HAS FREGE A PHILOSOPHY OF LANGUAGE?*

Has Frege a philosophy of language? Most contemporary writers would say he has. And, while some might agree that Frege’s early philosophical writings are restricted to issues concerning logic and arithmetic, few express any doubt that Frege’s 1892 paper, “On Sense and Meaning,” is meant as the beginning of some sort of philosophy of language. Part of the explanation of this might be that it seems clear to most contemporary writers first that, as Michael Dummett says, “However Frege is to be interpreted, there will be such a thing as the philosophy of language” (Dummett 1981, p. 40) and, second, that if there is such a thing as the philosophy of language, Frege made important contributions to it. Those contributions, of course, are to be found in “On Sense and Meaning,” among other writings. In the chapter of The Interpretation of Frege’s Philosophy titled “Was Frege a Philosopher of Language?” Dummett writes,

Frege says that, while all sciences have truth as their goal, the predicate ‘true’ defines the subject-matter of what he calls ‘logic’. [1979a, p. 128]. . . . Now the notion of truth, as the object of philosophical enquiry, has always been recognized by philosophers as closely allied to that of meaning. [p. 37]

Even if this is so, philosophers may differ on what the nature of the alliance might be. Dummett has made it clear that, on his view, the notion of meaning has to do with features of language that are in no way exhausted by what is expressed in logical laws. But is Frege concerned with meaning in this sense? I will argue that, by insisting that he is, we place obstacles in the way of providing a coherent interpretation of Frege’s writings. I will argue, in particular, that, supposing we understand meaning as Dummett does, then on Frege’s view the philosophical treatment of the notion of truth is closely allied, not with meaning, but with science. Frege’s logical investigations answer to what he views as the most fundamental standards of science. And one consequence of taking these standards seriously is that, if a semantic theory or a theory of meaning must consist of truths, there can be no such theories.

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Why think the traditional reading of Frege causes difficulties for interpreting his writings? One reason is that this reading is not easily reconciled with some of Frege’s explicit claims about his aims and achievements. One of these appears in a jotted note, from Frege’s Nachlass apparently dated August 1906 and labeled “What may I regard as the result of my work?” It begins,

It is almost all tied up with the concept-script, a concept construed as a function, a relation as a function of two arguments, the extension of a concept or class is not the primary thing for me, unsaturatedness both in the case of concepts and functions, the true nature of concept and function recognized [1979a, p. 184]

There is no immediate conflict. To say that Frege meant to contribute to a theory of meaning is not to deny the importance of his contribution to logic. But this comment does place a burden on the reader who takes a contribution to the theory of meaning as one of Frege’s aims. Frege’s explicit assessment of his achievement suggests that, insofar as he intended to contribute to a theory of meaning, this contribution, too, is tied up with his concept-script. What is the relation of Frege’s contribution to the theory of meaning and his logical achievements?

Although Dummett recognizes that this relation is important, his characterizations of the relation are not always very convincing. He writes that the syntactic analysis embodied in Frege’s symbolic notation,

expresses Frege’s conception of the way in which sentences are to be viewed as having been constructed out of their components; and its point lies in the fact that it serves as a base for the semantic theory embodied in his theory of reference. [1981, pp. 151–152]

But this is very different from Frege’s description of its point. When Frege first attempted to set out this syntactic analysis in 1879, he characterized it as a means for expressing all content that is of significance for inference and as a means of preventing presuppositions from sneaking into inferences unnoticed. No theory of reference is mentioned. This is not very surprising, since Frege did not have a theory of reference in 1879. Nor is there textual evidence that, in 1879, Frege was planning to introduce a theory of reference. That is, there is no compelling evidence that, on Frege’s view, the point of his 1879 introduction of his symbolic notation was that it could serve as a base for a semantic theory. Frege may, of course, have changed his mind about the sort of contribution his symbolic notation constituted. But Dummett’s characterization does not appear in Frege’s later writings either.

A few pages later, Dummett again characterizes the relation between theories of reference and logic—this time reversing the relation. He asks what the notion of reference is for and answers.

In logic, we need the notion of reference, or of semantic value in order to characterize validity; but, more generally, we need it as the basis for a theory of sense; it has a point if, and only if, it plays a role in our account of sense. What, then, do we need a theory of sense for? We need it as forming a large part of a theory of meaning, that is, of a theory that will explain in virtue of what features of our use of them our sentences bear the meanings they do. [1981, p. 157]

Unlike the previous quote, this suggests that a need for a theory of reference arose from the demands of Frege’s logic—a more plausible story. It also suggests that a need for a theory of reference will arise from any attempt to develop a theory of meaning (or, as Dummett says elsewhere, an account of the workings of language FPL 83). Dummett seems to have identified two distinct projects to which Frege wished to make a contribution: the development of a logic and the development of a theory of meaning. Both projects, according to Dummett, require a theory of reference.

There can be no doubt that Frege meant to be developing a logic. He said so repeatedly. But Frege did not say he was developing a theory of meaning. Thus any evidence that he meant to be doing this must be indirect. And the evidence is, at best, equivocal. For instance, Dummett claims that Frege’s project requires a definition of what it is to be a proper name. If Frege did mean the syntactic analysis embodied in his symbolic notation to be a contribution to an analysis of the workings of language, then Dummett’s claim is not unreasonable. On the other hand, Frege does not think that he needs to give a definition of what it is to be a proper name. What are we to infer? Dummett infers that Frege has made a mistake for, Dummett says, “Such an attitude is not acceptable.” (1973, p. 54) But this conclusion is not inevitable. No definition of ‘proper name’ is required for purposes of setting up a logical notation and logical laws. Nor is one required for purposes of explaining what his Begriffsschrift does. Frege’s failure to offer a definition of “proper name” can be interpreted either as an error or as an indication that Frege was not concerned with the workings of language. If we insist, as Dummett does, that Frege was concerned with the workings of language, this is not the only error.

