

Alethic Pluralism and the Role of Reference in the Metaphysics of Truth

Abstract

In this paper I outline and defend a novel approach to alethic pluralism, the thesis that truth has more than one metaphysical nature: where truth is, in part, explained by reference, it is (relevantly) relational in character, and can be regarded as consisting in correspondence; but where instead truth does not depend upon reference it is not (relevantly) relational, and involves only coherence. In the process I articulate a clear sense in which truth may or may not depend upon reference: this involves distinguishing semantic denotation from pragmatic speaker reference, and claiming that there may or may not exist a metasemantic connection between these two notions. Finally, I argue that reference is not in general inscrutable – that this metasemantic connection does exist in the case of our ordinary discourse about present macroscopic concrete objects – but that it is in pure mathematics, where reference cannot be secured, and which therefore plays no role in accounting for truth. In this manner, alethic pluralism is upheld.

Keywords

Alethic Pluralism; Truth; Reference; Inscrutability; Metasemantics

1. Introduction

There are two conceptions of the relationship between truth and reference represented in the philosophical literature, which we might initially describe (somewhat facetiously¹) as follows: (i) reference is necessary for truth; and (ii) truth is sufficient for reference. Although these claims are (widely held to be²) equivalent, and so (it seems) cannot serve as an ultimate characterization of the views in question (and will not do so here), they nevertheless indicate a difference in priority attributed to the two notions involved. Whereas on the first view truth is in some sense (to be specified) dependent upon reference, on the second it is not. Thus, Hartry Field, for example, once claimed that ‘Tarski succeeded in reducing the notion of truth *to certain other semantic notions*’ (1972: 347, italics original); he called those notions collectively ‘primitive denotation’, though others have used the term ‘reference’ in this connection.³ Clearly, this early Field⁴ advocated a kind of *Bottom Up* position of type (i) on which truth depends upon reference.⁵ On the other hand, ‘once it has been settled that a class of expressions function as singular terms by syntactic criteria,’

¹ For reasons about to be given.

² See e.g. Gomes (2009) for a discussion of whether necessary and sufficient conditions are converse relations. (Gomes agrees with the orthodoxy that they are, but discusses the views of a number of authors who hold that they aren’t. I remain neutral on this issue here.)

³ Thus, Donald Davidson (1977) has written, “We may take reference to be a relation between proper names and what they name, complex singular terms and what they denote, predicates and the entities of which they are true” (2001: 216).

⁴ Field has since changed his view in favour of deflationism - see the papers collected in his (2001).

⁵ Field’s talk of a *reduction* of truth to reference suggests the provision of necessary *and sufficient* conditions for truth in terms of reference; but this much is not required by Bottom Up, as we shall see.

and acknowledged ‘that appropriate contexts in which they do so figure are true,’ according to Crispin Wright (1992: 28-29) ‘there can be no further question about whether they succeed in objectual reference.’ In particular, ‘[t]here is... no *deep* notion of singular reference,’ such that expressions meeting the more superficial requirements just given, ‘may nevertheless fail to be in the market for genuine – “deep” – reference’. Wright advocates the *Top Down* position (ii): truth is independent of, and sufficient for, reference.⁶

Wright has also defended the possibility of *alethic pluralism*,⁷ the thesis that truth has more than one underlying nature: ‘if the only essential properties of a truth predicate are *formal*,’ as they are according to Wright’s own minimalism about truth – that is, ‘a matter of its use complying with certain very general axioms (platitudes),’ and in particular, a matter of its satisfying the instances of the disquotation schema⁸ - ‘then such predicates may or may not, in different areas of discourse, have a varying *substance*.’(1992: 21, footnote 15, italics original). In short, what truth consists in may change with the domain of discourse.⁹

My aim in this paper is to defend the alethic pluralism advocated by Wright, precisely by appeal to the possibility, denied by Wright, of making out a difference between a superficial *semantic* notion of denotation and a deeper *pragmatic* concept of reference which may be employed in *metasemantics*. My contention is that the difference between truth by correspondence, and truth by coherence, is that between areas of discourse in which semantic denotation is (associated with what is), metaphysically speaking, a genuine relation of reference, and those in which it is not; and I claim that there are domains of our discourse covered by each of these cases.

What follows is in broadly three parts. In the first of these (section 2), I discuss the metaphysics of truth, arguing that where reference plays a role in explaining truth, we may take truth to consist in correspondence, and that where it does not, truth may be said to obtain by coherence. In the second part (section 3), I articulate a framework for understanding the theses that reference does, or does not, play a role in explaining truth. And in the third part (section 4), I discuss the thesis of the inscrutability of reference, arguing that it holds in some domains, though not in others. Since reference plays a role in explaining truth precisely when it is not inscrutable, alethic pluralism is thereby upheld. Finally, in a concluding section (section 5) I sum up and briefly sketch the significance of the position advocated.

⁶ The citations I have given figure in a description of Frege’s views; but Wright is clearly sympathetic.

⁷ I will often omit the qualification ‘alethic’ in what follows, speaking simply of pluralism.

⁸ A version of this will be given below.

