

knowing that truth-condition by virtue of their grasp of the rule.

The comparison between a proposition and a picture provides a graphic illustration of the point. Consider the famous example of the use of models in the Paris law-courts to depict traffic accidents (*NB* 7). Here, as before, there are two different kinds of thing which you have to know in order to understand such representations. You have to know what things in reality are designated by the various elements in the depiction (this model pram stands for the pram, this model car stands for the taxi, that one the car driven by the defendant, and so on). And you have to know the general method of representation – for instance that the relative spatial positions of the objects at a certain time and place are to be represented by the relative spatial positions of the models on the surface of the desk, in accordance with a certain scale. Once you know all this (once you understand the predicate) then of course any new combination of the models on the desk will show you what combination of objects is being represented *without more ado*.

Our interpretation of the Picture Theory is certainly consistent with the text of *TLP*, and enables us to explain aspects of Wittgenstein's thought which would otherwise remain puzzling – that elementary propositions are to consist only of proper names, and that the Picture Theory is intended to solve the problem of the new sentence. But the strongest argument in its support is once again the principle of Charity. As we shall see in the chapter which follows, there are powerful arguments for denying reference to predicative expressions. So adopting the proposed interpretation will enable us to see *TLP* as marking a decisive advance over the semantic theories of Frege and Russell.

SUMMARY

We have set out the evidence that Wittgenstein was dissatisfied with the strong isomorphism thesis, and have developed and argued for an interpretation of the Picture Theory which would involve its rejection. The idea is that the predicative expression in a sentence serves not (as names do) to refer to an item in reality, but to provide the mode of comparison between the sentence and the world.

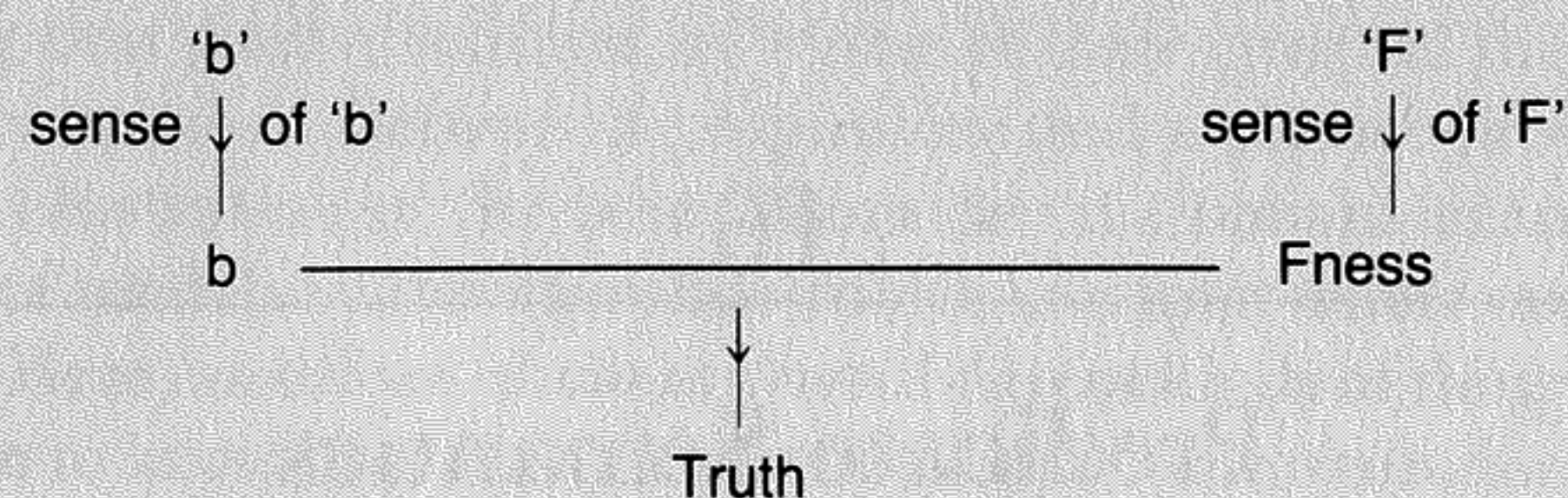
Predicate Semantics

Our task in this chapter is to deploy Charity in support of our interpretation of the Picture Theory, arguing for a non-referential account of the semantics of predicative expressions. For the sake of simplicity the discussion will be confined to one-place predicates, but our conclusions would be readily generalizable.

