Semantic Necessity

In the recent monograph, 'Semantic Relationism', I made use of a certain notion of what was semantically necessary, or required, in arguing that it might be a semantic requirement that two names were co-referential even though there were no intrinsic semantic features of the names in virtue of which this was so. In the present paper, I wish to consider the bearing of the notion on the nature and content of semantic enquiry. I shall argue that a semantics for a given language is most perspicuously taken to be a body of semantic requirements and that the notion of a semantic requirement should itself be employed in articulating the content of those requirements. There are two main alternative to this conception to be found in the literature. According to one, a semantics for a given language it taken to be an assignment of semantic values to its expressions; and according to the other, a semantics for a given language is taken to be a theory of truth for that language. I attempt to show how these alternatives do not provide us with the most perspicuous way of representing the semantic facts and that it is only in terms of our conception that one can properly appreciate what these facts are.

The importance of the notion of metaphysical necessity for metaphysics has long been appreciated, in regard to both explicating the nature of the subject and articulating the content of its claims. If the argument of this paper is correct, then it will help to show that the notion of a semantic necessity has a similar and equally important role to play in understanding the nature and content of semantics.

§1 Semantic Necessity

Certain properties and relations are, in a clear sense, semantic; they pertain to the meaning of the expressions to which they apply. *Truth*, for example, is a semantic property of sentences, *designation* a semantic relation between a term and an object, and *synonymy* a semantic relation between two expressions. A fact may be said to be semantic in the *topic-oriented* sense if it pertains to the exemplification of semantic properties or relations. Thus the fact that 'the author of Waverly' designates Scott or the fact that 'bachelor' is synonymous with 'unmarried man' will be semantic in this sense. From within the facts that are semantic as to topic, we may distinguish those that also semantic *as to status*. These facts are not merely statable in semantic terms; they are also part of the semantics of a given language (or of given languages). Thus the fact that the sentence 'snow is white' is true will not be semantic in this sense, since it is not a fact about the semantics of English, while the synonymy of 'bachelor' and 'unmarried man' presumably will be.[1]

It is the facts that are semantic as to status that will be of interest to us. We might also call them semantic *requirements* or *necessities* since they are naturally regarded as laws which govern - or are imposed upon - the languages to which they are meant to apply.

The fact that something is a semantic requirement holds in unqualified fashion. It may

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[1]Cf. Fine ([2007]; 43-4, 122-3). I am not using the term 'fact' in a heavy-duty sense; and most of what I want to say could be said without appeal to facts or propositions or the like. I distinguished in Fine ([2007], 49-50) between semantic facts and requirements but that distinction, important as it may be to the earlier project, will not be relevant here.

perhaps hold relative to this or that language, but not relative to this or that expression. There is, however, a qualified sense of semantic requirement that holds relative to this or that expression. Suppose that 'he' is used as an anaphor for 'John'. It is then a semantic requirement that the use of 'he' and the use of 'John' should be coreferential. This semantic fact *concerns* both the use of 'he' and the use of 'John'. But whereas it is a semantic requirement *on* the use of 'he' that it be coreferential with 'John', it is not a semantic requirement *on* the use of 'John' that it should be coreferential with 'he'. It is in this sense that the reference of 'he' derives from 'John' while the reference of 'John' does not derive from 'he'.

We might therefore talk of a *relative* semantic fact, or of a semantic requirement *on* certain expressions, when the fact or requirement has its source in the semantics of those expressions. I have drawn an analogous distinction between metaphysical necessity and essence in my paper 'Essence and Modality' ([1994]). Thus whereas it is metaphysical necessity that the number 2 is a member of singleton 2, it is essential to singleton 2 that it should have the number 2 as a member though not essential to the number 2 that it should belong to singleton 2. The singleton derives its identity from the member, rather than the other way round, just as the anaphor derives its reference or meaning from the antecedent, not the antecedent from the anaphor. It is curious that there should be such a close parallel between the two cases and I suspect that the distinction in the two cases is, at bottom, the same.

It will be important to distinguish between the notion of semantic fact, on the one hand, and the two related notions of *semantic truth* and *analytic truth*, on the other. Semantic facts are *propositions* while semantic truths are *sentences*. Thus the proposition that 'Cicero' refers to the particular object Cicero is a semantic fact (at least for the referentialist) while the sentence ''Cicero' refers to Cicero' is a semantic truth. The semantic fact involves the name 'Cicero', the particular object Cicero, and the relation of referring, while the semantic truth involves the quotation-mark name ''Cicero'' for 'Cicero', the name 'Cicero' itself, and the predicate 'refers to'.