Another error, according to Dummett, is Frege’s claim that a sentence is the proper name of one of two objects, the True and the False. Dummett characterizes this as “disastrous” [1991b, p. 242]. One of the interesting features of this disaster is its location. We have all found ourselves in the position of having committed ourselves to views that we would rather deny. But typically these commitments are made without full awareness. Taken in isolation, some of Dummett’s remarks might lead the naive reader to imagine that Frege’s claim that sentences are proper names appears somewhat late in his writings about language. The naive reader might suspect that at some point Frege realized that he had already made this commitment and decided, given his options and other commitments, that the appropriate response was to stand behind this unfortunate consequence.
The actual situation is different. Frege did not originally claim that sentences were names of truth-values. It is probably true that he came to realize that details of his logic committed him to this. But there is no indication in his writings that he was reluctant to embrace this consequence or that he thought it conflicted with other views he held—particularly views about language. Indeed, in the writings that precede his assimilation of sentences to proper names, there is no philosophy of language for which this consequence could cause trouble. The first article that seems to address linguistic meaning as an object of philosophical investigation is “On Sense and Meaning”. And the bulk of that paper is devoted to Frege’s argument that it is appropriate to take sentences as names of the True and the False. The ‘disaster’ is right up front. There is an obvious alternative to Dummett’s characteristic of Frege’s claim not only as ‘disastrous’ but also as ‘tragic’, an ‘absurdity’, a ‘ludicrous deviation’ and a ‘gratuitous blunder’ [1973, p. 184]. The alternative is to consider the possibility that Frege is not interested in contributing to the sort of theory of meaning Dummett advocates. To see why it should be considered, let us look more closely at the nature of the disaster.

It is obvious, of course, that the view of sentences as proper names does not come from the demands of a theory of meaning. The demands that motivate this view come, Dummett says, from Frege’s theory of reference. Moreover, according to Dummett, a theory of reference plays a necessary role both for Frege’s logic and for his theory of meaning. Evidently, then, the view that sentences are proper names should arise from the demands of logic. The explanation is simple. It is an essential part of Frege’s logical notation to show how the truth-value of a complex sentence is dependent on its composition. Sentences can, themselves, be parts of sentences. And, as it turns out, a sentence’s contribution to the truth-value of a sentence in which it appears can only be explained if sentences are names of truth-values. This is the argument Frege gives in “On Sense and Meaning”. Also, in the preface to volume 1 of Basic Laws, the work in which Frege presents the revised version of his logic, he indicates that the introduction of truth-values as objects for which sentences stand is useful for purpose of the logic. As he says in the preface, this makes everything “sharper and simpler”. In addition, it is an important part of the characterisation of functions needed to make his logical regimentation clear. Thus the arguments in “On Sense and Meaning” play a role in Frege’s exposition of his altered logical notation in Basic Laws.

If we insist that Frege was developing a theory of meaning we are, it seems, required to ascribe many serious and inexplicable blunders to him. Why, then, does it seem so evident that he was? There are two obvious answers. The first is that not all the views expressed in “On Sense and Meaning” are needed for Frege’s logic. I will put this answer aside for the moment and return to it later. The second is that a theory of meaning must underlie logic. This seems to be Dummett’s answer. At many points his discussions suggest that the demands of a theory of meaning should have priority over those of logic. (See, e.g., [1973, pp. 669–671], [1981, pp. 19, 37–38, 63, 157].) In his discussion of the assimilation of sentences to proper names he writes that this assimilation does not accord with our strong intuition that sentences are not of the same syntactic or semantic category as proper names, and this implies, at least within a Fregean framework, that the things they stand for will be of different logical types too. [1991b, pp. 242–243]

This may seem to contradict Frege’s dictum that criteria for decisions about logic should not be derived from language which is “unreliable on logical questions” [1984, p. 381]. But Dummett does not mean these intuitions to come directly from an examination of natural language. A correct theory of meaning is not to be understood as an accurate account of the actual functioning of natural language. Dummett says, no systematic theory of meaning will fit our linguistic practice as it actually is: but so much the worse for our linguistic practice, which ought to be revised so as to accord with such a theory. [1981, p. 30]

He goes on to say that Frege’s theory is meant to apply to natural language, “in so far as it does function properly” [1981, p. 31]. In Dummett’s view logic must be responsible, not to our actual use of language, but to a systematic theory of meaning that fits with what is right about our actual use of language. And, again, the content of this theory cannot be constituted by logical laws. What is right in our actual language goes beyond those bounds.

It is difficult, however, to reconcile this view of the relation between logic and theories of meaning with Frege’s writings. The assimilation of sentences to proper names is a direct result of one of the central features Frege mentions in his 1906 note: the construal of concepts as functions. This assimilation is itself manifested in Frege’s logical laws. And there is no indication that the logical laws must answer to a theory of meaning. For Frege says, The questions why and with what right we acknowledge a law of logic to be true, logic can answer only by reducing it to another law of logic. Where that is not possible, logic can give no answer. [1967a, p. 15]¹

Nor is this merely the only answer logic can give: it is the only sort of answer available. Frege considers only one sort of answer we might get if we

¹Of course, according to Dummett, Frege uses the term ‘logic’ both for what we understand as logic and for the theory of meaning [1981, p. 63]. Indeed, more often Dummett simply claims that Frege’s term ‘logic’ should be understood as ‘theory of meaning’ (See, e.g., [1973, pp. 669–670]. [1981, pp. 36–37]). However, even if we were to agree with Dummett that, at some points, Frege’s use of the term ‘logic’ can be replaced with ‘theory of meaning’, the laws of logic to which Frege refers here are clearly what we would describe as laws of logic. If we read the other occurrence of ‘logic’ as ‘theory of meaning’, then it is clear that the theory of meaning must answer to the laws of logic rather than the other way around.
“step away from logic”. It is that “we are compelled to make judgments by our own nature and by external circumstances.” And this, Frege tells us, is not an answer to the question. Thus, insofar as Frege takes himself to have presented a correct logic in Begriffsschrift or Basic Laws, if his logic conflicts with a theory of meaning—so much the worse for the theory of meaning.

But even if there is reason to believe that Frege did not hold the view of the relation between logic and theory of meaning that Dummett attributes to him, Frege might still have intended to contribute to a theory of meaning. Even if the demands of logic have priority, the notions of reference and sense introduced in "On Sense and Meaning" still seem to belong, at least, to a semantic theory and, perhaps also, to a theory of meaning. But do they? Can we really find views about language in Frege’s writings that are not part of his attempt to exposit or defend his logic or his views about what his logic does?

As we have seen, Dummett thinks that the point of a theory of sense is its contribution to a theory of meaning. But is this the point of Frege’s comments about sense? On the standard view, the evidence that these comments express Frege’s concern with language is that these comments go beyond what is needed for his logic. For the sense, or cognitive value, of an expression is what is communicated by use of the expression. It is what one understands when one understand the expression. And, if this is what the sense of an expression is, then it seems apparent that different expressions whose content is logically equivalent can express different senses. Our intellectual limitations guarantee that, for most of us, there will be pairs of logically equivalent sentences both of which we use for purposes of communication yet which we also believe do not express logically equivalent thoughts. This is supported by at least one passage in which Frege says that, when sameness of reference (or meaning) is not self-evident, there must be a difference in sense [1980, p. 152].