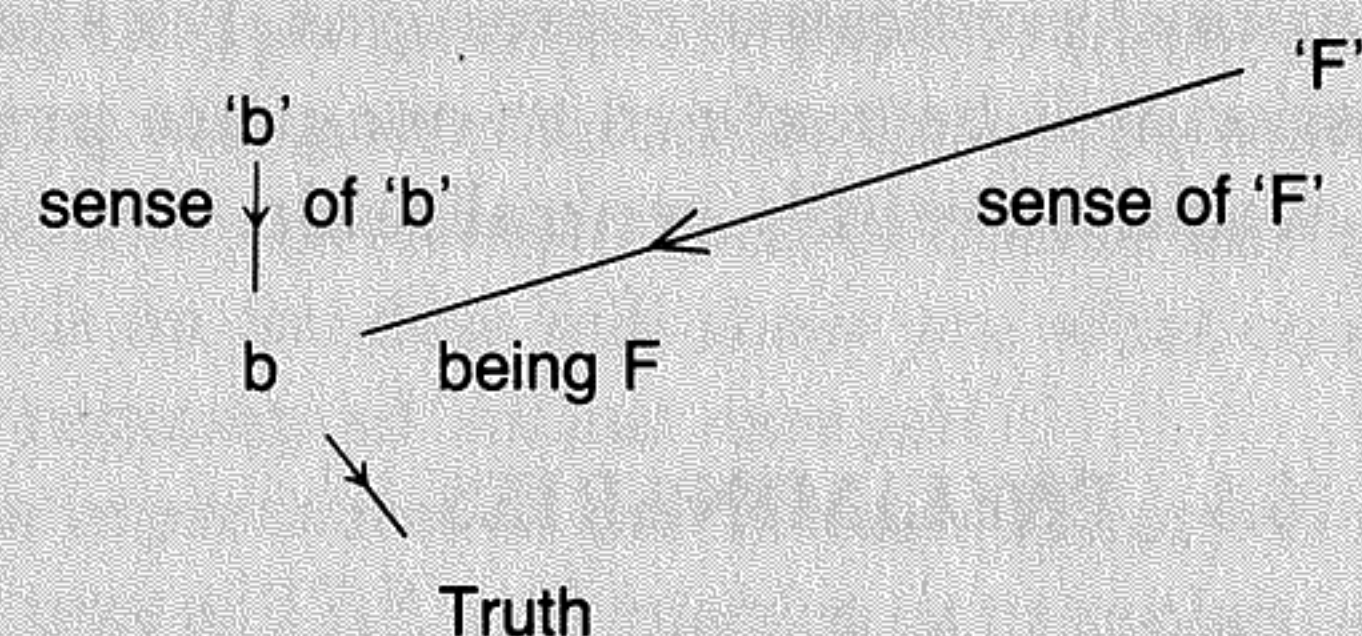
16.1 PRELIMINARIES

Recall from chapter 2 that the sense/reference distinction embodies a principle of semantic ordering. If an expression has both sense and reference then there is a non-symmetric dependence of truth-value upon reference, and of reference upon sense – it will be in virtue of the fact that the expression has the sense that it does that it has the reference that it does, and it will be in virtue of having the reference that it does that sentences containing it have the truth-values that they do. Put differently (with slightly misleading temporal connotations) you could say that to apply the sense/reference distinction to an expression is to claim that its contribution to the truth-values of sentences in which it occurs will be a *two-step process*: sense determining reference determining truth-value. Then applying the distinction to predicates as well as proper names will yield an account of the semantics of an atomic sentence 'Fb' which looks like this: the sense of the name 'b' determines an individual as its bearer; the sense of the predicate 'F' determines some entity as its referent; then the bearer of the name somehow fits (or fails to fit) together with the referent of the predicate to determine that the sentence is true (or false).

We might represent such an account diagrammatically thus (where the arrows represent non-symmetric dependence):



We shall consider shortly the various different proposals which might be made concerning the nature of reference for predicates (the nature of *Fness*). But notice for the moment that any such view must contrast with the sort of non-referential semantics sketched in the last chapter, which might be represented diagrammatically thus:



The idea here is that the sense of a predicate is not, as the referential view would have it, a mode of thinking about a referent. It is rather a rule of classification, applying directly to the referent of the name in virtue of some property-token which that thing possesses. On such a view, to understand a predicate 'F' is to know the difference between things which are F and things which are not F, where this knowledge consists in grasp of the rule of classification which constitutes the sense of 'F'. (Remembering – in accordance with the arguments of chapter 9 – that rules are mind-dependent entities, supervening on human dispositions.)

In the next section we shall consider, and respond to, the main argument supporting a referential semantics for predicates. Then in the sections following I shall argue against each of the various forms which such a semantics might take.

16.2 SECOND-LEVEL QUANTIFICATION

The most obvious objection to a semantic ontology consisting only of individuals and property- and relation-tokens is that if we accept

as true that there is something which Susan and Mary both are (namely freckled), then we are committed to the existence of property-types as well. In which case the most natural treatment of quantification (here an existence-statement of second-level) will oblige us to accept property-types as the referents of predicates.

What is at issue in this argument is not just whether or not we can accept a non-referential semantics for predicates, but also the plausibility of attributing such an account to Wittgenstein. For there is no evidence to suggest that he thought there to be anything untoward about second-level quantification. Indeed there are a number of remarks in *TLP* which appear to show that he regards such quantification as perfectly legitimate.¹ How else, for example, are we to make sense of his claim at 4.0411, that if we tried to express universal quantification over objects by writing 'Gen.Fx' we should not know what was being generalized? (See also 5.5261.) At the very least there would be some difficulty in attributing to Wittgenstein a conception of the role of a predicate which would render quantification over properties either false or unintelligible. But in fact there is no reason why our account of the semantics of predicates should not leave room for an adequate theory of second-level quantification – indeed a theory modelled on the explicit *TLP* account of first-level quantification.

