

# Theories of Meaning and Truth Conditions

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## 1. Philosophical Meaning Theory

In the philosophical theory of linguistic meaning, a distinction can be drawn between theories aiming at correct semantic description of individual languages and theories the subject of which is linguistic meaning as such. Theories of the first kind can concern ‘formal’ languages such as the language of first-order predicate logic, or (fragments of) natural languages such as English. They are usually formally worked out and, therefore, the discipline of developing them is called ‘formal semantics’. While formal semantics is a subject belonging to logic and linguistics as much as to philosophy, philosophical meaning theory is a more ‘foundational’ enterprise. Philosophical meaning theory aims at answering the most basic questions concerning linguistic meaning, questions about its very nature.<sup>1</sup>

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<sup>1</sup> This distinction between formal semantics and philosophical meaning theory resembles that drawn by Robert Stalnaker between ‘descriptive semantics’ and ‘foundational semantics’: “First, there are questions of what I will call ‘descriptive semantics’. A descriptive semantic theory is a theory that says what the semantics for the language is, without saying what it is about the practice of using that language that explains why that semantics is the right one. (...) Second, there are questions, which I will call questions of ‘foundational semantics’, about what the facts are that give expressions their semantic values, or more generally, about what makes it the case that the language spoken by a particular individual or community has a particular descriptive semantics” (Stalnaker 1997, 535). But philosophical meaning theory is not restricted to the question of meaning determination; rather, it comprises any kind of philosophical inquiry into the nature of linguistic meaning. One such question that has been crucially important during the second half of the Twentieth Century is precisely one concerning the philosophical significance of the choice of formal semantics: The question of what form such a semantics is to take.

The most general and basic such question is of course the following: What is meaning? Or, in Donald Davidson's much quoted words: "What is it for words to mean what they do?" (Davidson 1984, xiii). Davidson himself suggested approaching this matter by asking two different questions: What form should a formal semantics take? And: What is it that makes a semantic theory correct for a particular language, i.e. what determines meaning?<sup>2</sup>

The second question concerns the place of semantic facts in a wider metaphysical space: How do these facts relate to non-semantic facts? Can they be reduced to non-semantic facts, do they merely supervene on non-semantic facts, or are they something like metaphysical primitives? In the second half of the Twentieth Century, philosophers of language have been especially interested in the relation between semantic facts and facts that can be described in naturalistic terms, and different versions of reductive and non-reductive naturalism have been discussed. Another, though related, debate concerns the question whether the facts determining meaning (and thought content) are facts in some sense internal, or external, to the subject saying or thinking something.

Here, we shall focus on Davidson's first question, however: What form should a formal semantic theory take? To be at all relevant for the basic concerns of philosophical meaning theory, a formal semantics needs to be applicable to natural language. Not only would we not have understood the general nature of meaning if our theories concerned only artificial

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<sup>2</sup> Cf. Davidson 1973, 125; 1984, xiii. For Davidson, meaning is essentially public, that is, accessible to, or knowable by, the speakers of a natural language. According to him, this means that meaning is determined by observable behaviour in observable circumstances. Such behaviour at the same time provides the evidence for a semantic theory. For Davidson, the question of meaning determination therefore coincides with the question of what the evidence for a semantic theory is. It is sometimes objected that this amounts to 'verificationism' (see, for instance, Williamson 2004, 137), but as long as the objection does not take on the specifics of the Davidsonian account of meaning determination, it is hard to see what is wrong with the claim that natural language meaning is, in principle, knowable by its speakers.

languages; the expressions of artificial languages would not have any meaning without the prior meaningful use of natural language. Linguistic meaning, thus, ultimately arises in natural language communication; if we want to understand its nature such communication is what we should look at. But linguists and philosophers doing formal semantics for natural language have developed a number of different frameworks. Davidson himself suggested that Tarski-style truth-theories ('T-theories') can be used as formal semantic theories for natural language. Other theories on the market include Possible-worlds and Proof-Theoretic Semantics, Situation Semantics, Game-Theoretic Semantics, and Discourse Representation Theory, to name but a few. This of course prompts the question, which framework, which form of semantic theory is the best or the right one. But why is this a question for the philosophical theory of meaning?

Take a particular formal semantic theory for (a fragment of) English. This theory describes English by means of a central, or basic, semantic concept. For Davidson, this concept is truth. A Davidsonian semantics for English ascribes truth conditions to the sentences of English. If Davidson is right about the form a semantic theory should take, then, the concept of truth can be used to ascribe meanings to linguistic expressions. By answering the form-question we thus learn something about the nature of meaning, about its essential relation to truth. Different semantic frameworks, however, work with different basic semantic concepts. The basic semantic concept of possible-worlds semantics, for instance, is that of truth at a possible world, and that of proof-theoretic semantics is that of proof or rule of inference. Consequently, if we know what form the semantic theory should take, we know what the basic semantic concept is, the concept by means of which we can characterize, explain, or elucidate that of meaning.

