4

Pragmatics

CHARLES TRAVIS

Here are two non-equivalent characterizations of pragmatics. Pragmatics (first version) concerns the linguistic phenomena left untreated by phonology, syntax and semantics. Pragmatics (second version) is the study of properties of words which depend on their having been spoken, or reacted to, in a certain way, or in certain conditions, or in the way, or conditions, they were.[1]

Here are two equally non-equivalent characterizations of semantics. Semantics (first version) is, by definition, concerned with certain relations between words and the world, and centrally with those on which the truth or falsity of words depends: thus David Lewis's slogan, "Semantics with no treatment of truth conditions is not semantics."[2] Semantics (second version) is defined by this idea: "A theory of meaning for a language should be able to tell us the meanings of the words and sentences which comprise that language."[3] So what a semantic theory of English, say, must do is, for each English expression, provide a specification of what it means. Semantics in general would be an account of the nature of such particular theories, or of their subject matter.

Combine these different ideas, and you get a substantial thesis: such things as English sentences *have* statable conditions for truth, and meanings can be given in or by stating these. That *might* be wrong. Perhaps, as J. L. Austin suggested, questions of truth arise at a different level entirely from that of expressions of a language. Perhaps conditions for truth depend, pervasively, on the circumstances in which, or the way in which, words were produced. If so, then on the second version of pragmatics and the first version of semantics, semantic questions are pragmatic ones; whereas semantics (second version), however it is to be done, would have little or nothing to do with truth conditions. Call this the pragmatic view.

This essay argues that the pragmatic view is the right one; that it is intrinsically part of what expressions of (say) English mean that any English (or whatever) sentence may, on one speaking of it or another, have any of indefinitely many different truth conditions, and that any English (or whatever) expression may, meaning what it does, make any of many different contributions to truth conditions of wholes in which it figures as a part. I will first set out the reasons for thinking so, then discuss a few of the most significant consequences.

The issue also emerges in asking what words are for. On one view, bracketing ambiguity, indexicals and demonstratives (see Chapter 23, INDEXICALS AND DEMONSTRATIVES), for each declarative English sentence there is a thought which is the one it expresses; its role in English is to express that one. On the pragmatic view this is just

what is not so. Independent of ambiguity, indexicality, and so on, what meaning does is to make a sentence a means for expressing *thoughts* – not some *one* thought, but any of myriad different ones. Meaning does that in making a sentence a particular description of how things are, so a means for describing things as that way. Any description admits of many different applications. The same description, applied differently, yields different thoughts. A right application, where there is one, is fixed by circumstances of producing the description, not just by the description itself. If a sentence may thus equally well express any of many thoughts, conditions for the truth of one of these cannot be conditions for the truth of the *sentence*.

1 Semantic properties

There are properties words have, and would have, no matter how we understood them. Being spoken loudly or at 3 p.m. are two. Then there are properties words have, or would have, on one understanding of them, but would lack on another – properties words have, if at all, only in virtue of their being rightly understood in the way they are. I want to consider two classes of such properties.

The first sort of property is one of relating in a given way to truth (or falsity). Properties of being true (false) if, given, of, or only if, thus and so, or thus, or the way things are, are all within this class. (They are all properties words might have on one understanding, and lack on another.) For future convenience, I exclude being true or false *simpliciter* from this class, though I include being true (false) given the way things are. I call these properties *truth-involving*, and any set of them a *truth-condition*.

The second sort are properties identified without mention of truth, and on which truth-involving properties depend. Such properties include such things as describing X as Y, calling X Y, saying X to be Y, and speaking of X. The words 'is red', for example, speak of being red and, on a speaking, may have called something red. These properties identify *what* words say. I will call them *content-fixing*, and any set of them a *content*.

One might wonder whether content-fixing properties are not really truth-involving ones in disguise – whether, for example, to call something red is not just to say (of it) what is true of such-and-such things, and true of a thing under such-and-such conditions. In what follows, we will find out whether that is so.

The properties indicated so far might reasonably be called semantic, not worrying overly for the moment about boundaries between syntax and semantics. I will call them that, and any set of them a *semantics*. The latitude allowed here means that not every semantics in the present sense is one words might have. Some semantic properties may exclude others. Calling something a fish, for example, may exclude, *tout court*, saying what is true of my piano. Call a semantics some words *might have* coherent, keeping in mind that a semantics might thus be coherent on some occasions for speaking, while not on others.

We can raise questions about a semantics, or sort of semantics, without saying which items might have it – whether, for example, English sentences or something

else might do so. One thing we may ask of a given semantics is whether it *requires* any further semantics – whether there is a semantics which any words with it must have. Or we may ask whether it is supplementable in a variety of – perhaps mutually exclusive – ways; whether words with it may, for all that, have any of various further semantics.

It is interesting to ask, in particular, whether the semantics an English sentence has in meaning what it does is compatible with any of many supplementations, specifically with any of a variety of truth conditions. To answer that we need not first say what semantics meaning does confer. We need only find a number of speakings of the sentence on each of which it had whatever semantics its meaning does confer; on each of which, as much as any of the others, those words *did* mean what they do mean. In specific cases we may convince ourselves of that much without knowing just *which* properties meaning confers.

2 The pragmatic view

Is what a sentence means compatible with semantic variety – specifically variety in truth conditions – across its speakings? Consider this sentence:

(1) The leaves are green.

The words 'are green', meaning what they do, are means for calling things green. Similarly, meaning what they do, 'The leaves', when spoken as in (1), purport to speak of some leaves. What its (present) tense means makes (1), on a speaking, purport (roughly) to speak of things at the time of that speaking. Consider speakings of (1) in which the words did all this, and in all other respects (if any) meant what they *mean*. Does that much semantics require them to have just *one* full semantics on all such speakings? Or is that much compatible with semantic variety, and, specifically, with those words having, on different speakings, any of many truth conditions?

A story. Pia's Japanese maple is full of russet leaves. Believing that green is the colour of leaves, she paints them. Returning, she reports, 'That's better. The leaves are green now.' She speaks truth. A botanist friend then phones, seeking green leaves for a study of green-leaf chemistry. 'The leaves (on my tree) are green,' Pia says. 'You can have those.' But now Pia speaks falsehood.

If the story is right, then there are two distinguishable things to be said in speaking (1) with the stipulated semantics. One is true; one false; so each would be true under different conditions. That semantics is, then, compatible with semantic variety, and with variety in truth involving properties. So what the words of (1) mean is compatible with various distinct conditions for its truth.