Analytic truths are like semantic truths in being sentences rather than propositions but, in contrast to semantic truths, they occur at a lower semantic level than the semantic facts. Thus whereas a semantic truth will convey some semantic content, such as that this name refers to that object, an analytic truth, such as 'bachelors are unmarried', will generally have no semantic content. It will be about bachelors or the like and not about words.

There is, however, a natural connection between analytic truths and semantic facts. For one may take a sentence to be analytic if it is semantic fact that it is true. The analyticity of the sentences 'bachelors are unmarried', for example, will consist in its being a semantic fact that it is true. Thus from this point of view, the analytic truths are but one case, or aspect, of the semantic facts.

Although one is able to define the notion of analytic truth in terms of the notion of semantic fact, it is not clear to me that the Quinean need be as troubled by the notion of semantic fact as he is by the notion of analytic truth. We may distinguish between two sources of Quinean scepticism about the distinction between analytic and synthetic truths. There is first of all scepticism as to whether we can meaningfully factor the truth of a sentence into a purely semantic component and a purely factual component. But even if it is granted that one can factor the truth of a sentence into two components in this way, a further form of scepticism may arise

over whether the factual component is ever null. Can a sentence ever be true *solely* in virtue of its meaning? The existence of analytic truths requires both that the distinction between the two components be made and that the second component sometimes be null. But just as one might accept the distinction and yet deny that a sentence could ever be true solely in virtue of the *non*-semantic facts, so one might accept the distinction and yet deny that a sentence could ever be true solely in virtue of the semantic facts.

Someone who only embraces the second form of scepticism may be perfectly happy with the idea of a semantic fact. He may take it to be a semantic fact that 'Cicero' refers to Cicero, for example, or that 'snow is white' is true iff snow is white. To be sure, this involves some sort of separation between fact and meaning. For we will want it to be a *purely* semantic fact that 'snow is white' is true iff snow is white. Thus we will want to distinguish between the fact that 'snow is white' is true iff snow is white and the fact that 'snow is true' is true iff grass is green, with the second depending upon a non-semantic fact in a way that the first does not. But our accepting this more limited distinction between the semantic and non-semantic facts does not mean that we should ever take it to be a semantic fact that a given sentence is true. We may grant that it is a semantic fact that 'bachelors are unmarried' is true iff bachelors are unmarried, for example but deny that it is semantic fact that 'bachelors are unmarried' is true on the grounds that its truth will partly turn on the non-semantic fact that bachelors are unmarried.[2]

§2 Semantics as a Body of Requirements

Once given the concept of a semantic requirement or fact, it naturally gives rise to a conception of semantics as body of semantic requirements. Thus for any language, there will be requirements that concern the language or the expressions of the language and the semantics for the language will be given by the body of those requirements.

Although this account of semantics may seem rather thin, there are a number of ways in which it can be embellished or applied and which provide it with a great deal more interest. In the first place, the concept of a semantic requirement may be *internalized*, i.e. it may itself be imported into the content of a semantic requirement. Thus given that it is a semantic requirement that p, one might take it to be a semantic requirement that it is a semantic requirement that p. So the semantic requirements will include not merely p, but also its being a semantic requirement that p. However, this step, even if correct, does not affect the essential content of a semantics, since the higher order semantic requirements (that p is semantically required, for example) may always be discerned from the lower order semantic requirements (that p). .

A more significant step in the same direction is to take it to be a semantic requirement that it is a *relative* semantic requirement on an expression that it behaves in a certain way. Thus on a referentialist view, we may take it to be a semantic requirement that it is a semantic requirement on 'Cicero' that it refers to Cicero, so that the semantic requirements include not merely that 'Cicero' refers to Cicero but also that it is a semantic requirement on 'Cicero' that it refers to Cicero.

The advantage of this further step is that it enables us to state from within the semantics

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[2] And likewise for 'bachelors are bachelors'. Thus on this conception, there will be no basis for thinking of logical truths as a relatively unproblematic species of analytic truth.

from whence the semantic requirements derive. Of course, in the case of the semantic requirement that 'Cicero' refers to Cicero, it should be evident that the requirement derives from 'Cicero' since this is the only expression in sight. But other cases may not be so evident. Suppose, for example, that 'Charlie' is a name for the name 'Cicero'. Then it is a semantic requirement that 'Charlie' refers to 'Cicero'. But this requirement could in principle derive from 'Cicero' or from 'Cicero' and 'Charlie' together; and so some genuinely new information is added by taking it to be a semantic requirement on 'Charlie' that it refer to 'Cicero'.

