These assumptions can be formulated as principles of interchangeability in the following way:

Frege's Principles of Interchangeability

Let $\dots \mathcal{A}_j \dots$ be a complex name containing an occurrence of the name \mathcal{A}_j , and $\dots \mathcal{A}_k \dots$ the corresponding expression with the name \mathcal{A}_k instead of \mathcal{A}_j .

28-6. First principle. If \mathcal{A}_j and \mathcal{A}_k have the same nominatum, then $\dots \mathcal{A}_j \dots$ and $\dots \mathcal{A}_k \dots$ have the same nominatum. In other words, the nominatum of the whole expression is a function of the nominata of the names occurring in it.

28-7. Second principle. If \mathcal{A}_j and \mathcal{A}_k have the same sense, then $\dots \mathcal{A}_j \dots$ and $\dots \mathcal{A}_k \dots$ have the same sense. In other words, the sense of the whole expression is a function of the senses of the names occurring in it.

Now let us see how Frege reaches his results 28-4 and 28-5 with the help of the first principle. His problem is: What is the nominatum and what is the sense of an (isolated) sentence? He says: "If we replace a word in a sentence by another word with the same nominatum but a different sense, then this change cannot have any influence upon the nominatum of the whole sentence."²³ Here, the first principle seems to be tacitly presupposed. Let us take two sentences which are alike except for the occurrence of the phrases 'the morning star' in the one and 'the evening star' in the other. According to our earlier statements (28-1 and 28-3), this is a case in question. Hence, according to Frege's reasoning just quoted, the two sentences have the same nominatum. What, then, could be regarded as this common nominatum? The propositions expressed by the two sentences may, obviously, be different. Hence they cannot be the nominata; therefore, Frege reasons, they must be the senses of the sentences. (Here another assumption seems to be tacitly made, namely, that the proposition expressed by a sentence, because it has clearly a close (semantical) relation to the sentence, must be either its nominatum or its sense.) On the other hand, the two sentences have the same truth-value (at least in ordinary cases). Therefore, the truth-value may be regarded

²³ [Sinn], p. 32.

as the common nominatum. Thus the results 28-4 and 28-5 are reached (for ordinary cases).

The most important application of Frege's two principles is to cases in which the whole expression $\dots \mathcal{A}_j \dots$ is an isolated sentence (while \mathcal{A}_j may be either a sentence or a name of another form). For these cases the principles take the following special forms, if the results 28-4 and 28-5 are applied to the whole sentences:

Frege's Principles of Interchangeability within Sentences

Let $\dots \mathcal{A}_j \dots$ be an isolated sentence containing an occurrence of the name \mathcal{A}_j , and $\dots \mathcal{A}_k \dots$ the corresponding sentence with the name \mathcal{A}_k instead of \mathcal{A}_j .

28-8. First principle. If \mathcal{A}_j and \mathcal{A}_k have the same nominatum, then $\dots \mathcal{A}_j \dots$ and $\dots \mathcal{A}_k \dots$ have the same truth-value. In our terminology (111-1): Names which have the same nominatum are interchangeable with one another.

28-9. Second principle. If \mathcal{A}_j and \mathcal{A}_k have the same sense, then $\dots \mathcal{A}_j \dots$ and $\dots \mathcal{A}_k \dots$ express the same proposition. In our terminology: Names which have the same sense are L-interchangeable with one another.

Our references in what follows are to these specialized forms of Frege's two principles.

What Frege means by 'nominatum' and 'sense' is shown more clearly by these principles than by his preliminary explanations. Frege's first principle 28-8 is the same as 24-3a, the principle of interchangeability for the name-relation. Since Frege's discussion shows that the principles 24-1 and 24-2 also hold for his concept of nominatum, his method is a particular form of what we have called the method of the name-relation. As we have seen earlier, 24-3a is quite plausible; hence Frege's first principle is plausible. Whether this is also true for his second principle is hard to say. But I think it does not seem implausible if we regard it as revealing the fact that Frege understands the term 'sense' in such a way that the sense of a compound expression and, in particular, of a sentence is something which is determined by the senses of the names occurring in it.

Frege's principles lead him, on the one hand, to the results 28-4 and 28-5 for ordinary cases—for example, for isolated sentences—as we have seen. On the other hand, these same principles compel him to regard certain cases as exceptions to these results and thereby to make his whole scheme rather complicated. These exceptions are the cases in which a name occurs in an *oblique* context (which is about the same as a non-

extensional context in our terminology, 11-2a). Take, for example, the occurrence of the (false) sentence

- (i) 'the planetary orbits are circles'

within the oblique context

- (ii) 'Copernicus asserts that the planetary orbits are circles'.