But, for all the apparent importance of communication and understanding in this characterization of sense, there remains a puzzle to be solved about the relation of sense and logic. After all, Frege himself claims in a letter to Husserl that “the only possible means of deciding whether two sentences express the same thought is that their contents are logically equivalent” [1980, p. 70]. And, in a different letter to Husserl, Frege says, “equipollent propositions have something in common in their content, and this is what I call the thought they express” [1980, p. 67]. Dummett dismisses these passages with the remark that we should not hold Frege to something he only says in a letter [1981, p. 325]. Dummett’s response might be convincing if the claims in these letters were truly isolated aberrations. But they are not.

A more careful look at Frege’s remarks about sense shows that it would be precipitous to dismiss the evidence of what Frege says in the letters to Husserl. For, if sense contains content beyond what is expressible in Begriffsschrift, Frege would need another term for the content that is expressed by his notation. In fact, Frege often uses the term “sense” as a term for the content expressed by his logic. One of the aims of Frege’s Begriffsschrift was to set out a notation adequate to express possible contents of judgment. He says, in the preface to Begriffsschrift, that his notation is meant to express all and only the content with significance for the inferential sequence [1879, p. 5]. It would seem that there can be a possible content of judgment is exhausted by what has significance for the inferential sequence. And, as he says in “On Concept and Object”, a companion paper to “On Sense and Meaning”, what he called “possible content of judgment” in Begriffsschrift, combined what he now designates as “thought” (the sense of a sentence) and truth-value (its reference or meaning). If sense is meant to be what is expressed by Begriffsschrift, then it is not clear how there can be a difference in sense when there is logical equivalence. The assimilation of sameness of sense to logical equivalence is also suggested by several other remarks. One of these is that the truth of a logical law is immediately evident of itself, from the sense of its expression [1984, p. 405].

I do not take any of this to show that sameness of sense is logical equivalence. Rather, it is clear that there is a role to be played by sense in Frege’s attempt to explain what his logic does. Indeed, one might argue that Frege is wrong about the significance of his notion of sense—that the notion, as described in “On Sense and Meaning”, is not simply a part of the earlier notion of possible content of judgment. But, if so, it is clear that there is a tension exhibited in Frege’s remarks—a tension between the role sense seems to play in Frege’s explanation of his logic and the role it seems to play in a theory of meaning. If Frege did regard his introduction of sense as a contribution to a theory of meaning then, at the very least, he should not have said that sense is a part of what he earlier called “possible content of judgement”. Perhaps Frege simply never faced this tension. But, as before, there is an alternative interpretation. It may be that Frege did not mean to be developing a theory of meaning. It seems only reasonable, at this point, to address these issues by examining Frege’s view of what his logic does.

II

The laws of logic cannot, of course, be independent of meaning. The content of a sentence that has significance for the inferential sequence is probably part of its meaning. But it does not follow that Frege has any need for a theory of meaning. Nor does this follow from Frege’s claim that the laws of logic are the laws of truth. The significance of his claim is abundantly clear from his writings. It is that the laws of logic are meant to be applicable whenever our interest is in establishing truths. They are the ultimate basis of every science. Such assertions appear throughout Frege’s writings. Thomas Ricketts describes these sorts of passages as expressing the view that logic is the maximally general science. But
the roots of this maximally general science, according to Ricketts, lie not so much in science and scientific inference as they do in a conception of everyday agreements and disagreements. Ricketts writes,

When I disagree with you, there arises an issue between us: either your assertion or my denial must be wrong. This issue is addressed when we reason together, when we attempt to locate further truths from which the original assertion or its opposite may be inferred. So, Frege adopts as his starting point our common understanding of language. This understanding includes a shared appreciation of elementary implications, of the basis that the assertion of one statement provides for the assertion and denial of others. [1986b, p. 173]

After all, it is not only in scientific contexts that we view ourselves as concerned with truth. When Frege says, “Thought is in essentials the same everywhere” [1884, p. III] and when Frege writes about logic as something “to be appointed as arbiter in the conflict of opinions” [1967a, p. 17], these claims must be understood, according to Ricketts, as applying to everyday reasoning.

On Ricketts’ interpretation, Frege’s notion of Bedeutung does not originate in an attempt to provide a theory of reference but, rather, in an attempt to explain generality and its quantifier representation in Begriffsschrift. On this interpretation, Frege’s aim is to contrast “variables which indefinitely indicate (bedeuten) anything, with names, which mean (bedeuten) some single thing.” [Ricketts, 1986b, p. 177]. This has nothing to do with identifying a means by which names hook onto the world or separating names into those that do and those that do not.

But it involves a presupposition, according to Ricketts. And this presupposition is that any name that is not a variable means some single thing. What is the significance of this presupposition?

Although Frege writes, in the preface to Begriffsschrift, that his logical notation is a means for preventing any presupposition from sneaking into an inference unnoticed, he also acknowledges, fairly early in his career, that there are presuppositions involved in the use of his Begriffsschrift. He says,

The rules of logic always presuppose that the words we use are not empty, that our sentences express judgments, that one is not playing a mere game with words. [1979a, p. 60]

But this presupposition seems innocuous. If all we are presupposing is that our apparent assertions do not amount to gibberish, the presupposition is no part of the content of the argument. The status of this presupposition appears to change, however, after the formulation of the sense/meaning distinction. Ricketts argues that Frege draws this distinction as a response to his recognition of the existence of meaningless names and that this recognition is forced on Frege by his conception of logic. And, according to Ricketts, once Frege claims that names have both sense and meaning but that the laws of logic apply only to sentences all of whose terms have meaning, the presuppositions involved in the application of the laws of logic acquire substance.

Consider the use of definite descriptions. In our ordinary understanding of inference, definite descriptions function as proper names. On our everyday understanding of the inferential relations, a claim that, for example, the F is a G is an instance of the generalization, ‘Everything is a G.’ It ought, then, to be immediately inferable from the generalization. The claim that the expression ‘the F’ has meaning is not part of the content expressed by a rendering of the argument in Begriffsschrift. It is a presupposition. But, unlike the innocuous presupposition that we are not mouthing gibberish, this presupposition appears to have substance. We can think that we are inferring in accord with the logical laws, but be mistaken. A definite description, on Frege’s view, has meaning for purposes of logic only if it picks out precisely one object. And this is something that must be demonstrated. Nor is the problem limited to definite descriptions. ‘Odysseus’ is one of Frege’s examples of a name with sense but not meaning. Someone who thought that Odysseus was a historical figure might believe she is making inferences about Odysseus but would have, inadvertently, wandered into the realm of fiction.

It seems, then, that before we are permitted to apply logical laws we must assure ourselves that all the expressions we use have meaning. Ricketts writes.