Once we allow relative semantic requirements within the semantics, we then have the means for stating how the semantic requirements on a complex expression may derive from the semantic requirements on its component expressions (cf. Fine ([2007], 125-6). We may take it to be a semantic requirement on 'even prime', for example, that it is true of the objects of which 'even' and 'prime' are true; and we may take it to be a semantic requirement on 'even' that it is true of the even numbers and of 'prime' that it is true of the prime numbers. Using an obvious 'chaining' principle, it will then follow that it is a semantic requirement on 'even prime' that it be true of the even prime numbers.[3]

A semantics for a given language is not only constituted by semantic requirements on particular expressions but also by more general requirements to which the particular requirements should conform. Thus not only is it a semantic requirement on the name 'Cicero' that it should refer to Cicero and a semantic requirement on the name 'Aristotle' that it should refer to Aristotle, it is also a general semantic requirement that if a name refers to a particular object then it should be a semantic requirement on the name that it refers to that object. This is the generic semantic requirement on names, so to speak; and the particular semantic requirement on any particular name should conform to the template that this more general requirement lays down. But as is evident from this case, it is only through internalizing the concept of semantic necessity that it will be possible to formulate more general requirements of this sort.

These general requirements have a broader significance. For a language is given not only by the expressions it actually contains but also by the expressions it might contain; and likewise, the semantics of a language is given not only the meanings of the expressions it actually contains but also by the meanings of the expressions that it might contain. In presenting the semantics for a language, it is usual to focus on the language in its actual rather than its potential aspect. But a full account should cover both; and it is only be making use of general requirements, that make no reference to particular expression, that this can be done.

There are a number of other advantages to be gained by internalizing the concept of semantic necessity, some of which are discussed in Fine ([2007]; 23-5, 127-8). But perhaps the most significant benefit of the present conception has nothing to do with internalization and simply arises from its providing a touchstone by which the content of any particular semantics might be assessed. For in specifying a semantics for a language, it should be possible to regard it as a body of semantic requirements; we should able to state in this way what information the semantics conveys. But as we shall see, it is often not evident from the specification of a particular semantics what its requirements are; and it is through using the present conception of

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[3]An analogous chaining principle is naturally used in developing the logic of essence (as in Fine [2000b]), thereby providing further support for the parallel between meaning and essence.

semantics as a touchstone that we can become clear as to what the content of a particular semantics actually is.

§3 Semantics as an Assignment of Values

Although the present conception of semantics might seem obvious, and even trivial, it stands in striking contrast to the conceptions of semantics to be found in the literature. There are perhaps two standard models for what it is to specify a semantics within the representational tradition (and perhaps, to some extent, outside of this tradition). According to the first, deriving largely from Frege, a semantics is given by an assignment of semantic values to the expressions of the language in question; and according to the second, deriving from Tarski via Davidson, a semantics is given by a theory of truth. Let us discuss each in turn and see how they relate to the previous requirement-based approach.

A semantics for a language, under the first model, is given by a function which assigns a semantic value to each meaningful expression of the language. Thus it might assign Cicero to 'Cicero'and the set of orators to the predicate 'is an orator'; and it might thereby assign True to the sentence 'Cicero is an orator' on the basis of the individual assigned to 'Cicero' and the set of individuals assigned to 'is an orator'. I have suggested in Fine [2007] that it might be better to regard the semantics as a function that operates simultaneously on *several* expressions, rather than on a *single* expression, and that yields a semantic *connection* on those expressions, rather than a semantic *value*. However, the core idea of specifying the semantics by means of a function remains the same.

But how is a semantics, on this conception, to be transcribed into a body of semantic requirements? For a function in itself says nothing and so what information, in specifying such a semantics, are we actually conveying?

What is being conveyed, it may be suggested, is that the function is the *right* function. However, it is hard to believe that the semantics should be given in the form of a single semantic requirement. And it is, in any case, plausible that there should be some further account of what it is for the function to be right one and of what, in particular, the assignment of values to expressions should be taken to correspond.

The most plausible next move is to suppose that we have an independent understanding of a semantic function holding between expressions and entities and that it is the aim of the semantics to characterize this function. So in order to discern the content of semantics, we will first need to identify the 'target' function. Let us call it 'designation'. Then where f is the assignment function, the semantics will tell us that the designation of E is v, whenever v is the value assigned by f to E or, on a more refined conception still, the semantics will tell us that in these circumstances it is a semantic requirement *on* the expression E that its designation is v.