Wittgenstein's account of first-order quantification is a substitutional one, the quantifiers being introduced by means of applications of the N-operator to the set of all propositions of a certain form. Thus 'Something is F' gets expressed as ' $N(N(\overline{F}x))$ ' – that is to say, as the negation of the joint negation of all propositions which result from completing the predicate 'Fx' with a proper name; saying in effect that it is not the case that 'Fx' is true of nothing. In these terms it will be quite simple to express 'There is something which Susan and Mary both are'. It will come out as ' $N(N(\overline{\emptyset}Susan \ \& \ \overline{\emptyset}Mary))$ '. That is: as the negation of the joint negation of all sentences which result from completing the open sentence ' $\overline{\emptyset}Susan \ \& \ \overline{\emptyset}Mary$ ' with particular predicates. And note that nothing whatever is implied here about whether or not predicates have reference.

Of course the *TLP* account requires that there be a name for every object, and is therefore only workable in a fully-analysed language (supposing the analysis provides some general rule for generating names for all objects). But in fact nothing essential to

the account would be lost if we interpreted the phrase 'all sentences of a certain form' to mean 'all *possible* sentences of a certain form'. We could then explain the truth-condition of 'Something is F' as the denial that 'Fa' is false for every possible assignment of an object in the domain to the name 'a'. This is, in effect, the way in which first-level quantification is introduced in many modern textbooks.²

We can now provide an exactly parallel account of the truth-condition of 'There is something that Susan and Mary both are'. Only instead of talking about possible assignments of properties to the predicate 'F' (which would commit us to a referential semantics), we can construct the account in terms of possible rules of classification governing its use. In fact we can give the truth-condition thus: it is possible to fix a rule for the use of the predicate 'F' such that the sentence 'FSusan & FMary' would be true. Slightly more formally: There is a possible world w , which differs (if at all) from the actual world only in whatever is required to fix a rule for the use of 'F', such that 'FSusan & FMary' expresses, in w , a truth about the actual world.

It counts in favour of this quasi-substitutional approach to second-level quantification that it explains our feeling that 'There is something that Susan and Mary both are' is vacuous, in a way that 'There is something that is red' is not. For *of course* there will be some possible rule of classification which will apply to both Susan and Mary.³ Any two objects (belonging to the same sortal category anyway) will always turn out to have something in common. But on the other hand, it is not at all trivial that there should be some possible assignment of an object in the domain to the name 'a' such that 'a is red' will turn out to be a truth.

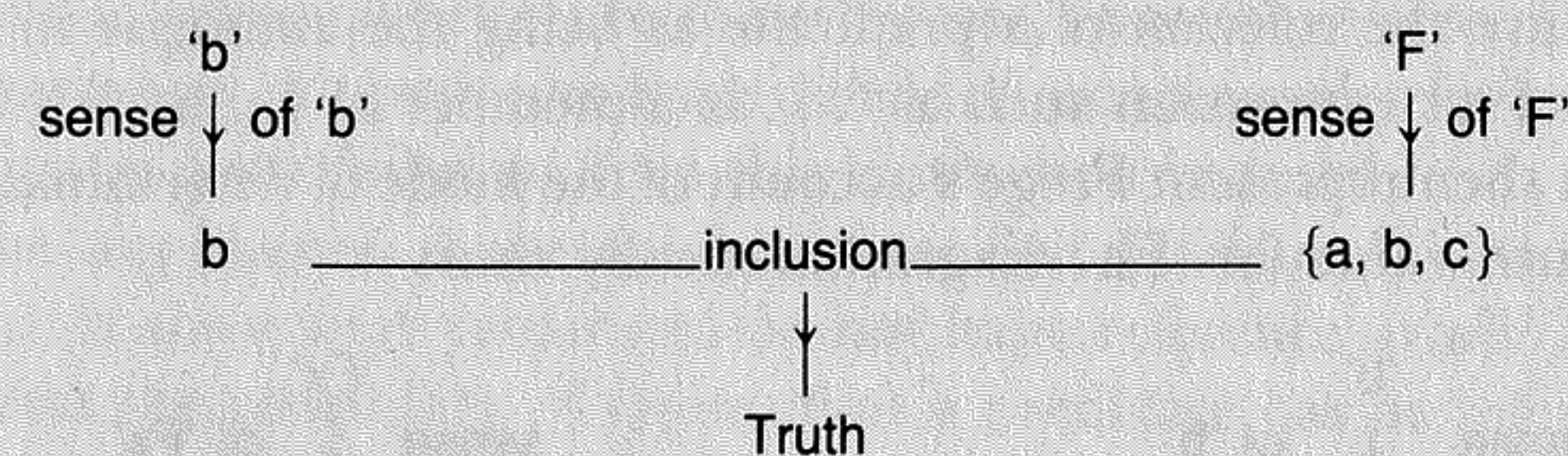
It might be objected against our account that we accept second-level quantification with respect to worlds in which there are no human beings, and so no one to fix a rule for any predicate. Yet rules are supposed to be contingent, mind-dependent entities. For example, is it not the case that even if there had never been any human beings there would still have been something that nothing is (namely a unicorn)? But in fact this need cause us no problem. On our account its truth-condition may be expressed as follows: $\forall v ((v$ differs from the actual world only in containing no humans) $\rightarrow \exists w (w$ differs from actual, if at all, only in whatever is required to fix a rule for 'Fx', such that 'Nothing is F' expresses, in w , a truth about v)).