But is the story right? There are just two grounds for rejecting it. First, one might reject its data by claiming that both speakings of (1), above, share a truth value, require the same for truth, and are true of the same. Second, one might accept the phenomena as presented, but claim that they *are* accounted for by what (1) means – either by some ambiguity in (1), or by some particular way in which what (1)

means makes what it says depend systematically on the circumstances of its speaking.

Consider the first option. Either the stipulated semantics makes (1) true of painted leaves, or it makes (1) false of them, *punkt*. If one of these disjuncts is right, appearances to the contrary may be explained in any of a variety of ways. The first task, though, is to choose. Which disjunct is right? One must choose in a principled way. What the words mean must make one or the other disjunct plainly, or at least demonstrably, true.

What we know about what words mean will not solve this problem of choice. Nothing we know about what '(is) green' means speaks to this question: If an object is painted green, should its colour count as what it would be without the paint, or rather as what it has been coloured by painting it? Nor is it plausible that some further development in natural science might resolve this issue. So, it seems, the first option must be rejected. Nor, as we shall see, are colours an unfair example. There are similar problems for any simple predicate, ones left unsolved by what the words in question mean.

We must, then, begin on the second option. Its simplest version is that (1) is ambiguous, or that the words 'are green' are: in one of their senses, they are true of leaves painted green, in another, false of leaves merely painted green. Does 'is green' have such senses in English? I do not think so. But there is a more important question. Suppose it does. Would that yield a different answer to our question about semantic variation?

It would change the answer if the only occasion for saying both true and false things of given leaves in speaking (1) were in case they were painted. But there are indefinitely many more occasions than that provides for saying either of two distinct things in so speaking. Suppose the leaves were not painted (or were painted red), but had a fluorescent green mould growing on them. Or suppose they are painted, but in pointillist style: from a decent distance they look green, but up close they look mottled. Is that a way of painting leaves green? It might sometimes, but only sometimes, so count. So there would be two distinct things to be said in the presumed 'paint counts' sense of 'is green'. And so on.

The above need not be the *only* ambiguity in the English 'is green'. But if words are ambiguous in English, there must be a way of saying just what these ambiguities are; so a fact as to how many ways ambiguous they are. The pair of speakings we considered differed in that each invoked a different understanding of what it would be for leaves to be green. There is no reason to think that there is any limit to possible understandings of *that*, each of which might be invoked by some words which spoke on that topic. There is not only an understanding on which painting might make it so, but also one on which painting might make it, so as long as it is not in too loose a pointillist style, or too shiny. And so on, *ad infinitum*. If 'green' has, say, thirteen senses, there are, for each of them, various possible (and invokable) understandings of what it would be for leaves to be green in *that* sense. If so, then ambiguity is not a way of avoiding the present conclusion.

It is sometimes said: there is no *uniform* standard for things being green; it is one thing for an apple to be green, another for a tomato to be green, and so on. That

idea, though, gets nowhere with the present problem. Throughout the question has been what it is true to say of *leaves*.

Finally, it might be said that the phenomena show 'green' to be a vague term. Perhaps it is in some sense, though we have so far seen no more reason to say so than there is to say the same of any term. But it is hard to see how vagueness is to the point. In one sense, perhaps, words are vague if there is not enough in a correct understanding of them for deciding whether, given the way the things they speak of are, they ought to count as true or false. The *English* sentence (1) is certainly in that condition. But one *speaking* of it may clearly state what is true, while another clearly states what is false. That can only be so if the semantics of (1) on some speakings of it is substantially richer than that fixed for it by the meanings of its constituents, and richer in different ways for different such speakings. So what (1) says on a speaking, of given leaves, etc., is not determined merely by what it, or its parts, mean.

I take the English sentence (1) to illustrate, in the respects noted, what is generally so of a language's sentences – indeed, to illustrate how a sentence of a language *must* function. I have no space for more examples; nor for a satisfying account of why that should be.[4] The reader might anyway test the claim with some further examples of his or her own.

3 Domestications

The above, if correct, answers the initial question: what a sentence means, or what its parts do, is compatible with semantic variety; with variety in what such words say or said, and with variety in their truth-involving properties. One might think that compatible with the traditional view, in which semantics is both the study of what words mean and, centrally, of the conditions for their truth; that all said so far is consistent with the meanings of words determining the conditions for their truth; and even that the general point has long been recognized. One might still think, in other words, that the point may be domesticated within a framework in which what words mean still fixes, in an important sense, what they say wherever spoken. I will discuss two plans for such domestication.

The first plan turns on the idea of ellipsis: some words are to be understood as short for others. A particular 'He'll come', for example, may be rightly construed as a shortened 'He'll come to the party'. Assuming ellipsis were pervasive, how might it help? If (1) may be used to say any of many things, it must, on different speakings, be elliptical for different things: on each it says what that for which it is then elliptical would say. For this explanation to domesticate the phenomena, the things for which (1) is elliptical must not themselves exhibit semantic variation of the sort that (1) did. For example, if a given instance of (1) is elliptical for 'The leaves are green beneath the paint', there must not be more than one thing to be said in *those* words. If the phenomena are as I suggest, this assumption is wrong. I leave this suggestion at that.

The second suggestion revolves around this idea: what words mean *does* determine what they say.[5] But it does not do so *simpliciter*. Rather, it does so as a function

of some set of factors, or parameters, in speakings of the words. The parameters allow for different things to be said in different such speakings. Such was always in the plan for linking sentences with truth conditions.

The plan is illustrated by Frege's treatment of the present tense. Frege notes that a speaking of (1) in July might be true, while one in October was false.[6] He observes, correctly, that different things would have been said in each such speaking. One thing this shows is that the tensed verb refers to a specific time or interval, and different ones on different speakings; the words say the leaves to be green at that time.

Frege thought that more was shown. First, that for the present tense the time referred to is always the time of speaking. Second, that where present-tense words are spoken, there is a factor – the time they were spoken – and a function, fixed by what they mean, from values of it to the time they spoke of: in fact, the identity function. So third, that what (1) means determines a function from variables in its speakings to thoughts expressed on those speakings.

Frege's view might be generalized. What *some* words say, or contribute to what is said in using them, varies across speakings of them. Where this is so, the meaning of the words does two things. First, it determines on just what facts about a speaking the semantic contribution of the words so spoken depends. Second, it determines just how their semantics on a speaking depends on these facts. Specifically, it determines a specifiable function from values of those factors to the semantics the words would have, if spoken where those values obtain.