⁹ In articulating the thesis of pluralism in this manner I remain neutral on a number of central questions in the literature. (Nor do I impute any specific views on these matters to Wright.) For instance, I am not committed on the question whether there is a property which all truths have in common – i.e. on whether strong or weak pluralism holds (Pedersen 2010); in fact, and despite some turns of phrase in the main text below, I am not even committed on the question whether there are properties at all, nor whether, if there are, they are sparse or abundant (Lewis 1983). Obviously, then, I need take no specific view on the best way to describe the relationship between any purported property of ‘truth as such’ and its various manifestations (Pedersen 2012) - in particular, I can remain neutral on whether alethic *functionalism* (Lynch 2001, 2009) holds. The novel approach to alethic pluralism I advance in this paper is, I believe, perfectly general.

2. The Metaphysics of Truth

The basic thought underlying correspondence theories of truth is that truth requires a relation to the world. Different correspondence theories differ on the nature of that relation and, indeed, of its relata; but there are two main approaches (Glanzberg 2009). Traditional correspondence theories of truth (Russell 1912, 1918; Wittgenstein 1921) maintain that a truth bearer is true if and only if there is a distinct thing, a fact or state of affairs, to which that truth bearer corresponds as a whole. By contrast, a more recent alternative approach (Davidson 1969; Field 1972) takes truth to be a property which is explained by the existence of a relation, not between the whole truth bearer and a fact, but rather between the *parts* or *constituents* of the truth bearer and some entity or entities.

Whether there are facts depends, *inter alia*, on whether universals exist; for only if they do can there be complexes – facts – comprising them as parts. Yet the issue of whether there are universals is not our immediate concern: it may be useful or indeed essential to appeal to such entities in explaining the truth-values of the claims we make using intensional idioms; but we will be concerned here only with the use of extensional language, which will give us plenty to think about. Thus, for present purposes, I propose to accept the second account of correspondence above: in particular, I take it to be sufficient, for truth to be correspondence, that it should be relational in character.¹⁰ In taking this view, I disagree with a number of authors: thus, Lewis (2001) claims that a correspondence theory of truth must vindicate the slogan ‘truth is correspondence with the facts’; and Merricks (2007) holds that any such theory must, at a minimum, provide an analysis of truth. My proposal complies with neither of these requirements. But it is of no great philosophical interest how best to use the term ‘correspondence’. What matters for our purposes is whether there is a fundamental difference between cases in which truth is a relational property and those in which it is not. I claim that there is; and I accordingly use the term ‘correspondence’ to indicate the cases in which it does.

The relation between truth bearers and the world to which I appeal in accounting for the cases in which truth is correspondence in this sense is that of reference. This imposes a constraint on what the truth bearers can be: in particular, they must be linguistic utterances, for it is only these which stand in referential relations;¹¹ and indeed, it is these which I take to be true or false. We may begin to clarify the notion of truth at issue by reflecting on Aristotle’s famous claim: “To say of what is that it is not, or of what is not that it is, is false, while to say of what is that it is, or of what is not that it is not, is true.” (Metaphysics Γ 7.27) Timothy Williamson (1994: 135) has paraphrased this remark by means of the following two ‘disquotational’ *schemata*, in which *u* is an utterance, and ‘*u* says that *P*’ abbreviates ‘in uttering *u*, the speaker says that *P*’:

(T) *If u says that P, then u is true if and only if P.*

¹⁰ Strictly speaking, more is required than this; for after all, *coherence* is a relation – amongst truth bearers. Rather, truth must involve a relation *to the world*. This claim is, of course, vague; but we may take it to mean that truth involves a relation to something which is not itself a truth bearer, or a part thereof. In what follows I will abbreviate this, as I did in the text to which this note is attached, by saying that truth is ‘relational in character’, or ‘a relational property’. (Of course, some authors (Frege 1918/1956; Merricks 2007) have held that truth does not involve a relation – or at least, an extrinsic relation – at all: it is an intrinsic property. But this view is only natural if we take truth to be a feature of propositions: yet I do not, for reasons given below.)

¹¹ Linguistic expression types, as we shall see, are – sometimes – related to things by denotation, not reference.

(F) *If u says that P, then u is false if and only if not P.*

He claims that these *schemata* 'may be regarded as... the most fundamental principles governing the concepts of truth and falsity' (1994: 135); and he argues that 'the notions of truth and falsity are uniquely characterized by [them]' (1994: 135). It is, in particular, the notion of truth as characterized by Williamson's schema (T) which I shall argue consists of correspondence in some domains and coherence in others.¹²

Some, however, will regard it as a mistake to treat utterances as truth bearers. More specifically, they will hold that the metaphysically primary truth bearers are propositions – abstract objects existing independently of any mind or language - and that when we investigate the metaphysics of truth it is a certain property of these items in which we take interest. Thus, even if my arguments prove successful, they will say, I will thereby establish only pluralism about the expression of truth, and not about truth itself.

To those who harbour this concern, however, I say, first, that even if their point is conceded, pluralism about the expression of truth is a thesis which should be of interest in its own right - though perhaps one which concerns meaning rather than truth. They should therefore read on.