This is sufficient to defuse the argument from second-level quantification. We can accept that there are truths of second-level without being committed to a referential semantics for predicates by (in effect) interpreting the second-level quantifier as ranging over possible rules of classification.

16.3 EXTENSIONAL REFERENCE

Some philosophers maintain that the reference of a predicate is a set of individuals, namely its extension. But of course no one would say that the relationship between a predicate and its extension can be direct. Rather, a predicate will in addition serve to express a sense – a mode of thinking about the extension – in virtue of which it comes to have the reference which it has.

On this account the truth-value of a sentence of the form 'Fb' will get fixed like this: the sense of the name 'b' determines a particular individual as its bearer; the sense of the predicate 'F' determines a particular class of individuals as its extension; and the whole sentence is true if and only if the bearer of the name belongs within the extension of the predicate. We might represent such an account diagrammatically as follows (for a particular case of true sentence 'Fb'):



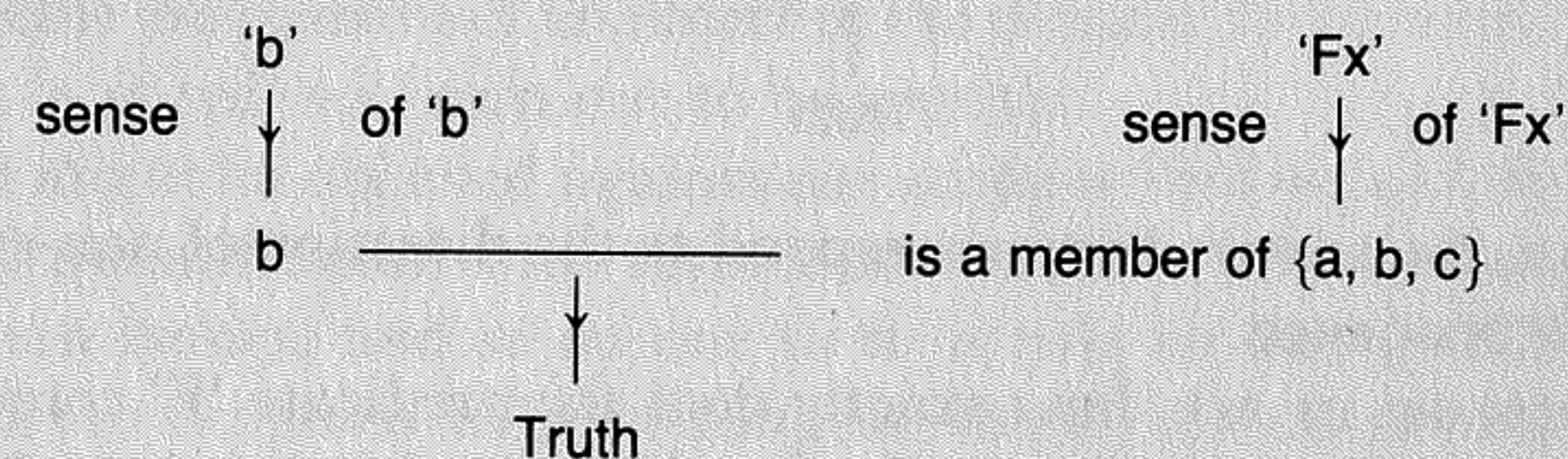
As before, the arrows here correspond to the direction of non-symmetric dependence.

But now let us ask: how exactly does the predicate 'F' come to have as its extension the set $\{a, b, c\}$? Indeed, what is it for a predicate to determine an extension at all? The answer surely is (and can only be) that a predicate comes to have a given extension by virtue of being *true* of each individual member of the set. There is simply no other way of rendering intelligible the association between a predicate and a set of individuals. But now we have a conflict with the principle of semantic ordering. For if 'F' only comes to 'refer' to the set $\{a, b, c\}$ because it is true of a and true

of *b* and true of *c*, then it does not contribute to the truth of 'F*b*' via the determination of a referent, as that principle requires. On the contrary, it only comes to have the extension which it does by virtue of the truth of the possible sentences 'F*a*', 'F*b*' and 'F*c*' – which is as much as to say that predicates do not have their extensions as their referents.

The argument here is best presented as a trilemma. Either (1) we can reject the principle of semantic ordering. But in that case we should lose our grip of the intended significance of the sense/reference distinction. Or (2) we could deny that a predicate comes to have a set of individuals as its extension by virtue of being true of each member of the set. But in that case it would be left wholly unintelligible how the connection is supposed to have been set up. Or (3) we could accept that predicates do not refer to their extensions. This is left as the only viable alternative.