The problems involved here would, of course, be the same if, instead of 'asserts', a term like 'believes' were to occur; hence this example is similar to the belief-sentences discussed earlier (§ 13). According to Frege's results (28-5 and 28-4), the ordinary nominatum of (i), that is, that nominatum which this sentence has when occurring either isolated or in an ordinary, nonoblique context, is its truth-value, which happens to be falsity; and the ordinary sense of (i) is the proposition that the planetary orbits are circles. Now Frege says that the sentence (i) within the oblique context (ii) has not its ordinary nominatum but a different one, which he calls its oblique nominatum, and not its ordinary sense but a different one, which he calls its oblique sense. Concerning the oblique nominatum, Frege makes the following two statements; the second is a special case following from the first:

28-10. The oblique nominatum of a name is the same as its ordinary sense.

28-11. The oblique nominatum of a sentence is not its truth-value but the proposition which is its ordinary sense.

Thus, for the above example the following result holds:

28-12. The oblique nominatum of the sentence (i), that is, the entity named by (i) in an oblique context like (ii), is the proposition that the planetary orbits are circles.

For this result, Frege gives two reasons at different places in his paper. (1) "In the oblique mode of speech, one speaks about the sense, for example, of the utterance of another person. Hence it is clear that . . . in this mode of speech a word does not have its ordinary nominatum, but names that which ordinarily is its sense."²⁴ I understand Frege's reasoning here in the following way, if applied to the above example. He seems to presuppose tacitly the principle of subject matter (24-2). According to it, the whole sentence (ii) speaks about the nominatum of the subsentence (i). Now it is clear that (ii) does not speak about the sentence (i), because Copernicus may have used other words than (i) and even another lan-

²⁴ *Ibid.*, p. 28.

guage. Nor does (ii) speak about the truth-value of Copernicus' statement but rather about its sense, because (ii) says that Copernicus asserted a certain sense, a certain proposition, namely, that proposition which is the ordinary sense of (i). Therefore, this proposition must be the nominatum of (i) in (ii). (2) That the nominatum of a sentence in an oblique context is not the truth-value but the proposition, is, Frege says, "also to be seen from [the circumstance] that it is irrelevant for the truth of the whole sentence whether that proposition is true or false."²⁵ This is presumably meant in the following way: According to Frege's first principle, the nominatum, that is, the truth-value, of the whole sentence (ii) is a function of the nominatum of the subsentence (i). Now if the latter nominatum were the truth-value, then the truth-value of (ii) would depend upon that of (i). This, however, is not the case; in order to establish that (ii) is true we need not know whether (i) is true or false. Hence the nominatum of (i) in (ii) cannot be its truth-value; therefore, it must be the proposition. (For this last step, again, a certain assumption seems tacitly presupposed.)

In one respect, Frege's concept of proposition ('Gedanke') is not quite clear; he does not state an identity condition for propositions. In the foregoing discussion I have assumed that he takes the same identity condition that we take, namely, L-equivalence (see § 6 and [I], p. 92). However, in this case, Frege's analysis of sentences with terms like 'asserts', 'believes', etc., is not quite correct; because a sentence of this kind may change its truth-value and hence, a fortiori, its sense if the subsentence is replaced by an L-equivalent one (see, for example, the discussion of belief-sentences in § 13, especially 13-4). His analysis would be correct if he had in mind a condition stronger than L-equivalence, something similar to the concept of intensional structure explained above (§ 14). In this case our second formulation of 28-9, which was meant as a translation of Frege's second principle into our terminology, must be omitted.

§ 29. Nominatum and Sense: Extension and Intension

Frege's pair of concepts (nominatum and sense) is compared with our pair (extension and intension). The two pairs coincide in ordinary (extensional) contexts, but not in oblique (nonextensional) contexts. This does not constitute an incompatibility, a theoretical difference of opinion, but merely a practical difference of methods. Frege's pair of concepts is intended as an explicatum for a certain traditional distinction, and our pair as an explicatum for another distinction.

²⁵ *Ibid.*, p. 37.

We shall now compare Frege's distinction between the nominatum and the sense of an expression with our distinction between the extension and the intension of an expression.

Our pair of concepts is, like Frege's, intended to serve for the purposes of semantical meaning analysis. Our two concepts may be regarded, like Frege's, as representing two components of meaning (in a wide sense). The concepts of sense and of intension refer to meaning in a strict sense, as that which is grasped when we understand an expression without knowing the facts; the concepts of nominatum and of extension refer to the application of the expression, depending upon facts.

A decisive difference between our method and Frege's consists in the fact that our concepts, in distinction to Frege's, are independent of the context. An expression in a well-constructed language system always has the same extension and the same intension; but in some contexts it has its ordinary nominatum and its ordinary sense, in other contexts its oblique nominatum and its oblique sense.