The above is a hypothesis. *If* it is true, then while the words (1) may say different things on different speakings, what those words mean determines how they so vary. It determines that the words say thus and so where such-and-such factors take on such-and-such values, for any values those factors may take on (where the thus and so said is what would be true under such-and-such conditions). If that is so, it is reasonable to say that what words mean determines what they say, and when they, or that, would be true. It does so by determining effectively how other facts about their speaking matter to such questions.

But is the hypothesis true? First note that semantics is not history. Sentence (1) will have been spoken only a finite number of times before the heat death of the universe. Suppose that each such time something in particular was said. Then, of course, there is a function from parameters of *those* occasions to what was said in (1) on them. There are many such functions, from many such parameters. That is not semantics. What we wanted to know was: if you spoke (1) on such-and-such occasion (as may or may not actually be done), what *would* you say? The question was whether what (1) means provides an answer to that. The historical remark about actual occasions does nothing towards showing that it does.

The point was that the words 'is green', while speaking of being green, may make any of many semantic contributions to wholes of which they are a part, different contributions yielding different results as to what would count as things being as they are said to be. Are there parameters in speakings of those words which determine just which semantic contribution they would make when? Is there a

function such that for each assignment of values to those parameters, there is one particular contribution the words *would* inevitably make, spoken where those values hold? I will not demonstrate here that there are no such things. But there need not be: perhaps for any set of parameters, further possible factors would yield more than one distinguishable thing to be said for fixed values of those.

There are several respects in which the present phenomena are *unlike* central cases where the parameter approach seems promising. One difference is this. In central cases, such as 'I' and 'now', pointing to given parameters seems to be a part of the terms meaning what they do. It is part of the meaning of 'I', and its use in English, that it is a device for a speaker to speak of himself. That suggests speakers as a relevant parameter. If there is no unique semantic contribution, 'I' makes for a fixed value of that parameter, the meaning of 'I' fixes no function from *that* to contributions made in speaking it. By contrast, it is not part of what 'green' means, so far as we can tell, that speakings of it speak of, or refer to, such-and-such parameters. If its contribution, on a speaking, to what is said *is* a function of some parameters – say, implausibly,[7] the speaker's intentions – saying so is not part of saying what 'green' means. The parameter approach does not *automatically* suggest itself here as it did with 'I'.

This difference between 'I' and 'green' shows up when it comes to saying what was said. Consider a speaking of the words 'I am in Paris'. Ignore any possibilities for various contributions by 'in Paris', or by the present tense at a time. Then, knowing nothing more about the speaking, we know that, in it, it was said *that* the speaker, whoever s/he may be, was, at the time of speaking, whenever that was, in Paris. However in the dark we may be on those points, we *do* thus specify which fact (or non-fact) was stated. Not so for speakings of (1). Suppose that Pia spoke those words, and that *we* say of that, 'Pia said that the leaves she spoke of were, at the time of speaking, green.' We will not have said *what* Pia stated unless *our* 'green' made some definite contribution to what *we* said about Pia. But, as we have seen, 'green' may make any of many contributions of the needed sort. If it made one such in *our* words and a different one in Pia's then what we said about her is *false*. We may, for example, have said her to say what would be false of green-painted leaves, while what she said would be true of that. The information contained in the meanings of the words she used is thus not enough for specifying, however uninformatively, *which* fact (or non-fact) she stated.

In speaking (1) literally, one does what then counts as calling leaves green. That may be one thing that sometimes counts as 'saying that the relevant leaves were green'. But *such* a use of 'say that', if there is one, does not purport to specify which fact (or non-fact) was stated. It says nothing that allows us to associate what was said with a truth condition for it. So it does not point to a function, fixed by meaning, from speakings to thoughts expressed in them.

A second contrast between present phenomena and such things as 'I' and 'now', traditionally conceived, is suggested by this remark of Frege's:

> the content of a sentence often goes beyond the thought expressed by it. But the opposite often happens too; the mere wording, which can be made permanent by

> writing or the gramophone, does not suffice for the expression of the thought. . . . If a time indication is conveyed by the present tense, one must know when the sentence was uttered in order to grasp the thought correctly. Therefore the time of utterance is part of the expression of the thought. . . . The case is the same with words like 'here' and 'there'. In all such cases the mere wording, as it can be preserved in writing, is not the complete expression of the thought; the knowledge of certain conditions accompanying the utterance, which are used as means of expressing the thought, is needed for us to grasp the thought correctly. Pointing the finger, hand gestures, glances may belong here too.[8]

We begin with the idea that sentences are related to thoughts in this way: for each sentence there is a thought which is the thought it expresses.[9] With indexicality, we lose that idea. There is no particular thought which is the one the sentence 'I am here' expresses. Perhaps, though, we may regain that idea if we permit ourselves to generalize the ordinary notion of a sentence. Ordinarily, we think of a sentence as a string of words. Suppose, though, we drop that idea. Let us call something a symbol if it has two features. First, it is individuated by purely non-semantic features, as a word might be individuated by its shape.[10] Second, it has semantic properties, where we will take that to be so if it makes a definite, specifiable semantic contribution to the whole, or wholes, of which it is a part. We might regard a (generalized) sentence as a structured set of symbols in this sense. So, if Frege is right about its semantic contribution, a time of utterance may be a symbol, and hence a constituent of a sentence in this sense. An utterance 'The leaves are green' in July would then count as a different sentence from an utterance, 'The leaves are green' in October – an odd, but coherent way to speak.

If the only deviations from the rule that, for each sentence, there is the thought it expresses are represented by the sort of case Frege has in mind, then we may now regain the initial idea in this form: for each *generalized* sentence, there is a thought which is the thought it expresses. But the phenomena exhibited by (1) cannot be domesticated in this way. There is no identifiable feature of a speaking of (1) which counts as a symbol in the present sense, and whose semantic contribution to the speaking is identifiable with precisely the set of truth-involving properties (1) would have so spoken. If the phenomena (1) exhibits are pervasive, then even a generalized sentence, no matter what extra symbols it contained, might be used to say any of many things.

Wittgenstein held that any symbol is open to different interpretations; and that under different circumstances, different identifications of its content would be correct. That is the moral of his discussion of rules and what they instruct (*Investigations*, §§ 84–7). His arguments apply as well to generalized symbols as to others. If he is right, then the demonstration omitted here, that the parameter approach *cannot* work, is anyway to be found.