Presumably, the investigation of presuppositions belongs to the science of semantics, the science that examines what, if anything, a given name or sense of a name means. [1986b, p. 190]

Thus, Ricketts argues, Frege does find himself in need of a semantic theory—although the recognition of this need does not merit the celebration Dummett accords it. For this need is in direct conflict with Frege’s conception of logic.

I have far more sympathy for the Ricketts interpretation than I have for Dummett’s. I, too, have argued that the sense/meaning distinction is Frege’s response to the recognition of the existence of meaningless names and I have argued that his logical laws are the most general laws of science. (See [Weiner, 1990, pp. 66–67, 104–105].) But my interpretation of the notion of a most general science is rather different from Ricketts’ and one upshot is that, on my interpretation, the situation is nowhere near as grim as Ricketts suggests. On my interpretation, Frege does not need a semantic theory and the predominant

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reading of “On Sense and Meaning” is a misreading. My difference, both with
Dummett and with Ricketts, has to do with the relation of logic, as Frege
conders it, to ordinary language and ordinary reasoning. It also has to do with our
different assessments of the importance of Frege’s treatment of proper names.

Let us look at some passages in which Frege describes the aims of his logic
and the relation between logical laws, truth, and science. Let us look, in particu­
lar, at the extent to which Frege thinks the laws of truth should apply to our
everyday language and our everyday reasoning.

First, everyday language. One of the hallmarks of Dummett’s interpretation
is his insistence that Frege’s comments about what is required of a logically per­
fect language should apply to everyday language as well. Dummett claims that
the primary difference between Begriffsschrift and ordinary language is that the
expression of a thought in ordinary language includes content that is not relevant
to inference—content that obscures the thought expressed. His image of what
goes on when a sentence of ordinary language is translated into Begriffsschrift is
that of purification [1981, p. 32]. He says, “there is no suggestion that it is meant
to express more rarefied thoughts than can be put into the words of natural lan­
guage.” [1981, p. 18].

In fact, however, there is more than a suggestion. One of Frege’s earliest
comments about the relationship between his logical notation and language is
the following passage from the preface to Begriffsschrift.

I believe that I can best make the relation of my ideography [mein Begriffsschrift] to
ordinary language [Sprache des Lebens] clear if I compare it to that which the
microscope has to the eye. Because of the range of its possible uses and the versatil­
ity with which it can adapt to the most diverse circumstances, the eye is far superior
to the microscope. Considered as an optical instrument, to be sure, it exhibits many
imperfections, which ordinarily remain unnoticed only an account of its intimate
connection with our mental life. But, as soon as scientific goals [wissenschaftliche
Zwecke] demand great sharpness of resolution [die Schärfe der Unterscheidung
stellen], the eye proves to be insufficient. The microscope, on the other hand, is per­
fected suited to precisely such goals, but that is just why it is useless for all others.

This ideography [Begriffsschrift], likewise, is a device invented for certain scien­
tific purposes [wissenschaftliche Zwecke], and one must not condemn it because it is not
suited to others. [1879, p. 6]

A microscope does not show us what we are able to see with the naked eye but is
likely to be obscured. The microscope shows us something that cannot be seen
with the naked eye. Frege’s image suggests that his notation does express some­
thing that cannot be expressed in natural language. Indeed, Frege gives an exam­
ple of what such a thing would be like in section 24 of Begriffsschrift, where he

says, about a property F’s being hereditary in an f-sequence.

We see, incidentally, that it can become difficult and even impossible to give a ren­
dering in words if very involved functions take the places of F and f [1979, p. 57].

So, just as a microscope and an eye have different uses, natural language and
Begriffsschrift have different uses. The defects of natural language that Frege iden­
tifies later are almost always identified as ‘logical defects’. Why correct the logical
defects of natural language? The most likely reason is that one wants to apply logi­
cal laws in everyday contexts as, on Ricketts’ interpretation, Frege seems to want.
But this does not exactly fit with what Frege says in his comparison of his notation
with the microscope. The use of the microscope becomes important when scienti­
fic goals demand a sharpness of resolution for which the eye is insufficient. Simi­
larly, Frege says that his notation is a device invented for scientific goals. It is, like
the microscope, a tool for science. Natural language, like the eye, is unsuited for
these peculiar purposes. But Frege also emphasizes the advantages of the eye over
the microscope. The eye is, for most purposes, superior to the microscope, which
is “useless” for all goals other than those for which it was designed. Begriff­
sschrift, too, is designed for particular scientific purposes and should not, he says,
be condemned because it is not suited to others. Thus there seems to be no justifi­
ation for eliminating the defects of natural language.

These two points, first, that natural language has a different purpose from
logically perfect languages and, second, that a logical notation is to be viewed as
a tool for science appear in both Frege’s early and late writings. So why does it
seem that the laws of logic ought to apply to everyday statements? The answer is
that Frege says, not only that his notation is to be used for scientific goals but, also,
that it is to be used whenever our concern is with truth. Perhaps it is not

\footnote{Although Dummett concentrates on Frege’s many comments about the features of natural language
that aren’t related to truth-value, e.g., coloring and shading, as I have indicated above, this is not the
only sort of difference Frege recognized. Frege also says that the requirements that guided the forma­
tion of natural language do not include the requirements of logic. See, e.g., [1984, p. 400], and the
passage from his letter to Pesse quoted below [1980, pp. 114–115]. Further, he suggests at least once
that the defects of natural language have a salutary effect. In an early paper, “On the Scientific Justi­
fication of the Concept-Script” [1972, p. 86], he says,

The shortcomings stressed are rooted in a certain softness and instability of ordinary language
(die Sprache der gewöhnlichen), which nevertheless is necessary for its versatility and potential for development.
In this respect, ordinary language (Die Sprache in dieser Hinsicht) can be compared to the hand,
which despite its adaptability to the most diverse tasks is still inadequate. We build for ourselves
artificial hands, tools for particular purposes, which work with more accuracy than the hand can
provide.

\footnote{A significant part of this paper is devoted to the description of a Concept-Script as a tool for science
[1972, pp. 83–86]. In addition to this passage and the microscope passage from Begriffsschrift, the
view of the Concept-Script as a technical tool appears in his latest papers. (See [1984, pp. 380,
397–400]) If we do need a logically perfect technical tool, why require that ordinary language be
logically perfect as well?}
that natural language needs to be replaced in all its uses with a non-defective language but, rather, that natural language should be replaced in those contexts in which our concern is with truth. This is, in fact, what Dummett says at one point [1981, p. 30]. So there appears to be a tension here. Surely, scientific research does not exhaust the circumstances in which our concern is with truth.