A second response is more combative: it is far from clear that the investigation which these critics envision can be carried out; for it is by no means obvious that propositions exist as objects which can bear the property of truth. Suppose, for instance, that one takes a Russellian view of propositions, on which they are items containing objects, properties, and relations as constituent parts. Then there is no reason of principle why we should not have, for any object and any objects, the proposition, whether true or false, that the former is one of the latter. Accordingly, there are at least as many Russellian propositions as there are pluralities of objects: yet it is well-known that there are more pluralities of objects than there are objects; so by this reasoning, there are more propositions than there are objects. Thus, Russellian propositions cannot be objects, abstract or otherwise, and accordingly they are not able to bear any property at all; so they cannot be truth bearers. Similar considerations apply to the other standard conceptions of propositions.¹³ Thus, it is not obvious that the view that propositions are the metaphysically primary truth bearers withstands scrutiny; and if it does not, then I see no reason to think that our proposed investigation of utterances will not illuminate the metaphysics of truth.

A third response is intermediate in character between the other two, less concessive than the first, but more so than the second. Suppose that, in some sense, there are propositions, and that truth

¹² Michael Lynch (2009) characterizes the concept of truth in terms of a number of 'truisms' (2009: 8), including three 'core' (2009: 13) ones which he calls 'Objectivity' (2009: 8), 'Norm of Belief' (2009: 10), and 'End of Inquiry' (2009: 12). Objectivity seems to be a less formal version of (T); but Norm of Belief and End of Inquiry (a) aren't essential to the concept of truth given that (T)'s necessitation uniquely characterizes this notion, though (b) they may be essential to the concepts of belief and inquiry.

¹³ Thus, suppose that one takes a Fregean view of propositions, on which they are composed of senses, rather than objects and universals. Still, the relation of senses to referents is many-one; and so, in particular, there are as many senses as there are first-level Fregean concepts. But there are as many such concepts as there are pluralities of objects; so there are more Fregean propositions than there are objects. Finally, if we take the Tractarian view of propositions on which they are sets of possible worlds (Lewis 1970, 1986; Stalnaker 1999), it is again far from clear that they exist to bear the property of truth; for it is by no means certain that possible worlds exist.

somehow characterizes them – either because the preceding argument fails to establish its conclusion, or because propositions are higher-order entities and not individual objects. In that case, they may be defined, as is usual, as the objects of certain acts such as belief and assertion. But then it is not implausible to suppose that they are nothing other than *types* of these very acts (Ball 2011; Soames 2010): just as what one dances when one dances is a type of dance, so too (on this view) what one believes or asserts when one does so is a certain type of belief or assertion. If it can then be shown that there is a fundamental difference amongst token acts, e.g., of assertion - that is, amongst token utterances – in what it takes for them to express a truth, then it would seem that this difference should carry over to the types of which they are tokens, and hence to the truth of the propositions themselves.

For these reasons I think that in inquiring about the truth of utterances we are engaged in a fundamental metaphysical investigation. Accordingly, and finally, I will say that an utterance is true by virtue of corresponding to reality just in case its being true is explained by the facts: first, that its simple parts bear interesting relations to parts of the world – they refer or apply to them; and second, that these parts bear appropriate internal relations to one another – the whole sentence uttered is composed from its constituents in accordance with certain composition rules. I will say that truth obtains by ‘coherence’ whenever there is truth without correspondence in this sense - and in particular, whenever the first condition mentioned above fails.¹⁴

In the next section I show how truth could be, or fail to be, explained by reference. This will involve rehearsing some familiar material; but I will present it in what is perhaps a new light, one which will enable us to understand how pluralism could be true.

3. Truth and Reference in Semantics and Metasemantics

A semantic theory for an extensional language L must associate singular terms with the objects they denote, predicates with the objects (or n -tuples thereof) to which they apply, and sentences with their truth values. Tarski (1933) showed us how such an association of expressions with their semantic values can be achieved through the provision of a truth theory for L - a set of sentences, closed under derivability, and containing an instance of his schema (T) for each sentence s of L :

(T) s is true in L if and only if P .¹⁵

There is a systematic relation between truth and denotation in semantic theories of this kind. In fact, three constraints jointly require us, in giving a theory of truth for a language, to invoke the relational semantic notion of denotation. First, the languages with which we are concerned contain infinitely many sentences. Second, it must be possible to state a *finite* number of primitive truths of the

¹⁴ Again, while it is of no great importance how we use our terms, it seems to me reasonable to use the name ‘coherence’ for this notion of truth. Since truth-theories must be consistent in at least the weak sense of there being some sentence they don’t entail, truth so understood, will require such consistency, which is the principal component of coherence; though we might wish to add some requirement of conservativeness over the truths which obtain by correspondence.

¹⁵ Although this schema has the same name as Williamson’s schema from the introduction, they are of course different, and should not be confused.

theory from which all of the infinitely many instances of the schema (T) are derivable.¹⁶ Third, we cannot explain the truth of quantified sentences in terms of the truth of their constituent sentences; for not all of the constituents of closed sentences are themselves closed sentences. Since open sentences do not themselves have truth conditions, the derivation of truth conditions for closed quantified sentences can't appeal to the truth conditions of their open constituents; rather, it must appeal to their *satisfaction* conditions – that is, the conditions under which they are true *relative to an assignment of denotations to their free variables*. In this way, truth in a language *L* is semantically related to denotation in *L*.