There is, thus, a natural connection between formal semantics and philosophical meaning theory. This connection is, however, hostage to a number of conditions. For one, the

basic semantic concept used by a semantic theory must be sufficiently different from that of meaning (and very closely related concepts such as reference). Otherwise, there would at least be some danger of theoretical circularity.<sup>3</sup> For another, natural language must actually be such that it can be adequately described by the formal methods originally developed for ‘artificial’ languages such as the language of first-order predicate logic. For instance, natural language must be such that what can be expressed by means of it has a sufficiently large, and sufficiently stable, ‘core’ of literal, or semantic, meaning. Without such a core, semantic theory would have no role to play in explaining communication by means of natural language. Some philosophers and linguists, such as radical contextualists and others influenced by certain readings of the late Wittgenstein, have disputed the existence of a literal or semantic core in natural language.<sup>4</sup> This, however, is not a question to be decided on principle. How much of natural language, and natural language communication, can be accounted for by means of systematic semantic theory, or by means of systematic semantic theory complemented by systematic pragmatic theory, has to be found out by careful and creative theory construction and testing – much as for any other complex and prima facie disorderly empirical phenomenon.

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<sup>3</sup> This is not the same thing as requiring that meaning must be analysable in terms of, or reducible to, something completely different. One might well hold – as for instance Davidson does – that no such analysis, or reduction, will be forthcoming, and yet insist on some minimal condition of informativeness.

<sup>4</sup> Philosophical examples include Searle (1978) and Travis (1989). Less radical contextualists such as Recanati (2004) and Pagin & Pelletier (2007) argue that even though pragmatic influences on understanding linguistic utterances usually start before a truth-evaluable content is outputted, this neither prevents semantic theories from being indispensable for explaining linguistic communication nor does it prevent an account of such understanding from being systematic. Semantic minimalists, such as Borg (2004) and Cappelen & Lepore (2004), hold that every utterance of a (non-indexical) sentence expresses one and the same semantic content, the ‘minimal proposition’ (according to Cappelen & Lepore, many other propositions might be expressed at the same time, however).

What we shall concentrate on here, however, are questions concerning the fundamental concept(s) of philosophical meaning theory. More precisely, we shall use the suggestion that truth is the basic semantic concept, and some of the most serious problems for truth conditional semantics, as the focus of our discussion.

## **2. Truth-conditional Semantics and the Davidsonian Programme**

A line of thought going back at least to Frege and the early Wittgenstein connects sentence meaning with truth conditions. For Wittgenstein, this connection essentially involves the idea that the meaning of a sentence is what a competent speaker of the language in question understands, or knows, when she understands the sentence, or an utterance of it. What such a speaker knows, Wittgenstein's idea is, is under what conditions the sentence is true: "Einen Satz verstehen, heisst, wissen was der Fall ist, wenn er wahr ist" (T 4.024).<sup>5</sup> In this way, meaning is essentially bound up not only with truth, but also with the activities and the psychology of competent speakers.

Linguistic competence, the ability to understand the sentences of a natural language, has a certain unbounded character: There is an enormous variety, a seemingly limitless supply of sentences with different meanings that natural language has on offer for its speakers. And competent speakers possess an astounding capacity to efficiently and speedily produce and understand these sentences, even if they have never heard them before. An account of meaning as an object of knowledge, the product of a competence possessed by ordinary speakers, has to, somehow, come to terms with the limitless character of this competence.

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<sup>5</sup> The Ogden translation (1922) has: "To understand a proposition means to know what is the case if it is true."

Sentences have a constituent structure; they are composed of ‘smaller’ parts, and their meaning seems to depend, in a systematic manner, on the parts they are built of, and the way in which these parts are put together.<sup>6</sup> The idea that

(PC) the meaning of a sentence, or complex expression in general, is determined by, or a function of, the meanings of its constituent parts and mode of composition

is well known since Frege (cf. Frege 1892): It is called the ‘principle of compositionality’.<sup>7</sup> If natural language is in fact compositional, accounts of linguistic competence can systematically exploit this feature. Compositional accounts start with simple expressions, specify their meanings or semantic values, and then specify the meanings of complex expressions by means of recursive rules for ‘building them up’ on the basis of those of the simple ones.

Davidson then suggested that the formal apparatus used by Tarski to define truth for certain formal languages could be used to put these two Fregean ideas – compositionality and truth conditions – together; he proposed to use Tarski-style truth definitions (t-theories) to ascribe truth-conditions to natural language sentences in a compositional way. Tarski had shown how to define a predicate true-in- $\underline{L}$  for a language  $\underline{L}$  of a certain kind by means of a recursive definition of the notion of satisfaction for  $\underline{L}$ . That is, he provided a formal machinery that allows for constructing a finitely axiomatized theory of truth for a language  $\underline{L}$  on the basis of  $\underline{L}$ ’s syntactic structure. From a T-theory for  $\underline{L}$ , we can derive, for every

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<sup>6</sup> That the way in which the parts of a sentence are put together, i.e. its syntactic mode of composition, plays a role here can be seen from examples such as ‘Bob kicks Mary’ and ‘Mary kicks Bob’. These sentences are composed of the same parts, but differ in meaning. The difference depends on which syntactic role the parts play.

<sup>7</sup> For more on compositionality, see Pagin & Westerståhl 2010a, 2010b.

sentence  $\underline{s}$  of  $\underline{L}$ , a theorem (a so-called ‘T-sentence’) specifying  $\underline{s}$ ’s truth conditions. The theory works, Davidson explains,

by giving necessary and sufficient conditions for the truth of every sentence, and to give truth conditions is a way of giving the meaning of a sentence. To know the semantic concept of truth for a language is to know what it is for a sentence – any sentence – to be true, and this amounts, in one good sense we can give to the phrase, to understanding the language (Davidson 1967, 24).

The theorems of a T-theory have the following basic form:

(T) ‘ $\underline{s}$ ’ is true iff  $\underline{p}$ ,

where ‘ $\underline{s}$ ’ is replaced by a sentence of the language we are specifying truth conditions for, the ‘object-language’, and ‘ $\underline{p}$ ’ by a sentence of the language the theory is formulated in, the ‘meta-language’.