But even this may not be adequate. For the intended semantic relation between an expression and its value may vary from case to case. Suppose, for example, that the semantic value of a name is taken to be its bearer and the semantic value of a sentence to be its truth-value. Then it might well be thought, pace Frege, that the semantic relationship between a name and its bearer is different from the semantic relationship between a sentence and its truth-value, that whereas a name *names* its bearer a sentence does not name but *has* its truth-value. In this case, the semantics would be incorrect if the relation of designation, to which the assignment of values

is meant to correspond, were taken to be either of these semantic relations, since it would not be correct to say that the name *has* its bearer or that the sentence *names* its truth-value. Of course, the relation of designation could be taken to be the disjunction of these relations; we could be saying that a name either names or has its bearer and that a sentence either names or has its truth-value. But in that case, the semantics would be incomplete. For we would not be saying that the name *names* its bearer or that the sentence *has* its truth-value. In order to repair this deficiency, we must therefore allow the single assignment function and its corresponding target function to be replaced by a range of assignment functions and a corresponding range of target functions.

There is a further difficulty concerning not the assignment function itself but the manner in which it is given. For the function is not simply given as a *list* of argument-value pairs - it is not that we run through all the expressions of the language in turn and state that this expression goes with this value, that expression with that value, and so on. Rather, the semantic value of a complex expression will be specified *as* a function of the semantic values of its component expressions. In the case of 'not funny', for example, we will not directly declare that 'not funny' should designate *not funny*. We will first declare that 'not funny' should designate the complement of what is designated by 'funny' (or something more general still) and that 'funny' designates *funny*; and from these facts, the fact that 'not funny' designates *not funny* will then be derived.

Presumably the manner in which the values are specified should also be incorporated into the content of the semantic requirements. In the case above, for example, we do not merely want it to be a semantic requirement that 'not funny' should designate *not funny*, we also want it to be a semantic requirement that 'not funny' should designate the complement of what is designated by 'funny'. If we are systematically to incorporate the manner in which the values are specified into the content of the requirements, then perhaps the best we can do is to take each clause $\Phi(f)$ in the specification of the assignment function f and interpret it as a semantic requirement $\Phi(d)$ on the designative function d.[4] So our aim in specifying the designative function, it not merely to specify the right function but to specify it in the right way.

There is another, potentially more serious, shortcoming in this approach. For it might be thought that the underlying semantic facts in virtue of which an expression is assigned a semantic value do not directly involve the expression standing in some semantic relationship to that value.

Suppose, for example, that one takes the semantic value of a sentences to be a truth-value and that, in defining the assignment function from expressions to semantic values, one takes the truth-value of the sentence 'not-S' to be the opposite of the truth-value of S. Then on a very natural understanding of such a semantics, one will take there to be a semantic relation of designation between a sentence and a truth-value and one will take it to be a semantic requirement that the truth-value designated by the negation 'not-S' should be the opposite of the truth-value designated by the negated sentence S. However, on a very different understanding of the semantics, it will be taken to have nothing to do with a sentence *designating* a truth-value or the like but with the conditions under which a sentence is true of false. The semantics will be taken to be concerned with a semantic *feature* of sentences, their being true or false, rather than

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[4]We might in this way also attempt to recover some *general* semantic requirements from the specification of the function.

with a semantic relationship between a sentence and its *value*, True or False. And on such an understanding, the proper form of the semantic requirement on negative sentences will not be that:

the truth-value designated by 'not-S' should be the opposite of the truth-value designated by S,

but that:

the sentence 'not-S' should be true (or false) just in case the sentence S is false (or respectively true).

If we are to see the first formulation of the requirement as giving expression to the second, it must be supposed that the semantic features of sentences are somehow encoded as values. To say that a sentence designates True or False is code, so to speak, for its being true or false; and under such a code or 'translation-scheme', we should then see the requirement that the not-S designate True when S designates False as a way of encoding the requirement that not-S be true when S is false.

Another, more interesting, example of the phenomenon concerns the parallelism of sense and reference within the framework of Fregean semantics. It is something of an embarrassment that the Fregean framework provides for the compositional determination of both sense of reference. For surely only one of these can correspond to the compositional determination of meaning and the other must somehow be derived. But then which? And how?

The standard view is that the determination of sense is primary and the determination of reference derived. For what is most directly assigned to an expression is its sense; and the reference of an expression may then be taken to be the object picked out by its sense. The compositional determination of reference is similarly mediated through sense. For the compositional determination of sense will be extensional in that the object picked out by the determined sense will always be the same when the objects picked out by the determining senses are the same; and so from the compositional determination of the sense may be derived a corresponding compositional determination of the reference.