It is clear that an exactly parallel argument can be deployed against Frege's view that the reference of a predicate is an 'incomplete' but purely extensional entity.⁴ On this account the reference of 'F*x*' would not be a set, since sets are, in his view, individual things. Rather, he thinks that the referent, like the predicate itself, must contain a 'gap' in it. Nevertheless the reference of a predicate is to be extensional: all predicates having the same extension sharing the same incomplete entity as referent. We therefore have to picture the referent of a predicate as being the analogue in the world of an expression such as '*x* is a member of {*a*, *b*, *c*}', and we can then represent Frege's account of the mode of determination of a truth-value for 'F*b*' diagrammatically thus:



Yet this gives rise to just the same problem as before. For how are we to explain what it is for a predicate to refer to such an incomplete entity, except in terms of it being true of each individual member of the component set? How are we to explain how predicates with such obviously different senses as 'is human' and 'is a featherless biped' can nevertheless have the same incomplete entity as reference – where they share the same referent just in case they

share the same extension – except in terms of them both being true of each individual member of their extensions? So once again, if it is not to become wholly unintelligible that a predicate should come to have the 'referent' that it has, our account of the matter must proceed via the truth-values possessed by certain (possible) atomic sentences. Which is as much as to say that predicates do not have extensional reference, unless we could find some way of explaining the sense/reference distinction without recourse to the principle of semantic ordering.

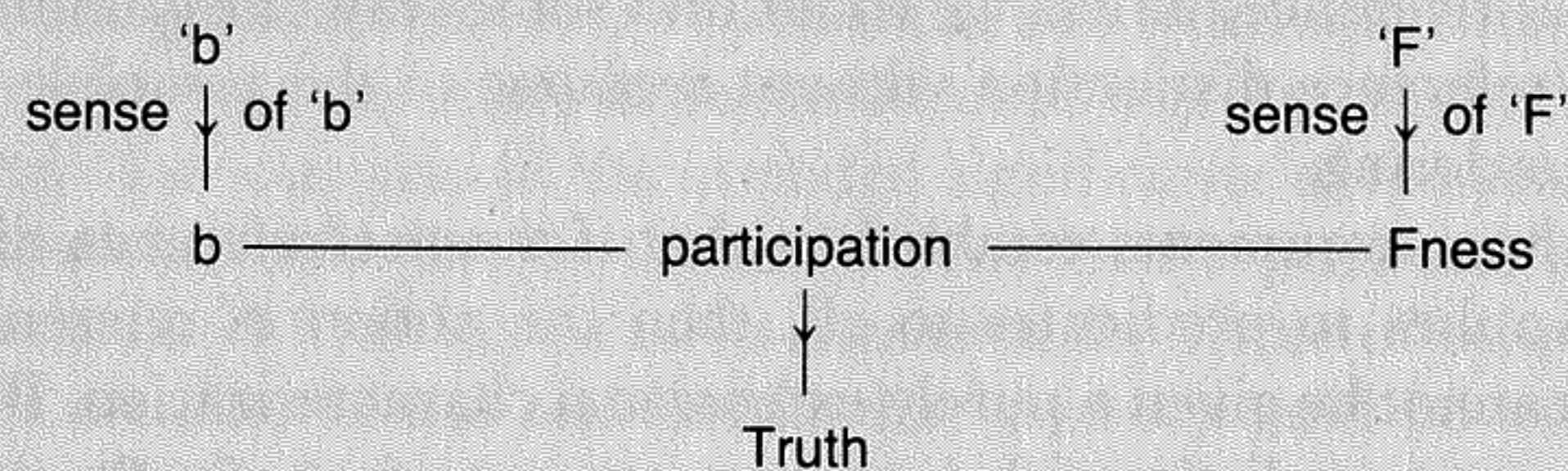
What these arguments establish is that if a sense/reference distinction applies to predicates to all, then the notion of reference involved cannot be given a purely extensional characterization. But it is important to distinguish here between a notion of reference which might be sufficient for the purposes of a logician – to provide an interpretation of the symbols in a formalized language, fit to validate the rules of inference and to figure in consistency proofs (formal semantics) – and the notion of reference which enters into an account of what it is for a speaker to understand a language (semantics proper). On the former conception it is entirely anodyne to say that predicates have reference, and perhaps true that their reference is purely extensional. But on the latter conception – the conception which is to figure in an account of a speaker's knowledge of the truth-conditions of their sentences – it is incoherent to ascribe extensional reference to predicates, as we have seen. It may be that many of those who have defended extensional reference for predicates have failed to keep this distinction in mind.⁵

The arguments above against extensional reference are insufficient to show that predicates do not have reference at all. There remains the possibility of saying that a predicate has as referent a given universal, provided that two predicates can be co-extensive and yet refer to distinct universals. But there are in fact two quite different versions of this possibility, depending upon whether universals are thought to be transcendent (Platonic) entities, or rather immanent (Aristotelian) ones. We shall now consider each of these two theories in turn.