Or does it? It is interesting to examine the passages in which Frege says that proper names must have a meaning. He says this is required if the sentences in which they appear are to have truth-values [1979a, p. 191], [1984, p. 226]. He writes, for example,

Now a proper name that designates nothing has no logical justification, since in logic we are concerned with truth in the strictest sense of the word; it may on the other hand be used in fiction and fable. [1984, p. 226]

The only unusual features of this passage is that Frege mentions the requirement that proper names have meaning without also mentioning that this requirement comes from the demands of science. Furthermore, Frege says, two pages after above passage, "Proper names without any meaning are illegitimate in science" [1984, p. 228]. And there are a number of passages in which Frege only mentions science [1984, pp. 148, 223, 241, 298], [1979a, p. 232]. But, typically, when Frege mentions this requirement, both truth and science are mentioned. He says, for example, in a discussion of the name 'Odysseus',

The question of truth would cause us to abandon aesthetic delight for an attitude of scientific investigation. [1984, p. 163]

and

The thought, though it is devoid of meaning, of truth-value, is enough, but not for science [der Wissenschaft]. [1979a, p. 122]

In two other explanations of when we need proper names to have meaning, he says that it happens when we are after "truth in the scientific sense" (Wahrheit im wissenschaftlichen Sinne) [1979a, p. 186], [1979a, p. 188]. Is Frege also interested in truth in a non-scientific sense? There is no indication that he is.8

Indeed, he writes in "Thoughts", "What I have in mind is that sort of truth which it is the aim of science to discern" [1984, p. 352].

There is another odd feature of these passages. In most of them Frege recognizes just two realms of discourse—science and fiction. In a few such passages he talks instead of the realms of truth and fiction. Why doesn't the subject of everyday communication come up? There is no obvious answer. Should we, nonetheless, attempt to draw morals about everyday communication from those passages? Suppose we want to do so. Everyday communication must be appropriately categorized. It is surely not fiction. Hence it seems reasonable to infer that Frege means us simply to understand everyday communication as assimilable under the truth category. But this will not fit with an interpretation that accounts both for Frege's remarks about natural language and for his remarks about what is required for truth.

To see this, let us recall the difficulties that Frege gets into, according to Ricketts. In our reasoning we presuppose that everyday proper names have meaning, but, because this presupposition is substantive, our application of logical laws needs to be justified. Consequently, Ricketts argues, the application of logical laws depends on a semantic science that decides these substantive questions. The problem with interpreting Frege as Ricketts does, however, is that there is no substantive issue here. Supposing our interest is in truth in the scientific sense, we need no science of semantics to determine whether or not our everyday proper names have meaning. We already know the answer. They do not. Why not?

Recall, first, that on the Ricketts interpretation, the name/bearer relation is not a prototype for the relation of an expression to its meaning. Indeed, the notion of meaning is not originally regarded as involving a relation between words and non-linguistic entities. On the position with which Frege starts, expressions that are not variables are, if they are not gibberish, meaningful. It is only after the introduction of the sense/meaning distinction that we have any reason to talk about a relation between an expression and what it means. At that point the question of whether or not an expression means something becomes substantive. But this, Ricketts argues, creates a problem for Frege. We can now apply logical laws to everyday inferences only if we make the substantive presupposition that our expressions are meaningful. Ricketts' argument comes from a consideration, not of everyday proper names, but of definite descriptions. In order to use such expressions as 'the F' in our inferences, we must presuppose that they pick out unique objects. But the presupposition is not exactly as Ricketts describes it. We cannot simply ask whether or not a definite description picks out a unique object. Definite descriptions are complex expressions. And a complex expression can be meaningful only if its constituents are. Moreover, the constituents of definite descriptions are concept-expressions. And a concept-expression is meaningful only if it has a sharp boundary, that is, only if for each object it either determinately holds or fails to hold. Frege says.

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8It is one of only two passages I have found in which Frege mentions this requirement but does not also say that it comes from the demands of science.

9But note that this is not to say that Frege means to be restricting his notion to serving the aim of establishing truths of natural science. Recall that, in a passage quoted above, not only psychology, but also metaphysics is called a science. The distinction here is between the use of language to find our way about everyday circumstances and its use in systematic attempts to establish truths. (See, e.g., [1972, pp. 85–86] As I will elaborate shortly, the point is that finding our way about everyday life does not require us to establish truths. There is also evidence that Frege views the aim of establishing general laws to be an intrinsic feature of science. See, e.g. [1984, pp. 133, 137–138], [1979a, p. 136].
If something fails to display a sharp boundary, it cannot be recognized in logic as a concept, just as something that is not extensionless cannot be recognized in geometry as a point, because otherwise it would be impossible to set up geometrical axioms. [1984, p. 133]

However, the failure to display sharp boundaries is almost universal among the concept-expressions of natural language. There are several morals. One moral is that, for Frege, there is no substantive issue about the truth of our presuppositions in everyday reasoning. Our presuppositions are simply false. Our terms will be meaningful only if, first, we replace our defective everyday concept-expressions with non-defective terms and, second, we have rules that prevent the introduction of a definite description that does not pick out a unique object—that is, our terms will be meaningful only if we replace our language with a logically perfect language. The use of a logically perfect language requires no presuppositions. Thus Frege has no need for a semantic theory for natural language. And, finally, the logical laws cannot be applied in our everyday reasoning.

But this may seem to be less a solution than a relocation of the problem. After all, Frege's strategy for introducing his logical laws is to rely on our common understanding of everyday sentences. And this common understanding is constituted by an agreement about its use in the expression of correct inferences. If logical laws do not, in fact, apply—if we cannot, in fact, distinguish good everyday inferences from bad, what happens to our claim to be communicating? Worse, it seems that we have lost our ability to disagree and our right to view ourselves as expressing truths in everyday language. Is it reasonable to attribute such a view to Frege? And, if so, how can his work have any interest for us?

I will start with the first question. Elsewhere I have argued at length that there can be no doubt that Frege believed, for almost all his career, that concepts must have sharp boundaries [Weiner, 1990, pp. 92–97]. The above quotation about the need for sharp boundaries is from a paper published in 1891, but the same view appears in Foundations, which was published in 1884. And in the second volume of Basic Laws, which was printed in 1903, Frege says that something that appears to be a concept but does not have sharp boundaries is “wrongly termed a concept” [1952, p. 139] and is “an inadmissible sham concept” [1952, p. 145].

Nor is there any evidence that Frege considered a special standard of admissibility for concepts used in everyday language. In the second volume of Basic Laws, for instance, his strict standard of admissibility is explicitly applied to the question “Are we still Christians?” There seems to be little alternative but to deny that Frege thinks the laws of truth apply to everyday conversation. But before we throw up our hands and abandon Frege's writings as the ravings of a lunatic, let us consider some of his remarks about natural language.