4 Implicature

> Suppose that I were the doctor and a patient came to me, showed me his hand and said: 'This thing that looks like a hand isn't just a superb imitation – it really is a hand'

> and went on to talk about his injury – should I really take this as a piece of information, even though a superfluous one?[11]
>
> I am sitting with a philosopher in the garden; he says again and again, 'I know that that's a tree,' pointing to a tree that is near us. Someone else arrives and hears this, and I tell him: 'This fellow isn't insane. We are only doing philosophy.'[12]

Wittgenstein cites some bizarre things to say. We do not say such things, barring very special occasion to do so. But what does that mean? Suppose one says them anyway. Despite the oddity, might one have spoken truth?

The philosopher does acrobatics recklessly close to the tree. 'That's a tree over there,' someone warns. 'I know that's a tree,' he replies testily. 'Well, then, shouldn't you be more careful?' Here the philosopher speaks truth. So, one might reason, he *does* know these things. But one cannot cease to know things, or so it seems, *just* by moving from one conversation to another. So however bizarre saying so may be in other cases, for all that, he speaks truth there too. So one might reason.

But this is a bad argument. For it *may* be that words like 'I know I'm wearing shoes' vary their semantics from speaking to speaking. If some speakings of them speak truth, that does not mean that all will. We cannot generally reason: Pia spoke truth when she called the leaves green; so if I call them green, I will speak truth too. That was the moral of § 2. The point would be, not that the philosopher ceases to know something by changing conversations, but rather, that on one occasion he counts as knowing such-and-such, on another not.

There is, though, a form of account on which many bizarre things we 'would not say', would, for all that, be true. The idea is due to H. P. Grice. The starting-point is the observation that saying is only one of numerous ways for words, or speakers of them, to represent things as so. There is also implying, suggesting, insinuating, presupposing, and so on. *That* insight did not originate with Grice. Grice, though, concerned himself with a particular class of such representations, which he called implicatures, using the verb 'implicate' for the sort of representing in question. Implicatures come in two sorts: conventional and conversational. Conventional implicatures are features of the meanings of the terms involved. They are illustrated by 'Pia dissuaded Tod from leaving', and 'Sam struggled to reach the lectern'. The first represents Tod as at least having thought of leaving; the second represents Sam as facing some obstacle to reaching the lectern. But the first does not *say* that Tod had thought of leaving, nor the second that there was an obstacle. That does not yet mean, that, for example, the second might be *true* were there no obstacle. It leaves it obscure what could make it so. But it may facilitate arguing the point. In any event, just as to use 'It's green' to mean what it does *is* to call something green, so to use 'struggle' to mean what it does, in a case like the above, is to suggest or imply that there is an obstacle. Grice suggests that it is difficult to produce words with a conventional implicature without implicating that. Such implicatures are not, or hardly, what Grice calls 'cancellable'. That he takes to be a main identifying feature of them.

Some implicatures, Grice notes, arise only on certain speakings of words, so *are*

cancellable. These Grice calls conversational implicatures, and he explains them thus (though in much greater detail than given here). In normal conversation, we represent ourselves as observing certain maxims, and may be supposed to do so. Grice calls these *conversational maxims*. Examples are: be co-operative, be brief, be informative, and be relevant. Sometimes a speaker *seems* to violate some of these maxims. But it may be that he would not have if such-and-such, and it may be unreasonable to take the speaker to be violating them. We may then reason thus. The speaker said that P (in saying 'W'). Saying P (or saying it in 'W') would violate the maxims unless Q. The speaker was not violating the maxims. So (according to him) Q.

A speaker may intend for us to avail ourselves of some inference of this sort, to a given conclusion that (according to him) Q. It may be part of the proper understanding of his words that he so intends. In that case, the speaker has, or his words have, conversationally implicated that Q. For example, Pia may say, 'Jones submitted a sequence of English sentences, divided into paragraphs, and titled "What is truth?"'. If this is merely a way of saying that Jones submitted an essay, then it violates the maxim of brevity. Pia would not do *that*. So, by the suggested sort of inference, we may conclude that there is, according to Pia, something which distinguishes Jones's work from a proper essay – perhaps its incoherence. It may have been given to be understood that we were so to reason. In that case, the conclusion was conversationally implicated.

The notion of conversational implicature points to a particular sort of understanding some words, on some speakings, may bear. Nothing in the pragmatic view suggests that there should not be such understandings. Note, though, that, as Grice insists, for Q to be conversationally implicated in words 'W', Q must follow from what 'W' said, or the fact that 'W' said it, or both. So we might ask what Grice thinks words say. He is quite clear about that:

> In the sense in which I am using the word *say*, I intend what someone has said to be closely related to the conventional meaning of the words (the sentence) he has uttered. Suppose someone to have uttered the sentence *He is in the grip of a vice*. . . . One would know that he had said, about some particular male person or animal x, that at the time of the utterance . . . either (1) x was unable to rid himself of a certain kind of bad character trait or (2) some part of x's person was caught in a certain kind of tool or instrument . . . But for a full identification of what the speaker had said, one would need to know (a) the identity of x, (b) the time of utterance, and (c) the meaning on the particular occasion of utterance, of the phrase *in the grip of a vice* [a decision between (1) and (2)].[13]

This is just the rejected conception of saying. On it, for example, bracketing lexico-syntactic ambiguity, we can always form a guaranteed-true report, in indirect speech, of what was said in any arbitrary speaking of given words: if the words were 'The leaves are green', then that the relevant leaves were, at the relevant time, green. To think that is to miss the possibility of occasion-sensitivity in the content of 'green'. So Grice's conception of saying cannot be assumed in any argument directed against an instance of the pragmatic view.

Grice aimed to resuscitate views fallen into disrepute, largely through what were, in effect, early applications of the pragmatic view. For example, the idea of conversational implicature was first developed specifically in aid of reviving some notion of a sense datum. With that in mind, let us return to the bizarre remarks with which this section began. Consider 'I know that that's a tree'. It would usually be bizarre to say that, for example, where the tree was in plain view and no doubt of any kind had arisen as to whether it was a tree. Grice invites us to entertain the possibility that the reason we would not say such a thing in such circumstances is that if we did, we would conversationally implicate something not so. He means that idea to encourage us to ask whether what would be said if one did so speak is anyway something true, or rather something false; and to expect one choice or the other to be *correct*.