16.4 TRANSCENDENT UNIVERSALS

Suppose first of all that our Platonist accepts the sense/reference distinction. Then their account of the manner in which the truth-

value of 'Fb' gets determined will proceed as follows: the sense of the name 'b' determines an individual object as referent; the sense of the predicate 'F' determines a given universal (Fness) as referent; and the whole sentence is true if and only if the object then participates in (is copulated with) the universal. Represented diagrammatically:



In chapter 15 we noted some serious problems involved in the idea of a copula. But here I shall present an additional argument, involving what I call 'The Principle of Semantic Relevance'.

The principle which I have in mind is this: if reference is to be attributed to an expression, then the evidence which speakers would take to bear on the truth of sentences containing it (particularly, where available, anything they would count as a canonical mode of verification) should display sensitivity to the existence and nature of the referent. The idea is that a semantic theory should reflect the main features of the use of an expression – in verifying, falsifying and offering evidence. Since truth is to depend upon reference, evidence of truth should as it were 'point towards' the referent; especially where the evidence is of the most direct sort, where we may think of the truth of the sentence being *manifest* to us. Note, however, that the principle of Semantic Relevance is not the same thing as Ideal Verificationism. The claim is not that to understand a sentence is to know how an ideally situated intelligence would be able to verify it. Rather, the claim is that there must be a degree of isomorphism between the truth-condition of a sentence and the main features of what we count as evidence for its truth. For evidence of truth is, after all, evidence that the truth-condition is fulfilled.

It follows that to claim that the semantics for a certain class of expression should be a two-tier one is to present a particular model of the canonical mode of verifying sentences in which it occurs. The first step will be for the speaker, relying upon their grasp of the sense of the expression, to identify some entity as the referent. Then

the second step will be to see whether that referent fits together with the semantic content of the other component expressions of the sentence in the way required for truth. Our use of proper names does appear to fit this model quite well. The canonical way to verify a sentence 'Fb' is first to locate and identify the individual b, and then to establish whether or not that object has the appropriate property. But there is nothing corresponding to these two stages in our use of predicates. Having located the individual b there are not then two further steps remaining: to identify the universal Fness, and to establish whether or not b participates in it. On the contrary, there is only one step remaining: to establish whether b is F. To understand a predicate is not to have a means of identifying and thinking about a universal, but is rather to know the difference between things which are F and things which are not: it is to grasp a rule of classification.

Consider how one would, ideally, set about establishing the truth of 'Susan has freckles'. The first step is to locate and identify Susan. Then you look to see whether her face is freckled. Nowhere in this process would there occur a distinct step which might be described as 'the identification of the universal freckledness'. Nor is there anything in the evidence which we might present for the truth of the sentence which bears on the existence of that universal. It is therefore otiose to propose a Platonist semantics for predicates which distinguishes between their sense and reference.

Yet there remains the possibility of a purely referential Platonist semantics for predicates. This is Russell's view: that predicates refer to transcendent universals, not via a mode of presentation (a sense) but directly, through immediate acquaintance. Such a doctrine is immune to the argument from Semantic Relevance, since Russell too can claim that acquaintance with the universal Fness is a matter of knowing the difference between things which are F and things which are not, thus enabling the speaker to judge directly (in 'one step') whether or not an atomic sentence containing the predicate 'F' is true. But there is a danger, at this point, of the dispute becoming merely verbal. For if to be acquainted with the universal Fness is to know the difference between being F and not being F, then it is not at all clear how such an account would differ from the sort of non-referential semantics we have attributed to Wittgenstein. We could try marking the distinction by saying that for Russell the difference between being F and not being F is

something which we talk *about* – something belonging to the realm of reference – whereas for Wittgenstein it is rather a *mode of thinking about* reality (something belonging to the realm of sense). Yet it remains far from obvious, on the face of it, how this distinction could obtain any purchase upon our linguistic practices. For both sides are agreed about what actually takes place in the canonical verification of an atomic sentence: we find the individual spoken of and judge whether or not it falls within the appropriate classification.

In fact the difference between a purely-referential and a non-referential semantics amounts to this: that for Russell (and for Platonists generally) universals have necessary, or at least mind-independent, existence; whereas for Wittgenstein rules are mind-dependent entities. For Russell, to know the difference between being F and not being F is to be acquainted with something extra-linguistic, something belonging to the real world independently of us and our dispositions. Yet such an account would run into many of the difficulties we raised for the Fregean account of thinking in chapter 9. In particular, we should want to know the structure of the mental faculty which is supposed to enable us to become acquainted with these things. Is there a unique species of causality involved, and if so how can it operate between a necessarily existing abstract universal and the human mind? Or is there supposed to be a way of knowing things in the real world which is not causal at all?⁶ These problems do not arise for a non-referential account, since the idea here is that our use of a predicate is guided by our grasp of a rule of classification whose existence supervenes upon our normative linguistic practices and dispositions.⁷ Since the account retains all of the advantages of the Russellian view without the need for any special faculty of intuition, it is by far the more reasonable.