Perhaps the most interesting remark appears in a letter to Peano. Frege writes, about the sharp boundary requirement,

It is interesting to notice that everyday language involves communicating approximately the same thought and that subsentential parts might lack not only meaning, but also sense. There is a suggestion in the rest of the paragraph that, among these subsentential parts, may be concept-expressions that we think of as

Bald people for example cannot be enumerated as long as the concept of baldness is not defined so precisely that for any individual there can be no doubt whether he falls under it. [1980, p. 100]

And, of course, bald people cannot be enumerated. The term “bald” is, according to Frege, meaningless. Nonetheless most of us are pretty confident that we know what it means to be bald. Indeed, most of us who have young friends over the age of four are pretty confident that they know what it means to be bald. But none of us, whether four or forty, is likely to claim that there is a sharp demarcation between those who are bald and those who are not—let alone that it can be definitively stated whether or not the sun is bald. How do we use this term in everyday language and what would Frege regard as permissible?

There is no reason to think that Frege would object to my asking to be introduced to someone I identify as 'the bald man in the corner'. In such a situation, it is not particularly important that it be true that there is a bald man in the corner. I can still achieve my aim if the person I have indicated is a woman or a man who has all his hair covered by a skullcap that matches his skin. It is important only that I have made it clear who I meant to identify.

9 This has important, and largely unrecognized, consequences for what metaphysical views can be attributed to Frege. I have discussed this issue in [Weiner, 1995].
But this still may not be very satisfying. After all, instead of wanting to be introduced, I might want to inform. Suppose I tell my companion that the bald man in the corner is one of my logic students. Once again, it is only important that I have identified someone, not that my description uniquely fits that person. Well, then, suppose I tell my companion that some of my logic students are bald. This is exactly the sort of situation that Frege describes in the letter to Peano. It suffices for communication that we both associate approximately the same thought with the sentence.

It is a consequence of Frege’s views that most everyday sentences do not express real thoughts—senses that have truth-values. But he does not claim that we ought not to make assertions in everyday life. Similarly, it is a consequence of Frege’s views that the laws of logic do not apply to these defective assertions. But just as we may have perfectly good practical reasons for making defective assertions, we may have perfectly good practical reasons for making defective inferences. It is not that we are especially prohibited from making everyday inferences. Rather, if our interest is in truth, we should not be content with sham concepts. So when do we care about truth?

Suppose that, instead of wishing to meet the bald person in the corner, I wish to avoid becoming bald myself. According to some recent advertisements, I should ask my doctor about minoxidil. And, since I am not inclined to trust doctors, I might want information that allows me to decide for myself whether or not minoxidil will prevent baldness. I have now wandered into the realm of science. And, suddenly, Frege’s objections to inadmissible sham concepts no longer sound inappropriate. First, I will need to stop talking about baldness, for it would be more accurate to describe my aim as that of having more hair rather than less. Actually, I want to prevent hair loss and/or increase hair growth. Thus I will want to start thinking about degree of hair loss or growth. Degree of hair loss or growth is still a pretty vague concept, and if I am to evaluate the minoxidil research I will have to settle on a precise concept that is of interest to me.

It seems that most researchers have now agreed that the unit for measuring hair growth or loss should be the amount of hair found growing on a square centimeter of scalp. Beyond that, there is some disagreement. For instance, in a January 1989 article in Clinical & Experimental Dermatology two standards are suggested. One of these is total hair density (THD), which was measured by taking the mean of hair counts on several square centimeters of scalp. The other, meaningful hair density (MHD) relies on counts only of hairs greater than 40 microns in diameter and greater than 30 mm in length. Degree of hair loss or growth, then, is to be measured by mean change in THD or MHD. On the other hand, a paper in the December 1990 issue of the Journal of Investigative Dermatology offers a different recommendation: that the measure be taken from only one square centimeter from the front of the scalp and that degree of hair loss or growth be determined by change in total weight of hair from the defined area.

Does this show that the minoxidil investigators are taking Frege’s sharp boundary requirements seriously? At first it may not seem so. After all, shouldn’t they have defined what it is to be a hair? Frege says, of course, that not everything can be defined, and the minoxidil investigators might respond that there is no need to define what it is to be a hair. But, one might argue, isn’t it just that for their purposes such a definition is unnecessary? Isn’t there, nonetheless, a question about how many connected cells (and of what sort) it takes to make up a hair? In order to answer to this we must remember that the decisive issue is not whether or not there is a definition. It matters what their purposes are. Frege writes.

I would demand the following from a true conceptual notation: It must have simple modes of expression for the logical relations... These forms must be suitable for combining most intimately with a content. The symbols for denoting content are less essential. They can be easily created as required, once the general logical forms are available. If the analysis of a concept into its ultimate components does not succeed or appears unnecessary we can be content with temporary symbols. [1972, p. 88]

If the minoxidil investigators do not study or examine cells, there may be no need for them to identify a relation between cells and hairs. The decisive issue is whether or not, given the investigators’ understanding, it is determinately true or false of each object that it is a hair. What is of importance is that the world be divided up into yeses and noes.

But surely there are, at least theoretically, boundary cases. Suppose, for instance, I were to take a hair, remove one cell at a time, and, after each removal, ask an investigator, “Is this a hair?” It does not seem unreasonable to assume that at some point the investigator would become unsure. If so, this would show that the common understanding of the primitive term ‘hair’ was vague, hence defective. This argument deserves closer inspection.

Notice, first, the disanalogies between the reason given here for thinking that the term ‘hair’ is vague and the reason given earlier for thinking that the term ‘bald’ is vague. We all know that baldness is a vague concept—we’ve all classified some people as borderline-bald. Hair is different. Has anyone really found

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9Minoxidil is a drug which, until recently, was primarily used to treat high blood pressure. One of its side effects, for some people, appears to be increased hair growth. The observation of this side effect motivated research on the use of minoxidil as a treatment for baldness. In recent years minoxidil has been widely marketed for this use.