In using 'know' bizarrely we *may* conversationally implicate something (though there is a problem if conversationally implicating that Q absolutely requires saying that P). But the pragmatic view offers another explanation of why, in some situations, we would not say 'I know that . . .'. Suppose that 'know' may make any of many distinct semantic contributions to wholes of which it is a part, and varies its contribution from one speaking to another. Then, describing someone as he is at a time, we would, on some occasions, say something true in saying him to know that X is a tree, and, on other occasions, say something false in saying *that*. For there are various things to be said in so describing him. In that case, circumstances of a speaking of 'N knows . . .' may confer on it a supplement to the content provided by the meanings of the terms alone. For some such supplements, the result will be stating truth; for others it will be stating falsehood. But *some* circumstances may fail to confer a supplement of either of these sorts. Words produced in such circumstances would have a content still supplementable in either way. But a content still so supplementable can require neither truth nor falsity. Speak, in those circumstances of N knowing that it's a tree, and one will fail both at saying what is true and at saying what is false. Nothing either so or not-so will have been said to be so. Recognizing that, where it is so, may make one refrain from so speaking. In that case, the idea, encouraged Grice, that if we said it anyway we would at least say something true or else something false, is simply a mistake. In that case, conversational implicature could not be a consequence of the fact of having said *that* such and such. There is no such fact.

That the content of words is consistently supplementable in more than one way is not in itself a block to those words stating truth. It is so only where different such supplements, or different ones within some range of reasonable ones, yield different results as to truth – where, that is, the content to be supplemented is compatible both with truth and with falsity. So it just *might* be that if you say irrelevantly, pointing at your brogues, 'Those things are shoes', there is no compelling reason to deny that you have spoken truth (though the situation changes if you are wearing four-eyelet low moccasin boots, or even just moccasins). That is typically not how it is for philosophically sensitive terms like 'know'. That is one lesson the long history of scepticism teaches us. (If there must be an *occasion-insensitive* answer, just when *does* someone count as knowing there is a tree before him?)

This last point shows the problem in applying the notion of implicature where it is meant to carry philosophic baggage, notably where it is meant as a way of dismissing claims about what 'we would not say' as philosophically irrelevant. Where those claims point to occasion-sensitivity they are philosophically highly relevant. It is all very well to insist, for example, that either Sam does or doesn't now know that he is wearing shoes, full stop; and that if you said, bizarrely, 'Sam knows he is', you would either state truth or state falsity. Sooner or later, though, one must choose. Which is it? If, applying the pragmatic view, we carefully assemble a perspicuous view of the *different* things we at least take ourselves to say to be so, on different occasions for speaking of Sam, in saying him to know precisely that, then *either* there is a principled way of choosing between them (or choosing a further candidate) by appealing to what is recognizably so about what 'know' means, *or* they show that no one answer to the question is the right one occasion-independently. Prospects for the first alternative are dim.

5 Metaphysics

The English 'is green' speaks of a certain way for things to be: green. One might say that it speaks of a certain property: (being) green. If we do say that, we must also say this about that property: what sometimes counts as a thing's having it sometimes does not, so that there are, or may be, things which, on some occasions for judging, count as having the property, and on others do not. If for a property to have an extension (at a time) is for there to be a definite set of things (at that time) which are just those things (then) with that property, then this property does not have an extension, even at a time. Better put, it makes no sense to speak of 'its extension'.

Is all this just vagaries of the English 'is green'? Two related questions arise. First, might there be predicates which did not vary their contributions to what was said with them in the way that 'is green' does? If we said such a predicate to speak of a property, that property *would* have an extension, at least at a time. Such a predicate could not vary its contributions to wholes so that, in ascribing that property to an object (at a time) it would be possible to speak truth and also possible to speak falsehood. So there would be no call for saying of anything that it sometimes counted, and sometimes didn't, as having (at a given time) that property. Second, can we preserve the idea that (genuine) properties have extensions by supposing that predicates like 'is green' simply refer to different properties on different occasions (and that it is by their thus varying their referent that they make different contributions to different wholes)?

Why might one want properties to have extensions? First, one might think that we can gain this for properties by definition – by 'property' we just mean what has an extension – and that extensions are convenient means for counting properties (as one or two). Second, one might take such a view of properties as mere sane realism. We cannot change, say, the way a cow is by thinking about it. As a rule, the cow stays just as it is no matter how we think of it. And we may read, or misread, that sane thought thus: those ways for things to be which are, or count as,

ways the cow is count as ways the cow is no matter how we think about the cow, or them. So for any genuine way for things to be, either the cow is that way (at a time), or it is not, *punkt*. The same goes for any other object. In which case genuine ways for things to be have extensions (at times). But whatever there is in favour of this line of thought, I suggest that both our questions merit negative answers.

I begin with the first. I will state the main point, though there is here no space for detailed argument. Once we fix what 'is green' speaks of – green – we then note that there are different possible understandings of what it would be for an object (or some objects) to be *that* way (green). These are possible understandings in that they represent what one *might* regard as a thing's being green. So, for each, some item may be said, in calling it green, to be green on *that* understanding of its being so. And for each, that may be the *right* understanding (on some occasion) of what being green would come to. 'Is green' provides a particular description for things, expresses a certain concept. What is said in using it depends not only on what that description is, but on how that description, or that concept, is, or would be, applied in fitting it to particular circumstances of its use.

Suppose, now, that we identify an understanding of being green – say, the understanding on which an item was said to be green in some particular speaking of 'is green'. We now introduce a predicate – say, 'is green*' – which, by stipulation, is to mean *is green on that understanding of being green*. This predicate speaks, as it were, of a finer-grained property than 'is green' (as such) does. May *this* predicate make different contributions to what is said in wholes of which it is part? It may if there are different possible understandings of what it would be to be green on that understanding; two different things to be said as to whether such-and-such *is* being green on that understanding of what it would be to be so. As far as we can tell, this always will be so. We understand, for example, that paint is to count as changing colour, and not as hiding it. We now encounter a rather poor paint job: you *could* say that it covered the original colour, but you could view the original colour as still showing through enough that the object had not yet been made the colour of the paint, even on the indicated understanding of its being that colour. An understanding of being green, in so far as we can identify one, seems unable to foreclose in principle on the possibility of differing, but, apart from particular surroundings, equally sane and sensible views of what *that* understanding entails.

A predicate about which the pragmatic view was wrong would be one which did not admit of different possible understandings of what it would be for some item to fit the description which that predicate provides (or for the description to fit some item). The right understanding of it would foresee every eventuality in or to which the description might be applied. There is reason to think that no such predicate is available to human beings, at least given the way we in fact cognitively conduct our affairs. Again, what is said in applying a given description depends on *how* it is applied, and how, in given circumstances, it ought to be.