Tarski had shown that a truth-definition for a language  $\underline{L}$  is ‘materially adequate’, i.e. defines a predicate true-in- $\underline{L}$  that is co-extensional with the truth predicate as intuitively understood, if, and only if, for every sentence  $\underline{s}$  of  $\underline{L}$  it implies a T-sentence such that what replaces  $\underline{p}$  is a translation of  $\underline{s}$  (and object- and meta-language satisfy certain formal conditions). Translation, however, is identity of meaning across languages; Tarski thus connects his otherwise uninterpreted true-in- $\underline{L}$  predicates with truth simpliciter by means of the concept of meaning.

To understand truth in terms of meaning is, according to Davidson, philosophically misguided. Meaning is a much more obscure concept than truth, he maintains; moreover, “truth is one of the clearest and most basic concepts we have” (2005, 55). He therefore

suggests to turn Tarski on his philosophical feet, and to use the formal machinery of Tarskian truth theories to understand meaning (cf. 1984, xiv).<sup>8</sup> If we can construct correct t-theories for natural language, the idea is, we can understand the meaning of sentences in terms of their truth conditions, and the meaning of sub-sentential linguistic expressions as the systematic contribution they make to the truth-conditions of sentences. Since he is convinced that this can be done – at least for fragments of natural language large enough to vindicate the idea – Davidson also claims that the theory of meaning can do without meanings: There is no need to identify meanings with some kind of abstract object such as propositions. If we understand meaning in terms of systematic contributions to truth-conditions, the association of such entities with expressions is simply redundant (cf. Davidson 1967, 20f).

Intriguing as this idea is, it is faced with a formidable range of problems. Less serious are observations such as that not all utterances of natural language are of whole sentences, or that even of those that are, many do not seem to express truth-evaluable contents. The observation that questions, requests or commands, for instance, do not seem to have truth-conditions, requires drawing a distinction between the speech act performed by means of uttering a sentence and the propositional, or truth-conditional, content of that speech act. It seems natural to think that the propositional content of the question ‘Is there butter in the fridge?’ and the assertion ‘There is butter in the fridge’ is the same. This content can be specified by a so-called ‘that-clause’: that there is butter in the fridge. Ascribing truth-conditions to its sentences thus can be seen as characterizing the semantic core of a language. Phenomena such as irony or metaphor show that the semantic theory is restricted to literal

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<sup>8</sup> This strategy consequently involves conceiving of the semantic concepts used ‘inside’ the theory, such as the concepts of reference and satisfaction, as purely theoretical concepts. No pre-theoretic understanding of these concepts is presupposed; they are interpreted (to the extent that they are) by means of being part of an empirical theory that gets its empirical content exclusively through its theorems and their connection with the data, the evidence supporting it.

language use; it describes the literal core of a language.<sup>9</sup> One way of conceiving of the connection between this core and the actual use of expressions in complete speech acts would then be the following: What a semantics delivers is the content of literal assertion, i.e. for every sentence  $s$  it specifies what would be (literally) asserted were  $s$  to be uttered assertorically.<sup>10</sup> Standard accounts of indexicals, however, require further restriction of these claims. According to Kaplanian semantics for indexicals, for instance, the proposition asserted by means of an utterance of a sentence like ‘I am here’ is determined by its meaning (what Kaplan calls “character”) together with the extra-linguistic context of the utterance. Recent debates around phenomena such as “modulation” – using, for instance, the sentence ‘The ham sandwich left without paying’ to claim that the person who ordered the ham sandwich left without paying – suggest that the (systematic) influence of context on the content asserted might be much more pervasive than traditionally expected.<sup>11</sup>

More serious is the question whether natural language indeed is such that it can, to a sufficiently large degree, be described by means of the formal apparatus of a T-theory, or any

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<sup>9</sup> One traditional way of drawing the semantics-pragmatics distinction is precisely this: Semantics is whatever can be described by means of a systematic truth-conditional semantics for a language. Everything beyond this core belongs to pragmatics: Speech act theory, the theory of indirect discourse including the theory of non-literal language use etc. On this picture, pragmatic mechanisms are basically Gricean in the sense that they operate on complete propositions, i.e. truth-evaluable contents. Recently, this picture has come under considerable pressure; today, there seems to be some consensus that pragmatic processes such as saturation and modulation (the terms are Recanati’s (2004)) already operate on simpler concepts.

<sup>10</sup> This is true (for non-indexical sentences) on a truth-conditional, but not on a possible-worlds semantics. Possible-worlds propositions have truth values at possible worlds, but an assertion concerns only the actual world. Lepore (1982) argues that this is a defect of possible-worlds semantics precisely because it is the job of a semantic theory to deliver the contents of assertions. However, what accounts for the connection with the actual world might be the force of the utterance, not its content; cf. Recanati (2007, 37).

<sup>11</sup> See footnote 9 above.

other version of truth-conditional semantics such as possible-worlds semantics. For a sentence  $s$  to be ‘fed into’ the machinery of a T-theory, for instance, it has to be possible to assign  $s$  a ‘logical form’ expressible in the language of first-order predicate logic. A lot can be handled that way, but not everything. Problems arise, for instance, for conditionals and for intensional contexts like those created by propositional attitude operators such as ‘believes that’ or modal operators such as ‘it is necessary that’. Problematic are also attributive adjectives (‘good’, as in ‘good actress’), indexicals (‘I’, ‘this’), mass terms (‘snow’, ‘water’), tense operators, and many more (cf. Davidson 1967, 35f). In many of these areas, considerable progress has been made since the days Davidson suggested that a formal semantics for a natural language should take the form of a T-theory. Some of these, notably the possible worlds treatments of alethic modal operators such as ‘it is necessary that’ or ‘it is possible that’, however, require leaving ‘pure’ truth-theoretic semantics behind and adopting something stronger, a version of possible-worlds semantics.