On an alternative view, it is the determination of reference that is primary and the determination of sense that is derived. Now on the face of it, this is impossible since many different senses will correspond to the very same referent. But it may be supposed that the determination of sense is merely a reflection of the determination of reference. It might be taken to be a semantical requirement on the name'Cicero', for example, that:

Cicero refers to the most famous Roman orator,

where what is important is that we use this particular description 'the most famous Roman orator' in specifying the referent rather than some alternative description, such as 'the author of 'De Amicitia''.[5] The assignment of the sense *the most famous Roman orator* to 'Cicero' will then encode the use of this description as opposed to some other in the assignment of reference.

On this view, then, there is no genuine duality of semantic value. At the most basic level of stating the semantic requirements, each expression simply refers; and the assignment of sense serves merely to indicate the manner in which the referent has been specified.

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[5]We might see McDowell ([1977a], p. 42), for example, as proposing to derive sense from reference in some such way.

A third example (which first made me vividly aware of the issue) arises from the doctrine of coordination in 'Semantic Relationism'. I there wanted to say that the sentence 'Cicero = Tully' designates the (uncoordinated) singular proposition that Cicero is identical to Cicero while the sentence 'Cicero = Cicero' designates the coordinated singular proposition that Cicero is identical to Cicero (something which we might represent by 'drawing' lines of coordination between the two occurrences of Cicero in the uncoordinated proposition). In this way, we can distinguish between the semantic values of the two sentences. But in the underlying requirement-based semantics, there will only be appeal to the uncoordinated proposition and the difference between the two sentences will show up in how the proposition is specified. Thus whereas it will be a semantic requirement that 'Cicero = Tully' designates an identity proposition that relates Cicero to Cicero, it will be a semantic requirement that 'Cicero = Cicero' designate an identity proposition that relates Cicero to himself - where, in the second case, it is built into the semantics for the sentence that the individual in subject and object position should be the same.[6]

Under each of these alternative views, the value-based semantics can be seen to arise from the attempt to reify certain semantic features of the expressions in question. The value-based semantics does not allow us to talk of the semantic features of an expression except in so far as these consist in the expression standing in a semantic relationship to an appropriate semantic value and so, when the features are not directly of this form, they must somehow be encoded as features that are. Thus instead of taking sentences to be true or false, we say that they designate the truth-values True and False; instead of taking 'Cicero' to refer to the most famous Roman orator (as opposed to the author of 'De Amicitia''), we say that it has a certain sense; and instead of taking 'Cicero = Cicero' to designate an identity proposition in which the individuals in subject- and object-position are the same, we say that it designates a coordinated identity proposition.

In each of these cases, the value-based model does not provide us with the most appropriate way to formulate the semantics. It looks as if the semantics is designative, but what we have are pseudo semantic values and a pseudo semantic relation; and it is only through applying some kind of translation-scheme to the requirements most directly delivered by the semantics itself that we can ascertain what the content of the semantics genuinely is.[7]

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[6]As observed in Fine ([2007a], p. 59). The semantics for predicates and plurals give rise to some related issues, which are discussed in Fine ([2007b], 120-1).

[7]To some extent these difficulties may be alleviated by appropriately specifying the target function. In case sentences are taken to have the feature of being true, for example, designation may be taken to be the relation that holds between a sentence and a truth-value when the sentence is true and the truth-value is True or when the sentence is not true and the truth-value is False. But even when something like this can be done, it will not deliver exactly the right results, since the reference to pseudo values, such as True and False, will import extraneous material into the content of the semantic requirements.

§4 Semantics as a Set of truths

Under the second of the two standard models, a semantics for a language is given by a theory, or set of theorems.[8] The intent is that these sentences should constitute the semantic truths for the language. Thus a semantics of this sort might contain the following sentences (either as axioms or theorems): ‘‘Cicero’ designates an individual just in case it is Cicero’; ‘‘is an orator’ is true of an individual just in case it is an orator’; and ‘a sentence ‘Pa’ is true just in case ‘P’ is true of the individual designated by ‘a’. From these sentences, the sentence ‘‘Cicero is an orator’ is true if and only if Cicero is an orator’ will follow and will therefore also be a theorem of the theory.

It is normally supposed that a semantic theory of this sort will be a theory of truth. Its vocabulary will include a truth-predicate and it will be a requirement on the theory (Convention T) that for each sentence s of the given language there should be some sentence ‘p’ of the theory which translates s and for which the biconditional ‘s is true if and only if p’ is a theorem. But there is, of course, no reason in principle why a semantic theory should take this particular form or be subject to this particular requirement. Any designative semantics of the sort previously considered, for example, might also be stated as a theory in which the sole semantic predicate was one of designation; and the requirement on the theory might be that for each meaningful expression e of the language there should be an appropriate term t of the theory for which ‘e designates t’ is a theorem.