Now for the second question. First, if the first point is correct, then no understanding *we* could have of being green, so none that might attach to a particular use of 'is green', would be one on which 'is green' spoke of a property, if a property must

have an extension. To paraphrase Wittgenstein, we refine our concepts, or understandings, for particular purposes – so that *in fact*, in the situations we face or expect, unclarity as to what to do or say does not arise. In doing that we neither reach, nor aim at, that absolute clarity on which we would speak of what had definite extensions. Where 'is green' has made different contributions to different wholes, we may identify different things for it to have spoken of each time – being green on this understanding, and being green on that one. So we may see the predicate as varying its reference across speakings of it. But we must not mistake these different things for properties with extensions. Second, if we cannot have a predicate for which the pragmatic view does not hold, then, equally, we have no means for specifying properties to which extensions may sensibly be ascribed. In any event, the phenomenon we have to deal with is not merely that predicates vary their contributions to wholes, but also that, whatever a predicate may be said to speak of – being such-and-such – what would sometimes count as an item's being *that* other times would not.

6 Perspective

Given words may have any of many semantics, compatibly with what they mean. Words in fact vary their semantics from one speaking of them to another. In that case, their semantics on a given speaking cannot be fixed simply by what they mean. The circumstances of that speaking, the way it was done, must contribute substantially to that fixing. As pointed out earlier, this does not mean that there is a function from certain parameters of speakings to semantics, taking as value for each argument the semantics words would have where those values held. It thus also does not mean that there might be a precise theory, generating, for each semantics words might have, necessary and sufficient conditions for their having that. Still, we may describe how circumstances do their work.

Here is one thought. The words 'is green' are a means which English provides for calling things green (describing them as green, etc.). If, in speaking English, you want to call an item green, those words will do. Speak them literally, seriously, and so forth, and you will then count as having done just that. The truth of what you say in calling an item green should turn precisely on whether the way that item is then counts as its being green. These two remarks jointly identify which truth-involving properties any such words must have: they are true of, and only of, those ways for things to be which counted, at their speaking, as the item they spoke of being green. Similarly for other English predicates.

Where you called an item green, the truth of your remark turns on whether it *then* counted as being green. On different occasions, different ways for an item to be would count as its being green. That variation means that, on different occasions, calling an item green will confer different truth-involving properties on your words. Consider two occasions which differ in this respect. On each, words which call an item green will have some set of truth-involving properties, which is, therefore, a possible set of such properties for words with that content to have. Those truth-involving properties, and the property of calling that item green, cohere on at least

some occasions for so describing things. But those truth-involving properties *cannot* be those of words with that content produced on the other. That would not correspond to what, on the other, counts as something's being green. So each of the above semantics, available as it is on some occasions, is unavailable on others. I can sometimes speak truth in calling painted leaves green; but I cannot do so in circumstances where their being so painted does not count as their being green.

Let us pursue this thought. Consider:

(2) Today is a sunny day.

Spoken on day D, (2) would, typically, speak of day D. It would also identify the day it speaks of in a particular way: it speaks of that day as the day of its speaking, and represents it as identified by that fact. Since some speaking of (2) has both the semantic properties just mentioned, the two jointly form a semantics which is at least sometimes coherent. Let D* be the day after D. Words produced on D* could not have the semantics just mentioned. They could not speak of D and say it to be sunny while, on their proper understanding, identifying the day they speak of as the day of their speaking. On day D, we may express, or think, a thought with both those features. On other days (in normal circumstances) we cannot. Let us say that words with a semantics which is only sometimes available, in the above sense, express a perspectival thought, and have a perspectival content.

Now the point of the discussion of 'is green' may be put this way. Perspectival thought is the normal and pervasive case. On one occasion, we call an item green (at a time), and thereby produce words with such-and-such truth-involving properties. On another occasion, we may, if we like, say the same item to be green (at that same time). But our doing that may require that our words have quite different truth-involving properties. Those of our first remark may not correspond to what would count, on the occasion of this further speaking, as that item's being green. If that is right, it is fair to suppose that perspectival thoughts are the typical sort of thoughts we think. One might say: we relate cognitively to the world in essentially perspectival ways.

Now consider two minor puzzles. First, I have said there is something true, and also something false, to be said of given leaves, and their condition at a given time, in saying them to be green. How can this be? Consider the true thing to be said. What could make it true, other than the fact that the leaves are green? But, if that is a fact, how could one speak falsehood in saying no more nor less than that about them? Second, if there *are* those two things to be said, then *say* them, or rather, state the true one and deny the false one. To do so, you would have to call the leaves green, and then deny that they are that, as in 'The leaves are green, and the leaves are not green'. But that is a contradiction, so cannot be true. So what the pragmatic view requires that it be true to say is something it could not be true to say. So the view is wrong.

The first puzzle's rhetorical question has a non-rhetorical answer. What could make given words 'The leaves are green' true, other than the presumed 'fact that the leaves are green', is the fact that the leaves *counted* as green on the occasion of

that speaking. Since what sometimes counts as green may sometimes not, there may still be something to make other words 'The leaves are green' false, namely, that on the occasion of *their* speaking, those leaves (at that time) did not count as green.

As for the second puzzle, we are challenged to say something literally unsayable – *not*: sayable-but-false, but rather not sayable at all. We ought to decline the challenge. On some occasion, words which call given leaves (at a time) green may (thereby) have truth-involving properties in virtue of which they are true. On some other occasion, words which deny those same leaves to be green may similarly be true. But given the way (described above) in which occasions work to forge a link between content-fixing properties and truth-involving ones, there is no occasion on which both these feats could be accomplished at once; so none on which 'The leaves are green and the leaves are not green' could have the semantics which a conjunction of those two truths would have to have. If the occasion is one on which the way those leaves are counts as their being green, then no words could have the semantics of the true denial; and *mutatis mutandis* if on the occasion the way the leaves are does not count as their being green. Each of the thoughts provided for above is a *perspectival* thought; and, in virtue of its perspectival character, unavailable to be expressed at all on any occasion on which the other is expressible.[14] The nature of semantic variation thus allows us to decline the challenge.

These are banal examples. In philosophy, neglect of perspectival thought often leads to more excitement. A philosopher may sense, for example, that our concepts apply as they do against a background of our natural reactions; if we naturally viewed things *quite* differently, we might apply the concepts we now have so as to speak truth in saying what it would not now be true to say. Asked to express some such truths, the philosopher is reduced to nonsense. Naturally enough. He was describing other perspectives. Some things said truly from them are not so much as expressible at all from his own.