Even if sufficiently much of natural language could be ‘tamed’ by truth-conditional semantic theory, however, more fundamental questions would remain. Most importantly in our context, we could still ask whether truth (or truth at a possible world) really is the fundamental concept of meaning theory. This has been challenged from several directions. Let’s look at some of the most important objections in turn.

### **3. Strawson’s Homeric Struggle**

One early important challenge to truth conditional semantics, issued by Strawson in the late 1960ies, took the form of a general challenge to formal semantics – even though Strawson in effect was concerned only with truth-conditional semantics. Strawson argued that truth cannot be the fundamental concept of meaning theory because the attempt to understand meaning in terms of truth leads to theoretical circularity. Since truth itself needs to be spelled out in terms

of “communication intention”, Strawson contended against Davidson, the fundamental concepts of meaning theory ultimately are not those of formal semantics.

In his 1969 inaugural lecture in Oxford, Strawson famously described the “conflict between the theorists of communication-intention and the theorists of formal semantics” as a “Homeric struggle” (Strawson 1969, 5).<sup>12</sup> In our context this struggle is interesting precisely because Strawson sets it up as concerning “the fundamental concept in the theory of meaning” (Strawson 1969, 6).

On what we shall call an “intentional account” of meaning, the fundamental concept is that of “an utterer’s meaning something by an audience-directed utterance on a particular occasion” (ibid.). Meaning, that is, is to be understood in terms of the communicative intentions with which speakers utter linguistic expressions. To get a basic idea of how this might work, let us take Grice’s account as our model.<sup>13</sup> Grice works with a basic distinction between natural and non-natural meaning, where natural meaning is meaning in the sense in which smoke means fire or reddish spots mean measles. Linguistic meaning is a prime example of non-natural meaning, and Grice suggests the following analysis (cf. Grice 1957):

(M<sub>NN</sub>) An utterer U means that p by an utterance x iff there is an audience A such that

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<sup>12</sup> Amongst philosophers, he lists Frege and the early Wittgenstein. Regarding Frege, this is most probably historically misleading; he was not primarily interested in semantics, but in the reduction of mathematics to logic. However, Frege did develop the basic formal methods that allow the construction of a formal semantics for first-order quantified logic, and formulated a version of compositionality (more precisely, Frege formulated what is called the ‘substitution version’ for what he called ‘Bedeutung’ (reference)). What Strawson in effect almost exclusively discusses is Davidson’s seminal article *Truth and Meaning* (1967). Somewhat comically, Strawson also lists Chomsky as a “theorist of formal semantics” (cf. Strawson 1969, 5). – On the opposite side, the side of the “theorists of communication-intention”, Strawson names Grice, Austin, and the later Wittgenstein (ibid.).

<sup>13</sup> Cf. Grice 1957; 1968. For discussion and defence of a modified version of the Gricean account, see Schiffer 1972.

- i) U, by means of x, intends to induce A to form an attitude  $\varphi$  towards p (for instance, to believe that p), and
- ii) U intends A to recognize U's intention i), and
- iii) U intends that this recognition be part of U's reason for forming  $\varphi$  towards p.

These rather complex, and in some sense self-referential, intentions involved in non-naturally meaning something are often called "M-intentions". Grice not only suggested analyzing utterer's meaning in terms of such M-intentions, but contended that the further notions of an expression's meaning something, either on particular occasions of utterance or in a timeless sense, can be defined on the basis of M-intentions.

In his rather programmatic 1969 paper, Strawson predicted that the intentional theorist would win the struggle against the truth conditional semanticist. What he was concerned about was the very notion of a truth condition. Strawson's first question was simply: What, exactly, is a truth condition? Unless we say something informative about that, our whole foundational enterprise might be built on sand. And this is a bigger enterprise than it might prima facie seem, for to understand the notion of a truth condition we need to understand the notion of truth.

So far, the challenge is fair enough; clearly, the truth conditional semanticist ought to be able to tell us something interesting about truth and truth conditions. Before we look into possible replies, however, we have to ask what this challenge might have to do with intentional accounts of meaning.

Strawson boldly surmised that any answer to the question of the nature of truth itself would have to make use of speech act theoretic concepts such as assertoric content. The notion of truth, he claims, can only be understood in application to intentional human acts such as the utterance of sentences in assertoric speech acts. Consequently, the truth of an

assertion, and therewith the truth of the content of such a speech act would be analytically prior to that of the sentence uttered. Strawson concluded that the notions of communicative intention were more fundamental in the theory of meaning than that of truth.

However, one of the most serious problems of the Gricean analysis of linguistic meaning is the following. Suppose U utters the sentence ‘Sweden is in the North of Europe’ with the M-intention to get her audience A to believe that Sweden is in the North of Europe. Suppose, moreover, that U succeeds. Even if we grant that Grice’s conditions are satisfied in every such case of successful communication, we do not get an answer to the following question: What is it about the uttered sentence that makes it usable for inducing precisely the that belief? What connection is there between ‘Sweden is in the North of Europe’ and the belief that Sweden is in the North of Europe – as opposed to any other belief, for instance the belief that it is cold at the South Pole? Intuitively, it is the fact that the sentence means that Sweden is in the North of Europe that makes it possible to utter it with the intention to induce that belief. Intuitively, that is, meaning here seems to explain the content of the intention, rather than the other way around, thus reversing the explanatory relation.