Donald Davidson (1967) suggested that a Tarskian truth theory of this kind may serve as a theory of meaning; in particular, his proposal was that knowledge of such a theory for a language *L* could constitute semantic competence with *L*.¹⁷ Davidson imagined, of course, that '[a] theory of meaning... is an empirical theory' (1967: 311); as such, it would have to make contingent *a posteriori* claims. But in Tarski's theories, *truth in L* and *denotation in L* are *defined* notions; and when they are replaced by their definitions, the truth of the Tarskian T-sentences turns out to depend only on matters of logic, mathematics, and syntax. The claims made by a Tarskian truth theory are, therefore, necessary *a priori* truths and as such they seem ill suited to contribute to an empirical theory of meaning.

Davidson's own solution to this problem was to replace Tarski's deflationary¹⁸ semantic notions with theoretical primitives, thus converting the clauses of Tarski's recursive definitions into axioms. A Davidsonian truth theory of this kind, however, is logically equivalent to a Tarskian theory together with what Richard Heck (1997) has called 'connecting principles'¹⁹ - axioms linking the undefined Davidsonian primitive notions of truth and reference to their defined Tarskian counterparts - such as the following:

(CPT) For all sentences *s*, *s* is true iff *s* is true in *L*

(CPR) For all terms *t* and objects *o*, *t* refers to *o* iff *t* denotes *o* in *L*

A Tarskian truth theory, supplemented with these further axioms, will allow us to derive all of the Davidsonian *T*-sentences, and other theorems, without allowing the derivation of other sentences

¹⁶ This requirement of finite axiomatizability rules out theories of truth for *L* which take as axioms all instances of the schema.

¹⁷ Although the view has its critics, I take it that it is still a live theoretical option. Larson and Segal (1995) respond to Soames' (1992) objections; and Heck (2004) endorses, while Sainsbury (2005) develops the Davidsonian view.

¹⁸ Soames (1984: 429) claims that Tarski's approach to truth is deflationist in character; and he gives no reason to think that Tarski's approach to denotation is any different. In any case, my aim here is not Tarski exegesis.

¹⁹ This equivalence is remarked already in John Etchemendy's (1988) work (though he does not speak of 'connecting principles'). And Soames says, 'If one's philosophical views differ from Tarski's, one can accept his formal results while taking truth to be primitive' (1984: 416). I take it that by this he means, amongst other things, that if one wishes to employ primitive notions of truth and reference, one can link them to Tarski's deflationary semantic notions in such a way as to contribute to empirical semantics (though Soames wouldn't recommend it).

expressible in the Davidsonian meta-language.²⁰ I claim that, by exploiting this fact, an empirical theory of meaning can employ Tarski's semantic notions;²¹ in what follows I aim to show how.

It is now common to distinguish two related disciplines concerned with the investigation of meaning (Speaks 2011). The first of these aims to describe the meanings of the various expressions of a given language; the second attempts to explain why those expressions have those meanings. David Kaplan (1989) termed these two sciences *descriptive* and *foundational* semantics respectively; I prefer Robert Stalnaker's (2003) labels, *semantics* and *metasemantics*. But the most famous development of the distinction is no doubt that of David Lewis' (1975) 'Languages and Language'. According to Lewis, we can regard a (semantically interpreted) language as an abstract object – a function from (syntactically individuated) expressions to semantic values.²² In this sense, 'language' admits of a plural; there are many languages. But there is also the phenomenon of language, a social activity in which members of a community participate. When used to describe this phenomenon the word 'language' admits no plural. This raises a philosophical puzzle: what is the relation between languages and language? Lewis' answer is that, under certain conditions, a language may be in use in a population that engages in linguistic activity. Within this framework we may say that semantics is the discipline which pairs expressions with their semantic values, while metasemantics aims to determine what makes it the case that a given semantically individuated language is in use in a particular population.

How will this help us to employ Tarskian semantic properties in the empirical science of linguistic activity? On the kind of Tarskian truth theory we have considered so far, what is defined is *truth in L* (a set of sentences) and *denotation in L* (a set of pairs of terms *t* and objects *o*), for a *fixed* language *L*. But Tarski also showed us how to define *truth in L* and *denotation in L* for *variable L*:²³ the former is a set of pairs of sentences and languages; the latter may be regarded as a set of triples of a term, a language, and an object. If the class of languages for which truth is defined in this way is \mathcal{L} , we may call the resulting notions \mathcal{L} -*truth* and \mathcal{L} -*denotation*. Clearly, then, the Tarskian has available a stock of abstract languages, each with their deflationary semantic properties; and, crucially, he also has at his disposal a semantic conception of truth that applies equally to all of these various languages.

Given all of this, we can regard Davidson's proposal to treat a Tarskian truth theory for a language *L* as a theory of meaning for *L* as involving two components. On the one hand, there is the claim that the semantic values of the linguistic expressions of *L* are the entities with which they are associated by the Tarskian theory – in our case, extensions. This proposal is semantic. On the other hand, there is the suggestion that knowledge of a Tarskian truth theory for *L* constitutes semantic competence with *L*. This claim can be taken as a metasemantic hypothesis regarding the conditions under which a language *L* is in use in a population *P*.