Let us, first, compare the extension of an expression with its ordinary nominatum; it seems that these concepts coincide. With respect to predicates, Frege does not seem to have explained how his concepts are to be applied; however, I think that Church²⁶ is in accord with Frege's intentions when he regards a class as the (ordinary) nominatum of a predicator (of degree one)—for instance, a common noun—and a property as its (ordinary) sense. As an example, Church states that the nominatum of 'unicorn' is the null class, and its sense is the property of unicorn-hood. And here the extension is likewise the class in question. With respect to a sentence, its truth-value is both the ordinary nominatum and the extension. And in the case of an individual expression the ordinary nominatum and the extension is the individual in question. Thus we have this result:

29-1. For any expression, its ordinary nominatum (in Frege's method) is the same as its extension (in our method).

It is more difficult to see clearly what constitutes the ordinary sense in Frege's method. As mentioned before, this is due to the lack of precise explanation and especially of a statement as to the condition of identity of sense; we shall assume here again that Frege would agree to take L-equivalence as this condition. Then, for a sentence, its ordinary sense is the proposition expressed by it, hence it is the same as its intension. For a predicator (of degree one) its ordinary sense is the property in question, and its intension is the same. Frege does not use any special term for the

²⁶ [Review C.], p. 301.

sense of an individual expression.²⁷ But he says that the sense of a sentence is not changed if an individual expression occurring in an ordinary context is replaced by another one with the same sense. Therefore, it seems reasonable to assume that what he means by the sense of an individual expression is about the same as what we mean by an individual concept. Hence, on the basis of our understanding of Frege's explanations, the following seems to hold:

29-2. For any expression, its ordinary sense (in Frege's method) is the same as its intension (in our method).

Thus, for ordinary occurrences of expressions, our two concepts coincide with those of Frege. The differences arise only with respect to expressions in an oblique context. Here our concepts lead to the same entities as for the ordinary occurrences of the same expressions, while Frege's concepts lead to different entities. As we have seen earlier, this complication is not introduced by Frege arbitrarily but is an inevitable consequence of his general principles, especially the first.

It seems that Frege, in introducing the distinction between *nominatum* and sense, had the intention of making more precise a certain distinction which had been made in various forms in traditional logic. Thus his task was one of explication (in the sense explained in the beginning of § 2). The explicata proposed by him are the concepts of *nominatum* and sense. Now the question is: What were his explicanda, that is, for which pair of traditional concepts did Frege propose his explicata? Church²⁸ refers in this connection, first, to the distinction between 'extension' and 'comprehension' in the Port-Royal Logic, and, second, to the distinction between 'denotation' and 'connotation' made by John Stuart Mill. It seems to me that we find in the historical development *two* pairs of correlated concepts, appearing in various forms. These pairs are closely related to each other and may sometimes even merge. Nevertheless, I think that it is, in general, possible to distinguish them. (1) In traditional logic we often find two correlated concepts: on the one hand, what was called the 'extension' or 'denotation' (in the sense of J. S. Mill) of a term or a concept; on the other hand, what was called its 'intension', 'comprehension', 'meaning', or 'connotation'.²⁹ It seems to me that Frege intended an explication of this

²⁷ Church uses the term 'description', which is, however, more customary for an individual expression constructed with an *iota*-operator than for its sense.

²⁸ [Review C.], p. 301.

²⁹ For a detailed discussion and comparison of the conceptions of Mill and other authors see Ralph M. Eaton, *General Logic* (1931), chap. vi.

pair of concepts by his distinction between the value-distribution of a propositional function and the propositional function itself; in the case of degree one, this distinction is the familiar one between a class and a property. Our distinction between extension and intension is likewise meant as an explication of the same pair of concepts, as far as predicators are concerned, and simultaneously as an enlargement of the domain of application of the customary concepts to other kinds of designators. (2) The second pair of concepts starts with the name-relation. In everyday language, it is said, for instance, that 'Walter Scott' is a name of the man Walter Scott. Logicians extend the application of this relation. They also regard individual descriptions as names, e.g., 'the author of *Waverley*' as a name of the same man Walter Scott, a usage not admitted by everyday language. Going further, they even construe expressions of another than the individual type as names; they regard them as names of abstract entities, e.g., of classes or properties, relations, functions, propositions, etc. (Other terms used as synonyms of 'is a name of' were mentioned at the beginning of § 24.) With respect to any expression regarded as a name, a distinction is made here between that entity whose name the expression is and the meaning or sense of the expression. It seems that the second concept in this pair is very similar to the second in the first pair; for both of them the term 'meaning' is sometimes used.