What we need, but do not get from Grice -- at least not immediately -- is a systematic account of what it is that makes the sentences of a language such apt vehicles for conveying thoughts with particular contents. And again, what we need is an account able to cope with the enormous variety of sentences that natural language has on offer for its speakers. Intuitively, there does not seem any limit to the sentences thus standing ready conveying particular contents.

What emerges from these considerations is the need for supplementing the Gricean account with a systematic account of sentence meaning. More precisely, with an account that can handle speakers’ ability to quickly and efficiently produce and understand an enormous variety of natural language sentences, including sentences they have never heard before.

Compositionality arguably is the best way of handling these features of natural language communication;<sup>14</sup> if so, the demand is that for a compositional account of sentence meaning.

But can such an account be incorporated into the Gricean framework? To make good on the claim that the fundamental concept of meaning theory is that of communicative or M-intention, the compositional account of sentence meaning itself would need to be formulated in Gricean terms. That is, we would need to be able to explain at least reference and predication in terms of M-intentions.<sup>15</sup> There is very good reason to doubt that this is feasible, however. Like any other compositional theory, such an account would have to contain axioms specifying reference for simple singular terms, and extensions for simple predicates. But the use of the very notions of communicative or M-intentions in these axioms will create intensional contexts.<sup>16</sup> Consequently, in such a theory, valid theorem derivation depends on prior relations of synonymy: Intensional axioms license substitutions only if they preserve meaning. Since it presupposes understanding of the very concept it is supposed to illuminate, it appears doubtful that such a theory can tell us very much about meaning.<sup>17,18</sup>

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<sup>14</sup> Cf. Pagin 2009.

<sup>15</sup> Grice's own attempt, in terms of resultant procedures, simply uses the semantic concepts of reference and satisfaction; cf. Grice 1968. It can thus not form the sought meaning-theoretical completion of intentional meaning theory. Schiffer (1972) and Bennett (1976), both inspired by Lewis's account in terms of convention (1969, modified 1975), provide Gricean alternatives.

<sup>16</sup> Cf. Taylor 1982. Taylor uses Schiffer's (1972) version of a Gricean account as his example account.

<sup>17</sup> Even anti-reductivists about meaning (see above, footnote 3) should not be happy with so blatant, or 'narrow', a theoretical circularity.

<sup>18</sup> Davidson 1967, 22f, argues that the theorems delivered by a compositional meaning theory for precisely this reason cannot be of the form 'S means that p'. See also below, footnote 28.

There is thus reason to think that Strawson was wrong: It does not look as if intentional accounts could provide meaning theoretical foundations.<sup>19</sup> Nevertheless, it remains of course true that the mere truth conditional form of a semantic theory does not, by itself, tell us anything about how the truth predicate is to be interpreted. Moreover, it is not clear that truth ultimately can be understood in terms not involving meaning. And that brings us to the first part of the Strawsonian challenge: The challenge to say something interesting about truth without begging any meaning-theoretical questions.

Contemporary theories of truth can roughly be categorized by means of their answers to the following two questions: First, is truth a substantive property? And second, if yes, is it an epistemic or a non-epistemic property? Redundancy theorists and deflationists deny that truth is a substantive property. Epistemic theories hold that it is a substantive, but in principle epistemically accessible property. Epistemicism about truth is often also called ‘anti-realism’. Realists about truth hold that truth is a substantive property independent of our beliefs and cognitive abilities.

Epistemic conceptions of truth have been thought of as motivated by meaning theoretical concerns. Michael Dummett suggests to account for meaning in terms of verification instead of truth (see below, section 5), and argues that, on such an account, the notion of truth must be explained “in terms of our capacity to recognize statements as true” (Dummett 1976, 75). Inspired by the later Wittgenstein, philosophers such as Crispin Wright have argued that, on pain of the kind of meaning Platonism attacked by Wittgenstein in the rule-following considerations (esp. PI 138-242), meaning has to be understood in terms of an epistemic concept of truth (cf. Wright 1980). Anti-realism about truth strikes many as having

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<sup>19</sup> It could be argued that there is some sort of mutual dependence between truth conditional and intentional accounts of meaning: each is in need of supplementation, more precisely, in need of the kind of supplementation the other could provide. For an argument to this effect, see Rumfitt 1995.

very counterintuitive consequences, however; Michael Dummett, for instance, argues that sentences about the past are made true not by past facts in themselves but by what is presently known or knowable. He is one of the few anti-realists who embrace this consequence; others, like Wright, argue against this actually being a consequence of anti-realism (cf. Wright 1986).

Dummett also argued that redundancy theorists and disquotationalists cannot understand meaning in terms of truth conditions (cf. Dummett 1959, 7). Both hold that ‘‘p is true’’ means the same as ‘p’; disquotationalists claim that there is nothing more to the truth predicate than its function as a device of disquotation<sup>20</sup> or ‘semantic ascent’, a device of ‘‘replacing talk about the world with logically equivalent talk about words’’ (Williams 1999, 547).<sup>21</sup> Such a device adds expressive resources to a language since it allows speakers to endorse things they cannot directly assert.<sup>22</sup> Nevertheless, ‘‘the function of truth talk is wholly expressive, thus never explanatory’’ (ibid.). Most deflationists agree with Dummett and take this to imply that meaning cannot be explained in terms of truth (cf. for instance Horwich 1990, 71 ff). More precisely, problems arise as soon as the deflationist tries to account for certain uses of the truth-predicate, uses exemplified by T-sentences: metalinguistic ascriptions of truth to sentences of an object language not identical with the metalanguage. Since the correct application of the truth predicate here depends on translation, the disquotationalist cannot use T-sentences to simultaneously explain what it is for object language sentences to have meaning and to explain how the (metalinguistic) truth predicate functions (cf. Patterson 2005).