²⁰ For a crucial qualification of this claim, see Heck (1997: 540, footnote 14).

²¹ Heck (1997) suggests, contra Soames (1984), that a theory of this more inclusive kind was what Tarski intended all along (he did, after all, insist upon the material adequacy of his definitions); and that it was in fact advocated by the early Davidson (1967).

²² On Lewis' own view the expressions in question are the sentences, and the semantic values of these expressions are propositions construed as sets of possible worlds; but these specifics are inessential to the general strategy.

²³ This is, of course, just the notion of truth in a model.

More specifically, we have seen that the Davidsonian accepts that there is a primitive (non-Tarskian) notion of truth. Let's suppose that it is that characterized by Williamson's schema (T) above; and since that characterization concerns utterances and mentions the speech act of *saying*, let's call the relevant conception of truth *pragmatic*. Let's also suppose that we have a comparable pragmatic notion of reference which applies to utterances; in particular, we may let 'u refers to o' stand for this notion, abbreviating 'in uttering u, the speaker refers to o'. Finally, suppose that it is both necessary and sufficient, for a language *L* to be in use in a population *P* that members of *P* know a Tarskian truth theory for *L*, together with the following principles:

(MST) For all sentences *s* of *L*, if *u* is a normal utterance of *s* produced in *P*, then *u* is true if and only if *s* is \mathcal{E} -true in *L*

(MSR) For all terms *t* of *L* and objects *o*, if *u* is a normal utterance of *t* produced in *P*, then *u* refers to *o* if and only if *t* \mathcal{E} -denotes *o* in *L*

Then, since knowledge is factive, it will be a necessary condition on *L*'s being in use in *P* that (MST) and (MSR) are true.

Clearly, such principles constrain the relation of use. For suppose that the first of these is true. Suppose further that *u* is a normal utterance of the sentence *s*, and that *u* is true. It follows that a language *L* is in use in *P* in which *s* is \mathcal{E} -true. Similarly, suppose that the second principle is true, that *u* is a normal utterance of the term *t*, and that *u* refers to *o*. Then a language *L* must be in use in *P* in which the term *t* \mathcal{E} -denotes *o*. Metasemantic principles such as these, combined with necessary *a priori* Tarskian semantic theories for a range \mathcal{E} of languages *L*, therefore make contingent *a posteriori* claims of just the sort we might hope to discover when investigating the linguistic practices of a given population.

We are now in a position to understand more precisely what's involved in the Bottom Up and Top Down views of the relation between truth and reference; the difference concerns the question whether reference plays a role in the metasemantic task of determining whether a language is in use in a given population. In particular, we may say that according to Bottom Up, both of the conditions articulated, (MST) and (MSR), are necessary for a language to be in use in a population;²⁴ whereas, by contrast, according to Top Down only the condition governing truth, (MST), is necessary.²⁵

In the next section I explore the question of whether the condition governing reference, (MSR), should be accepted as necessary for a language to be in use in a population, i.e. whether Bottom Up holds. My answer will be that it does in some, though not all, domains of discourse.

²⁴ Reductionist versions of this view will add that the first holds, in some sense, *because* the second holds. I will not undertake to spell out that sense here.

²⁵ Bottom Up and Top Down were originally described, respectively, as the theses that (i) reference is necessary for truth, and (ii) truth is sufficient for reference. But having distinguished the semantic relation of denotation from the pragmatic relation of reference, we can now see that, while the first is correctly described as the view that (pragmatic) reference is necessary for (pragmatic) truth, the second would be better described as the view that (pragmatic) truth is sufficient for (semantic) denotation. These claims, of course, are not equivalent.

4. On the Inscrutability of Reference

What reasons might there be for rejecting the metasemantic principle governing reference, i.e. the claim that (MSR) is a necessary condition on language use? In short, what reasons are there for endorsing Top Down? And what are the consequences of doing so?

One argument runs approximately as follows (Davidson 1977). We can't do anything - perform any speech act - with an expression smaller than a sentence. Since singular terms are smaller than sentences, it follows that we can't do anything with them, and so there is nothing to pin down a pragmatic concept of reference as distinct from the semantic notion of denotation. In short, there is no such thing as speaker reference.

As a consequence, however, (MSR) isn't even intelligible, let alone true - for it purports to employ just such a pragmatic notion of reference.²⁶ Accordingly, any number of different languages might, for all the constraint (MST) imposes, be in use in a given population, and the denotation relation itself is therefore indeterminate (between those of these different languages). A simple mathematical argument establishes this last point: starting with a given semantic theory for a language, we can permute the objects in the domain in such a way as to affect the denotation relation while preserving the truth values of all of the sentences.²⁷

But if denotation is indeterminate, then it is merely instrumental. Thus, Davidson wrote: 'We don't need the concept of reference; neither do we need reference itself, whatever that may be' (1977: 256). Of course, Davidson did not distinguish reference from denotation; but once we do so we may, I think, paraphrase his point as follows. We have no concept of reference; accordingly, we cannot fix on a determinate denotation relation. But, no such relation is needed: the clauses of a Tarskian semantic theory which govern denotation do not explain, but only summarize, the theorems giving the truth-conditions of sentences, and hence, via (MST), of sentential utterances;²⁸ the semantic notion of denotation is merely instrumental in accounting for the truth of our claims.