I criticized the value-based account on the grounds that in specifying a function it was not clear what semantic information was being conveyed. A similar criticism can be leveled against the theory-based approach. For in specifying a theory, all we do is mention or characterize certain sentences; and in so doing, we say nothing.

However, it might be thought to be relatively straightforward in this case to say what is being said. For what is being said is what we would be saying if we were to *use* the sentences of the theory (with their intended meaning) and not merely to mention them. Thus if ‘‘snow is white’ is true iff snow is white’ is a theorem of the theory, then part of the semantic information implicitly conveyed in specifying the theory is that ‘snow is white’ is true if and only if snow is white.

But there is a peculiar difficulty in conceiving of the information in this way. For what information is conveyed by the sentences of the theory may be part of what was at issue in stating the theory in the first place. Consider the Fregean and referentialist positions on proper names. Each side can assent to the sentence ‘‘Cicero’ refers to Cicero’ (or, more cautiously, to the sentence ‘‘Cicero’ refers to Cicero if it refers at all’); and they can therefore agree that it is a semantic fact that ‘Cicero’ refers to Cicero. The referential claim ‘‘Cicero’ refers to Cicero’ will

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[8]It is customary in logic to take a theory to be a set of sentences (or formulas) closed under logical consequence, whereas it has been common in discussions of theories of truth to take a theory to be an *axiomatized* theory, i.e. a theory that is equipped with a set of axioms from which the remaining sentences (or formulas) of the theory are logical consequences. Of course, ‘theory’ also has an informal use in which it is taken to be a set of propositions (not sentences); and it is perhaps some slippage between the informal and formal uses of the term that has made it more attractive to think of semantics as having the aim of providing us with a theory.

even serve to convey what each position is, given that the position is indeed correct. For the proposition expressed by the sentence ‘‘Cicero’ refers to Cicero’, will be a ‘singular’ proposition, according to the referentialist, relating the name directly to the individual, whereas it will be a ‘general’ proposition according to the Fregean, relating the name to the individual via its sense.

It might be thought that this is a case in which the referentialist and Fregean are assenting to different, though homophonic, truths. But such a line is not at all plausible. Surely when each assents to the ordinary English sentence, ‘Cicero is an orator’ they assent to the same sentence. And so why should it be any different for the meta-linguistic sentence ‘‘Cicero’ refers to Cicero’? In each of these cases, they assent to the same truth even though they adopt a different theoretical position as to what it conveys.

The situation is therefore one in which there is a difference in the semantic facts (with a singular referential fact in the one case and a general referential fact in the other) but no corresponding difference in the semantic truths; and a semantic theory, as it is usually conceived, will be powerless to state in what the difference consists.[9]

If we are to give adequate expression to the difference, then it is helpful - and perhaps essential - to import the notion of being a semantic fact or requirement into the very formulation of the semantics facts. For what the referentialist will want to say is that it is semantically required *of* Cicero that ‘Cicero’ refer to it or, to put it in quantificational terms, he will want to say that there is something which is Cicero and for which it is semantically required that ‘Cicero’ should refer to it ($\exists x(x = \text{Cicero} \ \& \ [s](\text{‘Cicero’ refers to } x))$. In this way, we get at the singular semantic fact - but only, so to speak, from within the scope of a quantifier. The Fregean, by contrast, will wish to reject the quantificational claim (and might even find it meaningless). He may grant that it is semantically required that ‘Cicero’ refer to Cicero and even that it is semantically required that ‘Cicero’ refers to the most famous Roman orator, should ‘Cicero’ and ‘the most famous Roman orator’ have the same sense, but he will deny that it is semantically required that ‘Cicero’ refer to the very individual, Cicero, independently of how he is described.

In giving expression to the difference in this way, we must therefore make the transition from the first grade of semantic involvement, in which semantic necessity is treated as a predicate of sentences, to the third grade of semantic involvement, in which semantic necessity is treated as an operator on sentences into which we can quantify.[10] In requiring that a semantics be given by a theory we are in effect adhering to the first grade of semantic involvement and denying ourselves the expressive possibilities afforded by the third grade.

There is another shortcoming of the theory-based approach. For it only allows us to state semantic requirements simpliciter; it does not allow us to distinguish between the semantic requirements that arise from the meaning of certain expressions as opposed to others. Given that ‘Charlie’ refers to the name ‘Cicero’, for example, it does not allow us to distinguish the sensible

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[9]The case also shows that philosophers like McDowell [1977b] must be mistaken in thinking that the meaning of a proper name might simply be given by means of a referential axiom. For such an axiom will remain neutral on the semantic facts that are in dispute between the Fregean and the referentialist.