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<sup>20</sup> ‘‘Disquotation’’ because the truth predicate works like this: predicated of a quoted sentence the result has the same meaning as the ‘disquoted’ sentence, i.e. the sentence without the quotation marks.

<sup>21</sup> Cf. Patterson 2005, however, for a more careful characterization of the nature of the equivalence.

<sup>22</sup> Thus, I might for instance use ‘Fermat’s last theorem is true’ to assert that Fermat’s last theorem is true even though I don’t remember the theorem.

Davidson originally thought that Tarski-theories in fact provided some sort of correspondence theories of truth (cf. Davidson 1969), but later argued that this was a mistake (cf. 2005, 38ff, esp. fn 4). He came to think that truth cannot be defined at all, not even in the ‘minimalist’ way the deflationists favour, and that the only way to say something revealing about the concept of truth is by tracing its relations to concepts equally fundamental and beyond definition (cf. Davidson 1996, 20f).<sup>23</sup> He suggested that even though often beyond recognition, truth is essentially related to the propositional attitudes: The truth predicate gets interpreted only through the ‘pattern’ truth makes amongst the attitudes, including speech and action, and their causes. It has empirical content precisely because t-theories can be applied to intentional creatures, can be correct or incorrect for a speaker, or group of speakers: “If we knew in general what makes a theory of truth correctly apply to a speaker or group of speakers, we could plausibly be said to understand the concept of truth” (Davidson 2005, 37). Given our overall meaning theoretical project, we cannot take meanings for granted in characterizing truth, however. We must, that is, find a way of relating truth to the very same non-semantic data about speakers’ behaviour in observable circumstances that according to Davidson provide the determination base for meaning, or content in general: “I therefore see the problem of connecting truth with observable behaviour as inseparable from the problem of

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<sup>23</sup> Some disquotationalists argue that Davidson is mistaken in taking himself to explain meaning in terms of truth (cf. Williams 1999; Kölbel 2001): In a Davidsonian framework, only considerations of radical interpretation, i.e. meaning determination on the basis of the ultimate evidence, go into this explanation, they claim. Radical interpretation, however, does not (Williams), or need not (Kölbel), involve (a substantive notion of) truth. This might be partly a terminological dispute concerning the use of the term ‘explanation’. What seems right is that the method of radical interpretation, as used for constructing a T-theory, is neutral on the interpretation of the truth predicate. It would not be right, however, to conclude from this that the very choice of formal semantics does not have any meaning theoretical significance. Radical interpretation, if possible at all, would look very different if what the radical interpreter had to construct was a proof theoretic semantics. That truth is the basic semantic concept thus remains an important part of the Davidsonian ‘explanation’ of meaning.

assigning contents to all the attitudes” (Davidson 1996, 37). Ultimately, then, belief and truth are part of a set of basic, irreducible, and interdependent concepts capturing what’s essential to intentional minds. Their empirical content derives from the metaphysics of content determination. According to Davidson, content is determined on the basis of non-semantic facts, more precisely, facts about observable behaviour in observable circumstances, by means of the ‘principle of charity’. It requires “assigning truth conditions to alien sentences that make native speakers right when plausibly possible” (Davidson 1973, 137). As a principle of content determination in general, charity requires the beliefs of intentional creatures to be minimally coherent, rationally connected with desires and actions, and, in the most basic cases, ‘about’ the objects which typically cause them (cf. Davidson 1991).<sup>24</sup> Because of its non-semantic determination base, content determination by charity thus allows us to say something revealing also about truth: “by relating it to concepts like belief, desire, cause and action” (Davidson 1996, 21). On a Davidsonian picture, Strawson was right insofar as truth cannot be characterized in complete independence from human intentionality. This does not mean, however, that it cannot be characterized without any meaning theoretically question-begging use of the notion of (assertoric) content.<sup>25</sup>

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<sup>24</sup> For more on the principle of charity as the general principle of content determination in Davidson, and its epistemic and modal status, cf. Glüer 2006; 2007; Pagin 2006b.

<sup>25</sup> Thus, Davidson always insisted that “truth is one of the clearest and most basic concepts we have” (2005, 55) and that “meaning not only is a more obscure concept than that of truth; it clearly involves it: if you know what an utterance means, you know its truth conditions” (1996, 37). This goes together with the claim that truth is one of a set of interdependent concepts endowed with empirical content by content determination: The overall ‘theory’ being interpreted by its relation to the non-semantic evidence uses the concepts of belief and truth, but not those of meaning and content. The relevant concept of belief for instance could be characterized as intentional, but not intensional – it is that of a propositional attitude individuated as an attitude in abstraction from any particular propositional content (cf. Davidson 2005, 67). And the same holds for the other elements of the basic ‘intentional set’ – belief, desire, speech, and action.