7 Thoughts

Frege writes,

> Without offering this as a definition, I mean by 'a thought' something for which the question of truth can arise at all.[15]

Thoughts, for Frege, are not words. For him words are true only in a derivative sense: just in case they express a thought which is. For words are always open to, and in need of, interpretation. They are true, if at all, only on a given understanding of them (even if it is their proper understanding). Words 'Mary had a little lamb' may be a remark on husbandry, or one on gastronomy and, perhaps, true if understood the first way, false if understood in the second. Truth and falsity seem to correspond to understandings words may have, rather than to the words themselves (which Frege conceives as a quite different matter). It is the understandings, as opposed to the words, which settle questions of truth and falsity. So, on his view,

it is for understandings, and not for words, that questions of truth and falsity arise. Words, apart from an understanding, could not be true or false at all.

If words admit of interpretations, then conceivably they may bear different understandings on different occasions for understanding them. Such shifts in interpretation could bring with them shifts in truth value. So if words were the primary objects for which questions of truth arose, it would be conceivable, for any sort of semantic object, that one and the same item should count as true on one occasion for assessing it, false on another.

Thoughts, for which questions of truth are, strictly speaking, to arise, are meant to be free in principle of both of the above features. They are to be absolutely immune to interpretation; and they are to be true or false absolutely, independent of the ways, if any, in which they enter into our thinking. On Frege's view, only such semantic objects could be material for logic.

We may extend the notion of semantic property so that thoughts have a semantics too. The semantic features of a thought will be just those features by which one thought may be distinguished from another. Among these will be such things as being about eating ovine, and such things as being true if Mary ate a bit of ovine, hence, on the above plan, both truth-involving and content-fixing properties. Its truth-involving properties are meant to be just those its content requires. Moreover, it is meant to have all this semantics intrinsically: any thought, no matter how encountered, is that thought iff it has that semantics. This means that the content of a thought – unlike the content of words – must determine its truth-involving properties *inexorably* (to coin a term): there are no two sets of truth-involving properties such that an item with that content might have the one but not the other, and also vice versa; there is *one* set of truth-involving properties which is *the* set any item with that content *must* have. For if not, then a thought's having that content might, on some occasions, make it count as having one set of truth-involving properties, and on others make it count as having another, counter to the tenet that every thought has its truth-involving properties intrinsically.

Why must thoughts have inexorable content? Suppose C is a non-inexorable content. Then there might be an item with C and truth-involving properties T, and an item with C and distinct truth-involving properties T*. But truth-involving properties are meant to be those which content requires. So these must be two items differing in further content-fixing features. This means that an item with C is, so far, open to interpretation: it might, for all that, bear any of several distinct understandings. That is to say: it might, for all that, be, or (if words) express, or represent, any of several distinct thoughts. So C is not the (whole) content of a thought.

Thoughts are identified precisely by their semantics, whereas words are identified by shape, syntax or spelling, or by the event of their production. The identity of words leaves their content open. So the content of given words must depend on further factors: on the character of their surroundings. This leaves it open that their surroundings might, on some occasions of considering them, count as conferring one semantics on the words, while on other such occasions those surroundings might count as conferring another. In that way, the semantics of words – how they

are rightly understood – may be an occasion-sensitive affair. By contrast, the semantics of a given thought is meant to depend on *nothing*. So there are no such possibilities for variation across occasions in the semantics a given thought *counts* as having.

Thoughts, as thus conceived, are not open to interpretation. They are what Wittgenstein called 'shadows': semantic items interpolated between words and the states of affairs that make words true or false, and somehow more closely tied to those states of affairs than mere words could be. About shadows, Wittgenstein said:

> Even if there were such a shadow it would not bring us any nearer the fact, since it would be susceptible of different interpretations just as the expression is.[16]

How could this be true of thoughts? Could thoughts admit of interpretation? If so, how?

There are too many strands in our inherited notion of a thought to unravel them here. But here is a sketch of a framework for relevant issues. To begin, one *might* think to buy the semantic absoluteness of a thought – its immunity to interpretation – by stipulation. Wherever I would say something to be so in saying 'S', and it is determinate what, I may, it seems, refer to a thought in saying 'the thought that S'. I may also say, correctly, it seems: 'The thought that S is true iff S'. In saying that, I ascribe a set of truth-involving properties to the thought I refer to; in fact, whatever such properties my words 'S' then had. For I say the thought to be true exactly where what is so according to my words 'S' is so. So, it seems, we might stipulate that the thought I thus refer to is precisely the one with those truth-involving properties.

This is not quite enough. A thought cannot *just* have truth-involving properties. It must have a content. What content should that be? Here we come up against another strand in the conception of a thought. A thought is meant to be something that can be expressed in various words, or speakings, on various occasions. If you now express a thought, I can later express that very thought virtually whenever I like. On any plausible version of that view, words W and W* may express the same thought while differing in content. Frege gives this example:

> If someone wants to say today what he expressed yesterday using the word 'today', he will replace this word with 'yesterday'. Although the thought is the same, its verbal expression must be different in order that the change of sense which would otherwise be effected by the differing times of utterance may be cancelled out.[17]

The word 'today' brings with it a different contribution to content than the word 'yesterday'. Frege's two sentences are not alike in content-fixing properties. Yet, for good reason, Frege takes it that the one sentence, produced under certain circumstances, would express the same thought as the other sentence produced under certain others. If so, then the content-fixing properties of that thought are liable to vary across occasions.

The question is: just *how* may content vary while words express the same

thought? One idea would be that W and W* express the same thought only if they apply the same concepts to the same objects. But this will not do. It does not even allow for Frege's example. It collapses completely if we return to the notion of perspective. On some occasions, in calling given leaves green one would state truth; on others, in calling those leaves green one would state falsehood (and not because the leaves changed). Apply a given concept to the leaves in different surroundings, and you will produce words with very different truth-involving properties. The semantics of some such words, produced in given surroundings, is unavailable in other surroundings for any words. Words with the *content* of those words, in the other surroundings, may have truth-involving properties so different that, at least for some purposes, we cannot take them to have expressed the same thought. The false remark about the leaves, for example, was not the same thought as the true remark. So if, in the changed surroundings, one wants to express the same thought again, one must *not* speak of the same concepts and objects. What it would take to express the same thought again is nothing more nor less than an adequate paraphrase. If the original words were 'The leaves are green', then, depending on surroundings, an adequate paraphrase might be 'The leaves are painted green'.