10Or, at least, what is important for concept words is that the world be divided into yeses and noes. This isn’t to say that a categorical ranking or a degree-of-baldness ranking should be prohibited. In that case, there would still be a sharp boundary requirement—that would have to be sharp boundaries between each category (or a sharp measure).
There may, however, be a different way to make out the claim that there are borderline cases. Suppose one investigator calls over two others and asks, “What do you think—is this a hair?” And suppose these others disagree. Does this show that there is a borderline case? To answer this, let us consider Frege’s comments about the use of primitive expressions in science. Since such expressions cannot be defined, he says, “something else must enter in” [1984, p. 300]. He calls this “something else” elucidation (Erläuterung). What is the purpose of elucidation? Frege says that it serves the purpose of mutual understanding among investigators, as well as of the communication of the science to others. ... Someone who pursued research only by himself would not need it. The purpose of elucidation is a pragmatic one; ... And here we must be able to count on a little goodwill and cooperative understanding, even guessing. [1984, p. 301]

The issue is pragmatic. The investigators must come to an agreement—either the object in question will be included among the hairs and weighed or it will be excluded. If certain sorts of objects are routinely classified differently by different investigators the results may be biased. Agreement is required, not just in this case, but in general. If there are liable to be apparent borderline cases, then the investigators should get together and go over a number of cases in succession until it becomes clear that their classifications will be uniform. Moreover, ideally this agreement will be reached in advance of the experiment. If there are borderline cases and if ad hoc decisions involving classification are permitted, then, once again, the results may be biased. Finally, it does not matter much where the border is drawn, as long as the investigators understand it the same way. 

One might respond that Frege’s position is unrealistic. Perhaps the minoxidil investigators will want to set their standards in advance. But in other scientific contexts, this may be a mistake. Sometimes an experiment may show us that we were not using the most interesting concepts. It is important to see, however, that the demands of science need not, indeed, could not, be satisfied from the very beginning. In the first stages of a science, Frege notes, we must use ordinary words [1979a, p. 207]. But the aim of science is not merely to establish individual truths. Frege says, “A science is a system of truths” [1979a, p. 168]. His demands are not the demands of a scientific treatment that precedes the truly systematic one [1984, p. 302]. But, he says, “science only comes to fruition in a system” [1979a, p. 241].
But what if we make a mistake? Suppose we develop a systematic science that proves inadequate, are we then forever committed? No. In such a case, Frege says, it must be demolished and replaced by a new structure [1979a, p. 279]. Finally, what if an agreement about the meaning of the primitive terms cannot be reached? Frege says,

we must have confidence that such an understanding can be reached through elucidation, although theoretically the contrary is not excluded. [1984, p. 301]

What does this show about Frege?

Frege's sharp boundary requirement is widely regarded as implausible. In spite of the prominence this requirement has in Frege's writings, most commentators devote little space to it. It is, as Ricketts has emphasized, a consequence of Frege's taking logic as the maximally general science, that quantifiers range over everything and, hence, that concepts be everywhere defined. In order for us to enumerate bald people, for instance, the sun must be either determinately bald or determinately not bald. But the maximally general nature of logic is not enough to explain why vagueness should be prohibited. Indeed if, as Ricketts argues, it is our everyday disputes and judgments that provide the model for gapless logical inferences, then it is difficult to see why vagueness should be prohibited. I have tried to show that the solution to this problem is that systematic scientific investigation—not everyday disputes—provides Frege with his model. It is not enough to see that, for Frege, logic is maximally general. We must also see that, for Frege, logic is the maximally general science.15

The point about the minoxidil investigators is that, whether or not their actual work is beyond reproach, their inferences require precise classifications. The investigation of the efficacy of minoxidil for preventing baldness itself requires the introduction of precisification not found in everyday reasoning. The act of measuring total hair density on a particular region of a subject's scalp, for example, requires that every object found growing in that region of the scalp be a hair or not. The logical laws (the laws of truth) require sharp boundaries. Why should the laws of truth require sharp boundaries? Because the realm of truth is the realm of science. If, as Dummett argues, it is not enough to regard Frege as a philosopher of logic, then Frege should be regarded not as a philosopher of language, but as a philosopher of science.

15 I do not mean to be claiming that the standards and requirements of the minoxidil researchers (or of medical researchers) are characteristic of all scientific research. My point is that Frege's sharp boundary requirement, which, viewed in isolation, may seem absurd, can also, in some contexts, seem sensible. And, as I have tried to show, it is no accident that these contexts are scientific contexts. It may also be worth mentioning that my use of this particular example was not motivated by my own experience with medical research. It was motivated, rather, by Frege's puzzling remark about enumerating bald people. My reaction was to try to think of circumstances in which one would want to enumerate bald people.

In the remainder of this paper I will consider, briefly, two apparent problems for Frege's views and, then, address the issue of what Frege's views tell us about the philosophy of language. First, what of the problem Ricketts identifies? Is Frege committed to the view that substantive semantic presuppositions are required for the application of logical laws? No. Frege's starting point is, as Ricketts says, our common understanding of language, but this common understanding is not an end point. The logical laws are applicable only to assertions expressed in a logically perfect language. We do, of course, have to presuppose that the expressions of the logically perfect language have meaning. But this is rather different from the presupposition that expressions of everyday language stand for things in the world. Frege's standards of definition are meant to insure that, provided primitive terms have meaning, all defined terms have meaning. Thus, the only presuppositions are that the primitive terms have meaning. And these presuppositions need not be substantive.

To see this, it is important to begin by noticing that, for the most part, the primitive expressions will be concept- or function-expressions. It is not just that the language for Frege's logic, the most general science, has only primitive concept- and function-expressions. It also has to do with the nature of science. Frege, usually writes as if science is an attempt to establish general laws. He says, for instance, "The first place where a scientific expression appears with a clear-cut meaning is where it is required for the statement of a law" [1984, pp. 137-138]. Proper names will typically not appear in laws. It would be unlikely, then, for primitive proper names to be required for some science.

On the other hand, there are certainly points in scientific investigation when we will want to establish particular truths. Will we need a primitive proper name? It is not evident that we will. Suppose, for example, a, b, and c are lines connecting the vertices of a triangle with the midpoints of the opposite sides, and we introduce a name for the point of intersection of a and b. This name will not be a primitive expression. It seems apparent that the need for a primitive object-expression will arise when the object cannot be picked out by a description. How, then, can the primitive object-expression be given a meaning? One might suspect, as Dummett does, that ostension can be used to identify an object as the referent of a name [Dummett, 1981, pp. 143-144]. But Dummett also admits that there is no evidence for taking Frege to have believed that [Dummett, 1991b, 84]. And there is some evidence that Frege believed no such thing. Frege writes, for instance, "No beginner will get a correct idea of an angle if the figure is merely placed before his eyes" [1984, p. 56]. The beginner needs to be told what to look at. And pointing will not suffice. Concept-expressions or function-expressions will be needed. Frege continues, "If a beginner is shown how to add angles, then he knows what they are" [1984, p. 56].
Thus, the sort of presupposition involved in using a logically perfect language is a presupposition that primitive concept-expressions have meaning. But, for this, all that is required is clarity and understanding. It is not that we cannot go wrong but, rather, that there cannot be a substantive question about whether or not a primitive concept-expression has fixed meaning. To see this, consider what it would be to say that such an expression fails to have fixed meaning. There are two possibilities. The first is that there exists an object that would confound a person who believes herself to understand the expression—that is, an object that she would be unable determinately to classify as falling under or not falling under the concept, no matter how good her information. The second is that there exists an object on which two people, both of whom believe they have a common understanding of the expression, would differ. Are these substantive expressions have meaning is just the presupposition that we understand one another—that we are not uttering gibberish.