We may sum up this line of thought as follows. There is no such thing as reference. But if reference isn't a real phenomenon, then denotation is indeterminate. And where denotation is indeterminate, it is merely instrumental. Therefore, denotation is merely instrumental. This package of claims - the unreality of reference, and the concomitant indeterminacy and instrumentality of denotation - constitutes the thesis of *the inscrutability of reference*. I think we should accept the second and third premises of this argument; thus, whether we should accept that reference is inscrutable in this sense depends upon whether it is true that there is no pragmatic concept of reference which can be related to semantic denotation in a metasemantic principle such as (MSR). In what follows I will argue that there is a pragmatic notion of reference, though it is inapplicable in pure mathematics.

²⁶ Thus, at best, *believing* the various claims of a Tarskian truth theory for a language *L* and *knowing* (MST) is necessary and sufficient for a language user to belong to a community in which *L* is in use.

²⁷ Davidson (1979) says, 'acceptable theories [of truth for a language] may differ with respect to the references they assign to the same words or phrases.... [W]e can subdivide [such indeterminacy] into cases where the total ontology differs and cases where it does not.' (2001: 228) I have discussed cases of Davidson's second kind; but we can also appeal to the Lowenheim-Skolem theorem to show that semantic theories with domains differing in cardinality may predict the same truth values for all of the closed sentences of a first-order language (Putnam 1980). However, this strategy only works in the case of languages with limited expressive power (i.e. first-order languages); I ignore it in what follows.

²⁸ See Perry (1994: 25-27) for this way of describing Davidson's instrumentalism about word-world relations.

The argument for the unreality of speaker reference at the beginning of this section starts with the claim that we cannot (normally) perform a speech act with an expression shorter than a sentence, notes that singular terms are shorter than sentences, and promptly concludes that we cannot perform an act of reference with a singular term. Although the inference seems valid, it is not; for it suffers from the fallacy of equivocation. The sort of speech act which one normally performs with a full sentence is an illocutionary act (Austin 1962b) such as assertion; but one can perform a distinct kind of act with a singular term - an act of reference - in the course of performing an illocutionary act (Searle 1969).

Kent Bach (1987) provides an account of what it is to refer while performing an illocutionary act. Following Grice (1957), he holds that communication involves acting with a reflexive intention, one whose recognition is sufficient for its fulfilment. More specifically, on Bach's view, a communicative illocutionary act is 'the act... of expressing an attitude... [i.e.,] uttering a sentence with the intention for the hearer to take one's utterance as reason to think one has that attitude' (1987: 51). If the attitude one expresses is object-directed, rather than purely general in character, then one can refer in the course of expressing it. In particular:

To refer to something is to use a singular term with the intention... of indicating to one's audience the object of the attitude one is expressing. (1987: 52)

If this is right – and I think something like it²⁹ must be - then we have a pragmatic concept of reference with which to articulate (MSR), and the above general argument for inscrutability fails.

Of course, Bach's account of reference is not given in the 'behavioural' terms Davidson asked for (1977: 248); it is thoroughly intentional. But this should not give us pause: although it precludes us from accounting for the intentionality of thought in terms of the referential properties of language, this is no great cost; there is ample evidence that non-linguistic animals and pre-linguistic humans have object-directed mental representations (Carey 2009). Even if we do not currently have an account of how such object-directed thought is possible, the constraints of behaviourism are not ones we should abide by in providing one.

Moreover, appealing to a pragmatic notion of reference such as Bach's allows us to vindicate our intuitions in certain sorts of ordinary cases. Consider: Dr Frankenstein has been working on his monster for months, perhaps even years. Finally, he hooks up the power supply and flips the switch to 'on'. The monster's eyes open. Turning to his assistant Frankenstein exclaims, 'It's alive!' Intuitively, the assistant has only understood the doctor's claim if he recognizes that the belief the doctor expresses, and which he intends the assistant to form, concerns the monster, and not some

²⁹ One who appeals, as Bach does, to Gricean reflexive intentions need not take an attitude expression view of illocutionary speech acts. Grice himself, for instance, seems to have held that the illocutionary acts are distinguished by the attitudes the speaker intends to induce in the hearer, not by those she expresses. On this view, one might say that one refers in performing a speech act just in case the attitude that one aims to induce, rather than the attitude that one expresses, is object-directed. Equally, though, it might be held that one need have any such reflexive intentions at all only in the normal cases of the performance of an illocutionary act – see, for instance, Ball (forthcoming). But the subtleties of how best to understand illocutionary acts are not our immediate concern, and I accordingly set them aside.

other object.³⁰ Equally intuitively, the truth or falsity of his utterance turns on whether the monster is alive, i.e. on whether 'It's alive' is true in the language used, *relative to the assignment of the monster as the denotation of 'it'*.³¹ In the absence of reasons – ignoring those due to a discredited behaviourism – to overturn these intuitive verdicts, we should accept that our metasemantic principle (MSR), or something like it,³² is a necessary condition on the use of a language in ordinary speech concerning the 'medium-sized dry goods' (Austin 1962a: 29) in our immediate vicinity: reference helps to explain truth in such cases, and Bottom Up governs our discourse concerning (at least) present, macroscopic concreta.