#### 4. Intensionality and Indeterminacy

Another important challenge to truth conditional semantics questions the very idea that truth conditions ever can do the job of meanings. Meanings might determine truth conditions, but not the other way around; there are, the argument goes, simply not enough truth conditions around to do duty as meanings. A maybe slightly different worry can be put in terms of T-theories: All we can require of their theorems is that they be true. But what reason is there to expect true T-sentences to capture meanings?

As Davidson himself points out, a T-sentence such as

(G) 'Snow is white' is true iff grass is green,

while true, certainly does not specify the meaning of 'snow is white' in English (cf. Davidson 1967, 25). Let's call T-sentences that specify meanings 'interpretive', and T-sentences that do not, 'non-interpretive'. T-theories implying non-interpretive T-sentences like (G) can be excluded because a T-theory is correct for a language  $\underline{L}$  only if it implies a true T-sentence for every sentence of  $\underline{L}$ . A T-theory implying (G) will most probably have other consequences such as that 'that is white' is true iff the demonstrated object is green, or that 'that is snow' is true iff the demonstrated object is grass. Therefore, no reasonably simple theory implying (G) is such that it implies a true T-sentence for every sentence of the language, Davidson claims (Davidson 1967, 26, fn. 10).

The problem is more serious than that, however: Intuitively, there are numerous non-interpretive T-sentences the truth of which depends on nothing but the co-extensionality of non-synonymous predicates such as

(C) 'Pigs are renate' is true iff pigs are cordate.

In response, Davidson stressed the empirical nature of semantic theories. It is an empirical question whether a T-theory is correct for a particular natural language or not. That means,

Davidson argues, that its theorems are law-like statements: They formulate natural laws, and therefore must not only be true, but also counterfactual supporting. Thus, for instance, (C) would have to be true even under counterfactual circumstances where it is not the case that creatures with a liver also possess kidneys. This, he argues, goes at least some way towards distinguishing between non-synonymous, but co-extensional expressions (Davidson 2005, 54). Still, it is far from clear that sufficiently fine-grained distinctions in meaning can be achieved this way; necessarily co-extensional, but arguably non-synonymous predicates such as ‘triangular’ and ‘trilateral’, for instance, cannot be distinguished this way?<sup>26</sup>

Problematic are also all those non-interpretive true T-sentences that result if the right hand side of an interpretive T-sentence is replaced by something necessarily equivalent with it, as illustrated by the following pair:

(S) ‘Snow is white’ is true iff snow is white.

(S’) ‘Snow is white’ is true iff snow is white and two plus two equals four.

For any such pair of T-sentences, both are implied by exactly the same t-theories. Here, Davidson invokes the idea of a canonical proof: Only T-sentences derived by means of a canonical proof are interpretive, he claims, i.e. only T-sentences that can be directly derived from the relevant axioms alone.<sup>27</sup>

Besides those of a formal nature, there are, according to Davidson, empirical constraints on acceptable t-theories. As we saw, these are empirical theories, and as such to be holistically confirmed by the available evidence; the correct T-theory is that which achieves the overall ‘best fit’ with the data (1973, 136). T-theories can thus be ranked by how well they

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<sup>26</sup> Even if we conclude, however, that only semantic theories working with more fine-grained intensions will come sufficiently close to our intuitive synonymy judgments, this is not a problem such theories won’t have. Possible worlds semantics, for instance, cannot by itself capture differences between necessarily equivalent predicates, either. Nor does it achieve the fineness of grain intuitively required by attitude ascriptions.

<sup>27</sup> A classic source for these problems is Foster 1976. See also Davidson 1976, Soames 1992.

fit the data, and the principle governing this ranking is, again, the principle of charity: The most charitable theory is also the best. Charity thus places massive empirical restrictions on acceptable T-theories.

Taken together, Davidson claims, the formal and empirical constraints on acceptable T-theories are strong enough to let only those pass that actually can be used to interpret the speakers of L.<sup>28</sup> Nevertheless, it is unlikely that they will narrow the number of acceptable T-theories down to one. There might well be more than one theory fitting the evidence to an equal degree. Davidson considers such theories as empirically equivalent, and he holds that any such theory can be considered as a correct meaning theory for L. From his Quine-inspired perspective on meaning determination, what cannot be determined about meaning from the evidence available in radical interpretation simply is indeterminate.<sup>29</sup> This indeterminacy, Davidson argues, is rather harmless, however; it is analogous to that between measuring temperature in degrees Fahrenheit or Celsius. Nothing significant is lost by switching between scales like that (cf. Davidson 1977, 225). Both the extent to which this analogy succeeds and

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<sup>28</sup> It has been observed that, once we have an interpretive T-theory, we can go one step further and from each of its T-sentences derive a sentence explicitly stating what object language sentences mean (see, for instance, Kölbel 2001). Kölbel argues that we even could incorporate this step into our formal semantic theory (618ff). That is mistaken. Incorporating inference rules into the T-theory that would license the derivation of 'meaning theorems' would be possible only if all the constraints on interpretive T-theories would be purely formal. Davidson is very clear, however, that both formal and empirical constraints are required. The possibility of deriving 'meaning theorems' from an interpretive T-theory does not imply that using it to illuminate the nature of meaning would be question-begging, or theoretically circular, either. Whether or not we derive 'meaning theorems' from it, all the explanatory work is done by the inner workings of the T-theory together with the formal and empirical restrictions placed on it.