A second apparent problem is the arbitrariness permitted. It cannot be enough, for science, to refrain from uttering gibberish. The minoxidil investigators cannot, for instance, decide to define meaningful hair density by taking counts only of hairs greater than 400 microns in diameter. Our scientific terms have to have answer to something—they have to answer, it seems, to truth in the everyday non-scientific sense. The problem with restricting our hair counts to hairs with diameter greater than 400 microns is that then nobody would have any hair. We can't get our minoxidil study under way—and, indeed, would have no interest in doing so—without antecedently accepting certain everyday claims as true. Only our antecedent convictions that it is true that certain people are bald and false that certain other people are bald will motivate this work. Only these convictions will give it any content. Yet, given Frege's standards, these convictions about the truth of everyday statements are wrong. How, then, can they be used in the development of science?

Frege says,

Research into the laws of nature employs physical instruments; but these can be produced only by means of an advanced technology, which again is based upon knowledge of the laws of nature. . . . an advance in physics results in an advance in technology, and this makes possible the construction of new instruments by means of which physics is again advanced. The application to our case is obvious. [1972, p. 89]

We must start with our understanding of everyday language as expressing truths and with our everyday standards of adjudication for disputes. But for everyday communication, we need a language with "a certain softness and instability"—a language with logical defects. Our starting point will, inevitably, be with an imperfect instrument for scientific purposes. Frege is interested in everyday language only insofar as it can help in his development and explanation of a different sort of language, a language that can be a scientific tool. The true field of study for logic, Frege says, is "scientific workshops"—Has Frege a philosophy of language? Yes. It is that language is a tool.

Frege does seem to be committed to saying that, strictly speaking, we never utter truths or disagree with one another in everyday contexts. It is interesting to notice, however, that he need not accept such an extreme commitment. There is a respect in which Frege could view everyday statements as true. Consider his definitions of the numbers. I have argued elsewhere that their purpose is to enable Frege to replace arithmetic with a systematic science [Weiner, 1990, pp. 112–128]. The aim of replacing arithmetic with a systematic science involves introducing definitions of the everyday terms of arithmetic from primitive terms. Although the defining expressions need not have exactly the content previously associated with the term to be defined, this content does impose constraints on the acceptability of the definitions. For example, it cannot be a consequence of the definitions that 0 = 1. One might regard this as a respect in which it is true, before Frege's definitions, that 0 ≠ 1. Supposing, then, that arithmetic can be systematized, we can view certain pre-systematic statements as truths and certain pre-systematic disputes as real, even as settleable, disputes.

I have argued that Frege did not mean to introduce a semantic theory for natural language and that semantic theories have no role to play in a logically perfect language. But it seems that Frege has, perhaps unwittingly, introduced a part of a semantic theory for natural language. Regardless of how Frege should be interpreted, many philosophers believe that the introduction of semantic theory in "On Sense and Meaning" constitutes an important philosophical advance. What would Frege's assessment of this semantic theory be? One might suspect that, on my interpretation, Frege would have no grounds for assessment. After all, I have suggested that he never even formulated the notion of a semantic theory. But Frege has offered criteria of evaluation that are meant to apply to all theories; and to all enterprises in which our aim is to establish truths. Must a semantic theory meet the demands of systematic science?

One may be tempted to respond that these demands, at least as Frege understands them, are only appropriately applied to natural sciences. He does say,

What are called the humanities [Geisteswissenschaft] are closer to poetry, and are therefore less scientific, than the exact sciences, which are drier in proportion to being more exact; for exact science is directed toward truth and truth alone. [1984, pp. 356–357]
This may seem to suggest that the humanities are, at least partially, exempted from the demands of science. But this can provide little solace to the semantic theorists. For, as Frege goes on to say, this exception applies to the humanities only insofar as their aim is to approach by intimation what cannot be conceptually grasped. If semantic theories are to set out truths, the demands of science apply.14

Can a semantic theory meet these demands? No. As I have argued elsewhere, one reason has to do with the importance of functions and concepts. Every sentence has at least some of these incomplete constituents. If a semantic theory must explain how the truth value of a sentence is determined by the referents of its constituents, it must include an account of the reference of concept-expressions. But Frege repeatedly says that what can be said about objects cannot be said about concepts or functions [1984, pp. 282, 186, 189]. Supposing we have given a description of a reference relation. If, given the description, this relation can hold between a linguistic expression and an object named by the expression, then that description precludes our saying that the relation can hold between a linguistic expression and a concept named by the expression. Nor can there be a series of distinct relations that hold between linguistic expressions and, respectively, objects, concepts, second-level concepts, etc.16 There could be only one reference relation, a relation that holds between proper names and the objects named. Thus, on Frege's view, there can be no theory of reference that plays a role in the explanation of how the truth value of a sentence is determined by the referents of its constituents.

But can there be a theory of reference for proper names? Not if the aim of that theory is to show how we succeed in talking about the world. Frege himself worries about the possibility of meaningless names. And his response is to show that these names can be appropriately defined from primitive expressions. But there can be no argument that primitive expressions stand for things in the world. When it comes to these expressions, he says, we must "be able to count on a little goodwill and cooperative understanding, even guessing" [1984, p. 300]. We may need "a meeting of minds between ourselves and others, and here we may be disappointed" [1979a, p. 259].

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14Frege refers to metaphysics [1967a, p. 18], philosophy [1984, V], [1979a, p. 203], and history [1984, p. 368] as sciences.


16The explanation for this is too long to give here, but it is a consequence of Frege's understanding of concepts and functions as incomplete. He says that the expressions "function" and "concept" are defective and that sentences in which they appear are either nonsensical or miss their mark (see, e.g., [1984, p. 193], [1980, pp. 136-137, 141], [1967a, p. 37], [1979a, pp. 119, 120, 122, 239, 255]. This is widely believed to be an implausible view whose consequences are unacceptable. I have argued, at length, in Chapter 6 of [Weiner, 1990] that this really was Frege's view and is an ineradicable consequence of his understanding of functions and concepts. In "Theory and Elucidation: the end of the Age of Innocence", I have argued that this consequence is not nearly as grim as it seems.