There is no space here for an account of what makes paraphrases adequate. But here are two remarks. First, adequate paraphrases may need to share crucial or relevant truth-involving properties; but they are unlikely to share *all* truth-involving properties. In remote enough circumstances, leaves may be green in the sense in which they were said to be in a given 'The leaves are green', but not painted green (perhaps dyed); though, for current purposes, 'The leaves are painted green' was an adequate paraphrase. Second, suppose on an occasion I express a thought in saying 'The leaves are green'. Then whether, on another occasion, words W are an adequate paraphrase of what I said may well depend on the occasion for the paraphrase, and perhaps, too, on the occasion for considering that occasion.

Thoughts viewed from this position lose their claims to have some *one* semantics intrinsically, and to be immune to interpretation. If, with perspective in mind, we ask what would count as producing some given thought again, and if we consider all the occasions for posing that question, we see how *that* thought may count on some occasions as having semantics which it would not count as having on others. For it may on some occasions admit of paraphrases it does not admit of on others. Nor need it ever have an inexorable content. To see how thoughts admit of interpretation, one need only know how to look for occasions for interpreting them.

8 Concluding remarks

There is much left to discuss, but no space left to discuss it. It is thus time to commend the subject to the reader. The pragmatic view gives a substantially different form to virtually every philosophic problem, not just in philosophy of language, but wherever puzzles arise. The new form may make some of these problems more tractable. For a start we will need new conceptions of logical form, and of such

related notions as intensionality. These may yield new things to say on such questions as whether 'if–then' is transitive. We may then take a fresh look at what we say of people in ascribing propositional attitudes to them, and at understanding itself. Such a look, I predict, would make philosophy of psychology take a fresh course. It is also worth a look, from the pragmatic view, at problems of knowledge, of explanation, of freedom and responsibility, and so on. Some of this work is begun. There is much left to explore.

Notes

1 See e.g. Donald Kalish, "Semantics", in *The Encyclopedia of Philosophy*, Macmillan, New York, 1967.
2 Lewis, "General semantics", in *Semantics of Natural Language*, D. Davidson and G. Harman, eds. (Reidel, Dordrecht, 1972), p. 169.
3 Mark Platts, introduction to *Reference, Truth and Reality*, Routledge and Kegan Paul, London, 1980, p. 2.
4 For some more discussion see my *The Uses of Sense* (Oxford, Oxford University Press, 1989), especially ch. 1.
5 Throughout I leave lexico-syntactic ambiguity aside.
6 I modify Frege's example slightly. His discussion is in "The thought", *Logical Investigations* (Basil Blackwell, Oxford, 1977), p. 27.
7 See my "Annals of analysis", *Mind*, 100 (April 1991), pp. 237–64, for further discussion.
8 Frege, 'The thought', pp. 10–11.
9 Once again, ignore lexico-syntactic ambiguity.
10 Strictly speaking, this is false of words (consider e.g. homonyms). But ignore that for now.
11 Ludwig Wittgenstein, *On Certainty* (Blackwell, Oxford, 1969), § 461.
12 Ibid., § 467.
13 Grice, "Logic and Conversation", in *Studies In The Way of Words* (Harvard University Press, Cambridge, Mass., 1989), p. 25.
14 More precisely, any occasion on which a thought with the semantics of the first is expressible is *ipso facto* one on which a thought with the semantics of the second is not. I do not mean to prejudge questions of thought-identity.
15 Frege, 'The thought', p. 4.
16 Reported by G.E. Moore in "Wittgenstein's Lectures in 1930–33", *Mind*, 63 (1954), pp. 1–15, repr. in *Philosophical Occasions 1912–1951*, ed. by James C. Klagge and Alfred Nordmann, Hackett, Ind. and Cambridge, 1993, p. 59.
17 Frege, 'The thought', p. 10.

Bibliography

Austin, J.L., "Truth", in J.L. Austin, *Philosophical Papers* (Oxford University Press, Oxford, 1961).
——"How To Talk", in *Philosophical Papers*.
——"Other Minds", in *Philosophical Papers*.
——*How To Do Things With Words* (Harvard University Press, Cambridge, Mass., 1962).

——*Sense and Sensibilia* (Oxford University Press, Oxford, 1962).
Barwise, J. and Perry, J., *Situations and Attitudes* (MIT Press, Cambridge, Mass., 1983).
Cartwright, Richard, "Propositions" and "Propositions again", in his *Philosophical Essays* (MIT Press, Cambridge, Mass., 1987).
Dummett, Michael, "Mood, force and convention", in his *The Seas of Language* (Oxford University Press, Oxford, 1993).
Fauconnier, Gilles, *Mental Spaces* (MIT Press, Cambridge, Mass., 1985).
Frege, Gottlob, "The thought", in *Logical Investigations* (Blackwell, Oxford, 1977).
Grice, H.P., "Logic and conversation", in P. Cole and J. Morgan (eds), *Syntax and Semantics*, Vol. 3 (Academic Press, London, 1975), reprinted in H.P. Grice, *Studies in the Way of Words* (Harvard University Press, Cambridge, Mass., 1989).
——"Further notes on logic and conversation", in Cole and Morgan; reprinted in *Studies in the Way of Words*.
——"Retrospective epilogue", in *Studies in the Way of Words*.
Lewis, David, "General Semantics", in Davidson, D. and Harman, G. (eds), *Semantics of Natural Language* (Reidel, Dordrecht, 1972).
Kaplan, D., "Demonstratives", in J. Almog et al. (eds), *Themes From Kaplan* (Oxford University Press, Oxford, 1989).
Sperber, Dan, and Wilson, Deirdre, *Relevance* (Blackwell, Oxford, 1986).
Stalnaker, Robert, "Pragmatics", in Davidson, D. and Harman, G. (eds), *Semantics of Natural Language* (Reidel, Dordrecht, 1972).
Strawson, P.F., *Introduction to Logical Theory* (Methuen, London, 1952).
Travis, Charles, "Annals of analysis", *Mind*, 100 (April 1991), 237–64.
——*The Uses of Sense* (Oxford University Press, Oxford, 1989).
——"Meaning's role in truth", *Mind*, 105 (July 1996), 451–66.
Wittgenstein, Ludwig, *On Certainty* (Blackwell, Oxford, 1969).
——*Philosophical Investigations* (Macmillan, New York, 1953).
Ziff, Paul, "Understanding", in *Understanding Understanding* (Cornell University Press, Ithaca, NY, 1972).
——"What is said", in *Understanding Understanding*.