16.5 IMMANENT UNIVERSALS

The only remaining version of referential semantics for predicates implies the claim that universals (if they are instantiated) are immanent in the physical world. On this account there is really something (in the world) in common between Susan and Mary, which is present in them both, in virtue of which they both fall under the rule of classification which constitutes the sense of the predicate 'has freckles'. In fact they are said to be related to one

another by virtue of a kind of identity, since part of the universal freckledness is present in each of them; it being this universal which is said to be the referent of the predicate.⁸

Such a view does not obviously run into trouble with the principle of Semantic Relevance, since in establishing that Susan has freckles (which on this account, as on Wittgenstein's, is a matter of classifying her as freckled in virtue of her possession of an appropriate property-token) we can be said to be establishing the presence of freckledness in her. Since the relationship between the property-token which plays a direct part in the process of verification and the immanent universal which is supposed to be the referent of the predicate is one of partial identity, there is no need for a distinct step – 'locating the universal' – in the canonical verification of the sentence 'Susan has freckles'.

Troubles with such a view, however, arise over those predicates – such as 'is a unicorn' and 'is a round square' – which fail to be instantiated. For in these cases there can be no immanent universal to serve as their reference. Yet they certainly seem capable of figuring in sentences which are determinately true. For example, 'Susan is not a unicorn' is true, as is 'No one has ever succeeded in drawing a round square'. But how could this be? For if an expression is supposed to have reference, then the truth-value of sentences containing it ought surely to be sensitive to facts about the referent. In particular, no atomic sentence containing it can be true unless that expression does have a referent.

The only possible response to this argument would be to interpret the negation-sign in 'Susan is not a unicorn' as occurring external to the predicate, in such a way that the resulting sentence can be true even though that predicate lacks a reference. Compare, for example, 'It is not the case that Zeus is wise'. Some have wished to distinguish this sharply from 'Zeus is not wise', claiming that the former can be true despite the fact that 'Zeus' lacks reference. However, the problem with such a response is that uninstantiated predicates can just as well figure in truths where they clearly do not fall within the scope of the negation-sign, such as 'Unicornness is not present in Susan' (or less barbarically, 'Being a unicorn is not something that Susan is'). The only way to save the account now, would be to claim that even here, and despite appearances to the contrary, the predicate actually falls within the intended scope of the negation. In fact it would have to be claimed that it is impos-

ible to find anything to contrast with external negation in connection with predicates. But this would be utterly mysterious. For if (some) predicates really did have reference, then what could prevent us asserting, of the referent itself, that it is not instantiated in some given individual?

Although a semantic theory which takes immanent universals to be the referents of predicates is not generally adequate, this is not to say that there might not be any purposes for which we are required to recognize their existence. For example, Armstrong has argued that they are needed to form part of an adequate theory of causation.⁹ Rejecting both Humean and Covering Law theories, he thinks that we should explain how two things can share the same causal power by appealing to the presence, in them, of an identical nature (the very same immanent universal). But there is nothing in what we have said above, nor in a non-referential semantics for predicates, which is inconsistent with such an account. For it is one thing to claim that immanent universals exist, and quite another to claim that they enter into semantics as the referents of predicates.¹⁰

Moreover, it may need to be conceded that some types of predicate – namely natural kind terms – do refer to immanent universals. For suppose we agree that nothing could be water which was not in fact made of H₂O, no matter how much it resembled it in everyday properties.¹¹ Then the sense of ‘water’ must imply a description of the form ‘has the same fundamental constitution as most of the stuff normally identified as water’, and the canonical mode of verifying ‘The Thames consists of water’ would be to locate the Thames, to identify the internal constitution of most of the stuff normally called ‘water’, and then to establish whether the Thames had that very constitution. This would fit the referential model exactly.¹²

SUMMARY

A non-referential view of predicates is able to account for the intelligibility of second-level quantification just as well as its rivals. Yet it does not suffer from any of the difficulties which beset the alternatives. Hence the Picture Theory, as we have interpreted it, marks a decisive advance over the semantic theories of other philosophers, including Frege and Russell.

Conclusion

I have been concerned to argue that *TLP* contains a set of semantic doctrines which are actually correct, and which are at least sufficiently plausible that they collectively deserve to be accorded the status of a semantic paradigm – serving, like the Fregean paradigm, as a focus for contemporary discussion and debate. Tractarian semantics are best presented in the form six interconnected doctrines.

1 There is a distinction between semantic content on the one hand (which is both that of which knowledge is required for understanding, and that which is conveyed in literal communication) and senses on the other (which are the cognitive contents expressed in the idiolects of particular speakers, in virtue of the confluence of which an expression has the semantic content which it does). In one respect the sense of an expression is merely psychological, in that it may vary from person to person, and since mutual knowledge of it is not required for linguistic understanding. But it is nevertheless essential that anyone who understands an expression should associate with it some sense or other. For one cannot think about or refer to elements of reality directly, but can only do so via some mode of representation. The Tractarian paradigm thus combines an acceptance of Frege’s view that sense determines truth-conditions, with rejection of his idea that mutual knowledge of sense is required for communication.