[10]The analogy is, of course, with the three grades of modal involvement of Quine [1966].

view that it is a semantic requirement on 'Charlie' that it refer to 'Cicero' from the ridiculous view that it is a semantic requirement on 'Cicero' that 'Charlie' refer to it. If we wish to state localized requirements of this sort, then a semantic theory, as it is standardly conceived, will again be inadequate.

It is true that one might supplement the theory for the language as a whole with an indexed family of theories, one for each meaningful expression of the language. The sentence ''Charlie' refers to 'Cicero'' will then be a theorem of the special theory for 'Charlie' though not of the special theory for 'Cicero'; and in this way, we might give expression to the difference in the relative requirements. But the expanded framework is barely workable. For we will need to navigate between different indexed theories, appealing to one in specifying another, and this will not be possible, at least with the desired degree of generality, unless we have a 'super-theory' in which the various relative requirements are explicitly made.

One might, of course, have an austere view in which it is no part of a theory of meaning to state such relative requirements. But the need to relativize the requirements can arise from other causes, even when they are not taken to be an immediate part of the task at hand; and it may be worth spelling out how this might be so in the context of a very austere program such as Davidson's, in which all that is expected of a theory of meaning is that it should deliver the right truth-conditions (and in the right way). For a familiar problem with this approach is to say when a theory of truth (containing a correct T-theorem of the form 's is true iff p' for each sentence s of the object- language) is a theory of meaning. To use an example of Davidson's[11], we would not want the theory of meaning for English to contain the sentence:

'snow is white' is true iff grass is green.

And so how are such sentences to be excluded?

The natural response to this problem, within our own framework, is to insist that the content of the T-theorems should be semantic requirements. Thus the only way for the above sentence to be part of the theory of meaning for English is for it to be a semantic requirement that 'snow is white' is true iff grass is green - which in fact is not case.[12] Davidson would presumably be unhappy with using the notion of semantic requirement in this way and he appeals instead to general constraints on theory acceptance (Davidson ([85], 26 & 172-3)). Any theory that we accept should be reasonably comprehensive, reasonably simple etc. etc.; and no theory of truth for English could be expected to contain the offending biconditional without violating one or more of these constraints.

But the illness is more serious than the proposed cures. For let us suppose that we can get at the right T-theory in either of these two ways. The difficulty remains that there is no well-defined notion of T-theorem. For any sentence s of the object-language there will, in general, be many theorems of the form:

s is true iff p.

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[11]Davidson ([1985], p. 25). Foster ([1977], pp. 13-14) considers some related examples.

[12]Foster's second problem for Davidson (Foster [1977], p. 19), that of making the knowledge of the truth theory appropriately reflective, is also solved if we bring the notion of a semantic requirement down into the object-language.

Indeed, given one such theorem in p, any p′ for which p ≡ p′is a theorem of T will give another such theorem in p′. In particular, let Ax be the conjunction of a finite set of axioms for T (which Davidson assumes will exist). Then p ≡ (p & Ax) will be a theorem of T; and so in addition to the T-theorem above, we will also have:

s is true iff (p & Ax).

Here we face not an ambiguity in the theory but an ambiguity in the T-theorems given the theory. Now, no doubt, some ambiguities of this sort are relatively harmless. We should not be too concerned if the T-theorems for 'snow is white' also included:

'Snow is white' is true iff snow is white & snow is white,

and we should perhaps not be too concerned if any logical equivalent of 'snow is white' were also allowed to occur on the right hand side of the biconditional. But the case is quite different when the truth-conditions for a given sentence incorporate the whole theory of meaning of the language to which the sentence belongs. Surely the theory of meaning itself cannot properly be included in the truth-conditions of any given sentence?[13]

We may avoid this difficulty - or, at least, largely mitigate it - by appealing to the notion of a relative semantic requirement. For we may insist that, in the case of any T-theorem, it should be a semantic requirement on the sentence s that s is true iff p. This will then exclude the monstrous biconditional above since, even if it is a semantic requirement on s, that s is true iff p, it will not in general be a semantic requirement on s that s is true iff (p & Ax).

But what is Davidson to say? No constraints on theory acceptance will help since the present difficulty is one that arises once he have the right theory. There are various ad hoc constraints on the biconditionals that one might consider and one might also somehow try to exploit the form of the axioms by which the theory is given. But I believe that detailed investigation will reveal that no such attempt can be made to work.