Reference to abstracta, on the other hand, cannot be secured, and denotation in pure mathematics is accordingly indeterminate. My argument for this claim is simple. What makes for the possibility of singular statements whose truth-conditions concern some particular individual? More specifically, if the universe were qualitatively identical in different parts (Strawson 1959), what would make it the case that we spoke determinately of some objects rather than others qualitatively indistinguishable from them? Two potential answers suggest themselves: the causal relations we stand in to some rather than others; and the spatiotemporal relations we stand in to some rather than others. But neither of these answers is available when it comes to the question what makes it the case that we speak about some abstracta rather than others; for abstracta do not have spatiotemporal locations, nor, therefore, do they enter into causal relations.³³ Moreover, we have every reason to believe that massive reduplication does occur in the mathematical realm: for instance, both the even numbers and the odd numbers exhibit the structure of the natural numbers. There is, accordingly, nothing to prevent the permutation of the objects in the domain of mathematical discourse: the natural conclusion is that the denotation relation in mathematics is indeterminate, and therefore wholly instrumental.

Another way to see this point is to consider what would be required to secure reference to an object in mathematics. Assuming Bach's account sketched above, the speaker would have to have a reflexive communicative intention concerning one object o , rather than its image $\pi(o)$ under some truth-preserving permutation π ; that is, an intention, the fulfilment of which consists in its recognition, and which concerns o rather than $\pi(o)$. But how could the intended audience recognize the speaker's intention? It seems nothing could possibly prevent her from 'misinterpreting' him as speaking of $\pi(o)$ rather than o ; there is therefore no way for her to recognize his intention to refer (determinately) to o . But if this is right, then he will not be able to form this reflexive intention, assuming that he is aware of the impossibility of its fulfilment (and perhaps also, that he is rational). Thus, it seems that we cannot refer determinately, whether successfully or not, to abstract objects; reference in mathematics is inscrutable.

³⁰ I assume here that the case is a normal one in which the speaker has the belief he expresses and the intention to produce a belief in his hearer.

³¹ Heim and Kratzer (1998: 243) suggest this treatment of free pronouns.

³² In fact, the example suggests that we endorse a *context-sensitive* metasemantic constraint on reference, such as: (CMSR) For all terms t of L , contexts c , and objects o , if u is a normal utterance of t produced in P in context c , then u refers to o if and only if t \mathcal{E} -denotes o in L relative to $c(t)$. This can be regarded as allowing that a context (a sequence of parameters) represents a speech situation only if it assigns to the free variable, or pronouns, of the sentence uttered denotations which agree with the reference of those expressions.

³³ Or, at least, abstracta do not have determinate spatio-temporal locations or enter into determinate causal relations: Lewis (1991) holds that a set might be a concrete object, though not any one of these in particular. This does not affect my central point, which could be recast in terms of determinate reference.

It might be objected that we can use context-sensitive language to refer to abstracta just as we can to pick out concreta;³⁴ for instance, when playing a game involving dice in which it is particularly important whether the number we roll is prime, we might, on seeing the result of a particular roll exclaim, 'It's prime!' ³⁵ But then, by an argument similar to that involved in the Frankenstein case above, we refer determinately to the number shown on the dice. It should be clear, however, that whatever object it might be which is assigned as the semantic value of 'it' in this context, we could substitute another in its place, by permutation, without any disturbance to the success of the discourse. Whereas in the Frankenstein case there was an intuition, *de re*, concerning the monster, that the claim in question was true relative to an assignment of *it* to the pronoun 'it', in this case there is no such intuition, and the analogy fails.

A second objection is potentially more troubling. I have assumed, in effect, that where denotation is merely instrumental in accounting for truth - playing a role only in summarizing rather than explaining the truth conditions of our utterances - truth is not a relational property: it does not consist in correspondence. But this claim might be challenged. Davidson, for instance, said of his own approach, which accepted the instrumentality of denotation:

The theory [of meaning] gives up reference... It can't, however, be said to have given up ontology. For the theory relates each singular term to some object or other, and it tells us what entities satisfy each predicate. (1977: 256)

The thought here seems to be that if we must appeal to denotation in order to account for the truth conditions of our utterances, then despite the fact that it doesn't matter (within limits) which relation we appeal to, the fact that there is a relation of the relevant kind is sufficient to establish the need for the entities so related; and accordingly, the theory requires a certain ontology in order to be true. In short, truth is a relational property *even in domains for which Top Down holds*; or, as Davidson later put it, 'coherence yields correspondence' (1983).