2 The identity-condition for semantic content, at least within factual discourse, is sameness of truth-condition (or of contribution to truth-conditions). Hence all analytically equivalent sentences, and all atomic sentences making equivalent predications of the very same individuals, possess the same semantic content (say the very same thing). Mutual knowledge of truth-conditions then suffices for

- 9 This suggestion is natural for two distinct reasons. Firstly, because if the coordinate system is to be an analogy for a proposition, it is clear that the signs 'a' and 'b' must be the analogue of proper names, leaving the background rule of projection as the only candidate to play the role of a predicate. And secondly, because of Frege's famous identification of functions (such as that expressed by 'the point xy') with concepts, which Wittgenstein would of course have been aware of. See for example 'Function and Concept' in Frege (1984).
- 10 Note that 4.0141 does not occur in *PTLP*, only being added to the final draft of *TLP*. This may be an indication of the difficulty Wittgenstein had in seeing his way clear of the strong isomorphism thesis.
- 11 Similar interpretations of the Picture Theory are provided by Ishiguro (1979) and Bell (1979), pp. 131–3.
- 12 Strictly speaking, in the terminology of *TLP*, an existing state of affairs.
- 13 Anscombe, too, sees *TLP* states of affairs as involving only individuals and property- or relation-tokens (i.e. as not involving universals – see her 1959, ch. 7). But she thinks that a fully analysed sentence would employ names of these tokens. I can see no reason for this interpretation. Indeed it faces severe problems if Simples (referents of simple names) have necessary existence, as I argue in *MT* ch. 8 that they do.
- 14 I here disagree strongly with Baker and Hacker, who see the semantics of *TLP* as dominated by the Augustinian thesis that all words are names (see their 1980, pp. 57–9). This leads them entirely to misrepresent the nature of the contrast between Wittgenstein's earlier and later philosophies, as I argued at length in my (1984a).

CHAPTER 16 PREDICATE SEMANTICS

- 1 Hintikka and Hintikka use this as one of their main arguments for claiming that *TLP* is committed to the existence of universals, and hence for their wide reading of the *TLP* use of 'name' and 'object'. See their (1986), pp. 35–7.
- 2 See for example Mates (1972).
- 3 In practice the range of the quantification will often be restricted by the context; for example to 'Susan and Mary share some obvious feature of their appearance'.
- 4 For Frege's unequivocal commitment to this view, see his posthumously published paper 'Comments on Sense and Meaning' in his (1979).
- 5 It is noteworthy that Frege's argument for extensional reference for predicates (in 'Comments on Sense and Meaning') occurs as part of an argument supporting extensional against intensional *logic*.
- 6 In fact we can here deploy the arguments we used against Frege's theory of thinking in ch. 9.

- 7 On the non-referential account we are causally related to objects-having-property-tokens, it being the fact that there is a token of freckledness present in Susan which causally underlies my classification of her as being freckled. But there is no problem about this (in the way that it is problematic how we could be causally related to objects participating in transcendent necessarily existing universals); for property-tokens, remember, form part of the ordinary physical realm.
- 8 I am not aware of any philosopher who actually endorses such a view (though no doubt some do); I mention it only as a possibility. Armstrong has been prominent in defending immanent universals, but he is at some pains to distinguish his doctrine from any form of semantic theory for predicates. See his (1978).
- The only place I know of where immanent universals are used as objects of reference is Ishiguro (1969), pp. 48–9, where instantiations of simple properties are said to be the Simples referred to by the names of *TLP*. See note 4 to ch. 11.
- 9 See Armstrong (1983).
- 10 What acceptance of Armstrong's view would mean, however, is that we could not allow our ontology to be driven purely by semantic considerations (unless that view could somehow be interpreted as a proposal for the semantics of 'cause'). There is then a criticism of *TLP* latent here, since as I shall show in *MT*, for Wittgenstein semantics is the beginning and end of ontology. For he is surely mistaken in thinking that there can be no reason for believing in the existence of a certain class of entities except where this is required of us by the demands of an adequate semantics.
- 11 This was persuasively argued by Putnam (following Kripke) in 'The Meaning of "Meaning"', reprinted in his (1975). The idea is that besides having a nominal essence which guides their ordinary application (e.g. for 'water', being colourless, tasteless etc.), natural kind terms are used with the intention of designating whatever property fundamentally explains the features which go to make up that nominal essence in most (at least) of the cases of the kind with which we are acquainted.
- 12 It is then a further criticism of *TLP* that it assumes that the semantics for all types of predicative expression will take essentially the same form. However, it is another question to what extent terms such as 'water' are actually used *as* natural kind terms – that is, in such a way as to refer to an inner constitution, whatever it may be. It is arguable that in many contexts such terms are used as ordinary (non-referential) predicates. For suppose it had turned out that the stuff we had been calling 'water' was in fact composed, in differing circumstances, of a heterogeneous range of chemical substances sharing only their superficial characteristics. Would it then have been *false* that there is water in the Thames (as it would have been were 'water' attempting, but failing, to refer to a natural kind)? This is implausible. See my (1987b) for some further discussion.