A related problem arises in regard to the compositional determination of meaning. Davidson ([86], p. xiv) has claimed that 'the proof of such a theorem [the T-theorem for a given sentence] amounts to an analysis of how the truth or falsity of the sentence depends on how it is composed from elements drawn from the basic vocabulary.' But just as there is no such thing as *the* T-theorem for a given sentence, so there is no such thing as *the* proof of a given T-theorem. For any such theorem, there will be an infinitude of possible proofs, some involving unnecessary detours, some perhaps exploiting short-cuts that do not simply follow from what we take to be the compositionally determined meaning of the sentence, and some corresponding more or less exactly to what we take to be the compositionally determined meaning. However, I doubt that there is anything in a theory of meaning itself that will determine a privileged deductive route from its axioms to the appropriate T-theorem.

This is not such a problem for the value-based approach. For this approach allows us to assign semantic values to expressions and it will follow relatively straightforwardly from the clauses by which the values are assigned to simple and complex expressions how the semantic

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[13] Curiously, I consider a related objection to the modal account of essence in Fine ([94], p. 6).

value of any given expression is to be computed.[14]

We are also able to avoid - or, at least, to mitigate - the problem if we appeal to the idea of a relative semantic requirement. For making the requirements relative imposes a natural discipline on how the requirements for a given expression are to be derived from the requirements on other expressions. If it is a requirement on 'not funny', for example, that 'not funny' is true of exactly those things of which 'funny' is not true and if it is a requirement on 'funny' that it be true of exactly those things that are funny then, as we have seen, we may appeal to the Chaining Principle to show that it is a requirement on 'not funny' that it be true of exactly those things which are not funny. The relative requirements provide the organizational framework, so to speak, through which which the compositional determination of meaning must flow. There is no need to privilege and it has the something of the generality ...

§5 Conclusions

Two morals emerge from the previous discussion. The first is that semantics should be conceived as a body of semantic requirements or facts - and not as a body of semantic truths or as an assignment of semantic values. The second is that the notion of a semantic requirement should itself be imported into the content of those requirements. It is the key semantic meta-primitive and, although different approaches to semantics, may differ on which other semantic primitives to adopt, they should all agree on using this higher level primitive as a basis for organizing the lower level semantic facts.

The problem with the alternatives is that they involve an element of indirection. If we are clearly to see what is said on the value-based designative approach, then we must propositionalize 'up' and attempt to ascertain which requirements are implicit in the assignment of semantic values; and if we are clearly to see what is said on the theory-based approach, then we must propositionalize 'down' and attempt to ascertain which propositions are expressed by the sentences of the theory. Although sometimes straightforward, there are cases in which there is serious ambiguity in what we should take the resulting propositions to be.

But why should the ambiguity matter? It should be conceded that, for certain purposes, it will not matter and, in this connection, we should distinguish between two broadly different aims that we might have in providing a semantics. According to the first, more linguisticially oriented aim, the emphasis will be on the compositional determination of meaning, we will wish to ascertain how the meaning of a complex expression is to be determined on the basis of its simpler components. According to the second, more philosophically oriented, aim, the emphasis is on giving fundamental expression to the semantic facts - to so express them that there is no more fundamental way (within the semantic realm) of conceiving what they are. Thus in regard to the first aim, it will be a matter of indifference whether we think of sentences as being true or false or as designating truth-values or whether we think of plural expressions as plurally designating various objects or as singularly designating a plurality, since the compositional import of these two ways of thinking will be the same. But in regard to the second aim, the differences will be momentous and our general stand on the semantic role of sentences or of

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[14]There will be ambiguity in this case too, concerning the order in which values are computed etc., but it is nowhere so serious as it is on the theory-based approach.

plurals will be largely determined by the stand we take on such questions.

The requirement-based approach allows us to avoid any indirection that might otherwise be involved in attempting to give fundamental expression to the semantic facts. Partly this is because it does not require us to package a semantic feature (such as truth or falsehood) as a semantic value (the True and the False); and partly it is because the focus is on the connection between the object language and the world, and not on how the semantic facts are themselves to be specified. But it is also because the notion of a semantic requirement may itself be of use in stating the semantic facts. Thus what most fundamentally distinguishes the referential position from Fregeanism is that it makes use of de re semantic facts, in which it is required of an object itself that it enter into certain semantic requirements. There is no appeal here to rigid designation or to some special relation of *direct* reference; and I suspect that there are many other cases in which the notion of a semantic requirement will be essentially involved in giving fundamental expression to the semantic facts.[15]

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