Now it seems to me that the explicandum which Frege intended to explicate by his distinction between nominatum and sense was the second pair of concepts rather than the first. And I interpret also some of Quine's discussions in [Notes] as an endeavor toward a clarification and explication of the concepts of the second pair. Since Church's discussions in recent publications, especially [Review C.] and [Review Q.], are intended to defend and develop Frege's distinction, I regard them, too, as belonging more to the second historical line than to the first. However, the two historical lines, the two pairs of concepts taken as explicanda, are closely related to each other. I have emphasized the difference between them only in order to make clearer the difference between the problem which Frege intended to solve and my problem or, more exactly, the difference between the explicandum which Frege took as the basis of his distinction between nominatum and sense (if I understand him correctly) and the explicandum for which my distinction between extension and intension is intended.

Thus it becomes clear—and I wish to emphasize this point—that the difference between Frege's method and that here proposed is not a difference of opinion. In other words, it is not the case that there is one

question to which different and incompatible answers have been given. There are two questions, and, more precisely, these are not even theoretical questions but merely practical aims. While the general aim is the same, namely, the construction of a pair of concepts suitable as instruments for semantical analysis, the specific aims are different. Frege tries to achieve the general aim by an explication of one pair of concepts, I by the explication of another pair. Frege's principles are not assertions which are open to refutation or doubt. They are to be regarded rather as part of the characterization of his two concepts and hence hold analytically for these concepts. If someone were to say—as I do not—that he disagrees with Frege's principles, he would merely be saying in effect that he understands the two terms 'nominatum' and 'sense' in a way different from Frege—in other words, that he uses different concepts—and there would be thus no genuine disagreement. The results found by Frege, including the complication in the case of oblique contexts, are consequences of his principles and hence share their analytic validity (assuming that Frege made no mistake in reasoning from the principles to the results). Therefore, I am in complete agreement with Frege's results in this sense: they are valid for his concepts. The same holds for Church's results on the same (or a somewhat modified) basis.

The two concepts used in our method coincide, as we have seen earlier, in certain cases with Frege's concepts, while in other cases they do not. This is not a contradiction between two theories, since our concepts are admittedly different from Frege's. The situation is, rather, similar to the following: Suppose someone divides all animals into aquatic, aerial, and terrestrial animals; someone else divides them into fishes, birds, and the rest. The two classifications coincide to some extent because fishes are aquatic animals and birds are aerial; but they do not coincide entirely. The one man puts whales into his first class, while the other does not. This fact, however, does not constitute a difference of opinion, a theoretical contradiction, because the two concepts in question are admittedly different. Since the two classifications and the assertions made on their bases are not incompatible, it would be theoretically possible to use both simultaneously. However, if the simultaneous use of both seems unnecessarily complicated, there is a kind of practical incompatibility or competition. In this case the decisive question is this: which of the two triples of concepts is more fruitful for the purpose for which both are proposed, namely, a classification of animals?

The situation with regard to Frege's pair of concepts and that proposed here seems to me to be analogous. I have the feeling, without being quite

certain, that it would not be very fruitful to use simultaneously both pairs of concepts for semantical analysis. If so, then there is, in spite of the theoretical compatibility, a practical competition or conflict. This conflict might, for instance, appear over the following point, which has been mentioned earlier: A logician, thinking in terms of Frege's concepts, might be inclined, though not compelled, to construct a logical system in such a way that it contains different expressions for classes and for properties, while a logician, thinking, instead, in terms of extension and intension, would probably be less inclined to do so.

§ 30. The Disadvantages of Frege's Method

Frege's special form of the method of the name-relation involves additional complications. Starting with any ordinary name, it leads to an infinite number of entities and an infinite number of expressions as names for them, while the method of extension and intension needs only one expression and speaks only of two entities. Furthermore, according to Frege's method, the same name, when occurring in different contexts, may have an infinite number of different *nominata*; and sometimes even the same occurrence of a name may simultaneously have several *nominata*.

The disadvantages of Frege's pair of concepts in comparison with the pair here proposed all belong to the concept of *nominatum*. Frege's concept of sense is very similar to that of intension; we might even say that, when we consider simply these two concepts, it is difficult to see any reason that there should be a difference between them. The difference is brought about by Frege's differentiation between the ordinary and the oblique sense of a name. It is not easy to say what his reasons were for regarding them as different. Perhaps he was led to make this distinction because of his original distinction between the ordinary and the oblique *nominatum*. It does not appear, at least not to me, that it would be unnatural or implausible to ascribe its ordinary sense to a name in an oblique context. However, Frege could not do this because he had already used this ordinary sense as *nominatum* in the oblique context. And since he assumes that *nominatum* and sense must always be different, he had thus to introduce a third entity as the oblique sense. Incidentally, it seems that Frege nowhere explains in more customary terms what this third entity is.

Since Frege's method is a special form of what we have called the method of the name-relation, it also possesses the disadvantages which we have previously found in this method. We found (§ 25) that the concept of *nominatum* involves a certain ambiguity, which is also transferred to other semantical concepts, for instance, those of identity sentence and identity sign.