It is this thought, however, that I wish to challenge. If it is of no consequence which objects are related to our singular terms by denotation, then there is no reason to think that there must be objects which are so related at all. For the semantic facts, on the approach adopted here, are intentionally mediated: the semanticist describes them correctly provided that they are, in some sense, believed to hold; it is the pragmatic facts which yield direct, unmediated connections to the world. But if the semantic denotation relation is indeterminate, then, in effect, what is believed is indeterminate – our singular terms are related, by the *believed-to-denote* relation, to indeterminate objects. But of course, there are no indeterminate objects: objects themselves are always determinate in their characteristics; they have their individual identities! If appeal to these identities is unnecessary for semantic purposes, this suggests that all that is required is the possibility of objects serving as the denotations of our terms: the actual reality of such objects is not needed.

³⁴ Ernie Lepore and Kirk Ludwig (2005: 379-80) have suggested that the inscrutability of reference fails for natural languages "in which we have to accommodate indexicals and demonstratives" (LePore and Ludwig 2005: 379); and Richard Heck (2004: 336-42) has argued that context-sensitivity causes problems for purely disquotational accounts of truth which try to avoid appealing to reference. It should be clear, given my argument above concerning the Frankenstein case, that I am sympathetic; it is therefore of some importance that I respond to this worry.

³⁵ Thanks to BS for discussion on this point.

It might be thought that this is unfair. Davidson's thought was not that our singular terms are related to indeterminate objects; rather, it was that they are indeterminately related to objects. More fully, the thought seems to have been that although no particular relation can be singled out as the denotation relation, it is sufficient, for truth to be a relational property, that there should exist at least one relation (in extension) which could be, or serve as, denotation; that is, a relation which, under some interpretation of 'denotation', counts as the denotation relation. But while I agree that this was Davidson's thought, I think it is mistaken.

Consider the property of being a parent. This is, presumably, the property that a thing has just in case there is something which stands in the *child of* relation to it. In short, it is a relational property. But the mere fact that there is a relation which could serve as the *child of* relation – which counts as that relation under some interpretation of 'child of' – does not explain the property of being a parent. If it did, then the fact I am sitting on a chair would make me a parent! For after all, if we interpret 'child of' as the converse of the *sitting on* relation, there is something which is my child. Clearly, then, it is not the mere existence of such relations which makes a property relational.

Thus, whereas Davidson saw truth as explained by the existence of a relation which could be denotation, I see it as explained by the fact that there could be a relation of denotation. That is, where Top Down holds, what accounts for the truth of our claims is not that there are some things which could serve as the denotations of our singular terms, but that there could be things which our terms denote – that the hypothesis of such things is not incoherent. But then, in such cases, truth is not a relational property; it does not consist in correspondence, but rather in coherence.

5. Conclusion

I have argued that the Bottom Up view on which reference plays a role in explaining truth holds in some areas of our discourse, while the Top Down view that truth is independent of reference holds in others. More specifically, I have argued that when we speak of present macroscopic concrete objects, the semantic denotation relation plays a role, via its connection with the pragmatic notion of reference, in explaining the truth of our claims, whereas when we engage in pure mathematical discourse, denotation is merely instrumental in describing the truth-conditions of our utterances, and truth is not a relational property. In this way I have upheld alethic pluralism: truth is correspondence in some of our ordinary discourse, but coherence in pure mathematics.

In some ways, the position I have taken here should not seem surprising; for it is not entirely unprecedented. Some time ago now, Paul Benacerraf (1973) articulated a dilemma for those interested in mathematical truth: either provide a uniform account of truth in mathematics and elsewhere, but risk an unacceptable account of our knowledge of, and reference to, mathematical objects; or secure a reasonable account of mathematical knowledge and reference, but face the consequence of an alethic pluralism. I have simply taken the second horn of Benacerraf's dilemma. But while this is true, the view I have espoused has some novel features.

For one thing, I have aimed to mitigate the negative consequences of following this path. In particular, it should be clear that, as far as the semantics is concerned, the account of mathematical truth I have offered is exactly analogous to that involved in truth in our ordinary, non-mathematical discourse; it is only when it comes to the pragmatics, and the metasemantics, that I claim our

linguistic practices diverge in ways that are significant for the metaphysics of truth. We use numerals and their ilk differently than we do other singular terms; but such expressions are both syntactically (formally) and semantically on a par with the other terms in our languages.

Secondly, I am not imposing any epistemic constraints directly on truth. This is significant because much of the literature on pluralism has followed Wright (1992), who in turn was influenced by Dummett (1978), in taking the question of whether truth can outstrip our ability in principle to know as definitive of the difference between truth across domains. I don't see this as constitutive of any such difference; if anything, it should fall out as a consequence of more basic, genuinely constitutive differences. On the view I have put forward there is a kind of constraint on truth built in to the requirements of pragmatic reference; but it is more one of representation than knowledge. That is, I assume that truths are in principle representable; I don't assume that they are knowable. Nothing I have said precludes the possibility that the logic of mathematics, for instance, should be entirely classical.

Finally, it is worth noting that like Wright (1992), I take the possibility of alethic pluralism to be significant to debates surrounding realism. But, in light of the previous point, it should be clear that the difference between truth as correspondence and as coherence, as I have construed it here, pertains most directly not to what Stewart Shapiro (2000) has called 'realism about truth-value'; it concerns 'realism about ontology'. This, I think, is as it should be.

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