<sup>29</sup> Cf. Quine 1960, chapter 2.

the extent to which indeterminacy can ever be an acceptable consequence, rather than a reductio ad absurdum, of a meaning theory remain matters of dispute, however.<sup>30</sup>

## 5. Meaning and Understanding

Frege, Wittgenstein, and Davidson all initially think of meaning in terms of truth conditions because of the link between understanding, or knowing, the meaning of a sentence and its truth condition. The philosopher of language who probably has made most of this link, however, is Michael Dummett. Like Davidson, he was convinced of the crucial meaning theoretic significance of the form our semantic theory, but he also was convinced that truth cannot be the fundamental semantic concept. Rather, this role has to be given to a notion like proof, warranted assertibility, or falsifiability (cf. Dummett 1976) – precisely because the ultimate goal of a theory of meaning is a theory of understanding:

To grasp the meaning of an expression is to understand its role in the language: a complete theory of meaning for a language is, therefore, a complete theory of how the language functions as a language. (...) [A] theory of meaning is a theory of understanding; that is, what a theory of meaning has to give an account of is what it is that someone knows when he knows the language, that is, when he knows the meanings of the expressions and sentences of the language (Dummett 1974, 2f).

Dummett, that is, conceives of linguistic competence as a form of knowledge, and of the theory of meaning as the object of this knowledge.<sup>31</sup> Language use, he emphasizes, is an

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<sup>30</sup> For further discussion, see Lepore & Ludwig 2005, II.15.

<sup>31</sup> Most of this knowledge has to be construed as implicit knowledge. Dummett repeatedly struggles with the precise characterization of such knowledge – on the one hand, it cannot be propositional in character, but on

essentially rational activity. It is rationally motivated by our knowledge of meaning. Just like knowledge of any other subject matter, knowledge of meaning joins forces with our wants and desires to provide reasons for action, linguistic or otherwise. This essentially rational character of language use, Dummett claims, requires the theory of meaning to be a theory of understanding.

Moreover, only a ‘full-blooded’ – as opposed to ‘modest’ – theory of meaning can hope to be a theory of understanding (Dummett 1974, 4ff). A full-blooded theory of meaning must “in explaining what one must know in order to know the meaning of each expression in the language, simultaneously explain what it is to have the concepts expressible by means of that language” (ibid., 4). A modest theory, on the other hand, only gives “the interpretation of the language to someone who already has the concepts required” (ibid., 5). The force behind the demand for full-bloodedness derives from the claim that there are any number of concepts that only language-users can have. Amongst the most important of these are concepts like those of expressing a thought or asserting that *p*. In order to fully understand meaning and language use, then, we must, in our meaning theory, not make use of any such concepts. And that, in turn, means that we must explain what it is to meaningfully use linguistic expressions without presupposing the ideas of expressing thought contents and possessing concepts. As McDowell explains,

“[t]here is indeed a connection with the question how concepts might be imparted; but it is not that a subject ought to be able to acquire the concepts expressible in the language by being told what the theory states, but that, if the description of linguistic practice does what is required of it, a subject can acquire those concepts

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the other it cannot be a merely practical ability such as the ability to ride a bicycle, either. Cf. esp. Dummett 1978.

by achieving mastery of the practice that the theory describes” (McDowell 1997, 109).

On the basis of these demands, Dummett presents the truth-conditional semanticist with a basic dilemma: If a T-theory is used to specify truth conditions, the account of meaning thereby given either remains modest, or it has to go holistic. Neither option is any good (cf. Dummett 1974, 20).

Taken individually, Dummett argues, the theorems of a T-theory for a language L do not tell us any more than a translation manual for L would; to understand L you either need to know the meta-language, or the language that L is translated into, in advance. Consequently, a T-theory does not provide more than a modest theory of meaning. But trying to escape this consequence by taking the theory as a whole to model linguistic competence is to jump from the frying pan into the fire, according to Dummett. ‘Going holistic’ in effect amounts to giving up on a systematic account of linguistic competence altogether. “On such an account”, Dummett argues,

there can be no answer to the questions what constitutes a speaker’s understanding of any one word or sentence: one can say only that the knowledge of the entire theory of truth issues in an ability to speak the language (ibid., 16).

But this is precisely what we need to have a theory of understanding: For each particular word or sentence, we need to be able to say what constitutes understanding that very word or sentence. That holism cannot be an answer here, becomes manifest in the consequences Dummett takes semantic holism to have for language learning. It basically makes language learning completely mysterious, if not impossible: “[O]n a holistic view, it is impossible fully

to understand any sentence without knowing the entire language” (Dummett 1976, 44). A theory of understanding, Dummett argues, therefore can only be given if language is ‘molecular’: If there is, for every sentence  $s$  of a language  $L$ , a limited fragment of  $L$  understanding of which suffices for understanding  $s$ . Only then is there any hope of providing a full-blooded theory of meaning.

But this way out is not open to the truth conditional semanticist. For even though the meaning of many sentences can be learned through verbal explanations, this cannot be the most basic form of language learning. Therefore, even though knowing the meaning of many sentences can be understood in terms of the ability to understand their verbal explanations, a speaker’s

understanding of the most primitive part of the language (...) cannot be explained this way: if that understanding consists in a knowledge of the truth conditions of sentences, such knowledge must be implicit knowledge, and the theory of meaning must supply us with an account of how that knowledge is manifested” (ibid., 45, *emph. mine*).

It is this requirement, often called the ‘manifestation requirement’, on which the truth conditional account ultimately falters, according to Dummett. For “natural language is full of sentences which are not effectively decidable, ones for which there exists no effective procedure for determining whether or not their truth conditions are fulfilled” (ibid., 46). Examples of such sentences are sentences quantifying over infinite or unsurveyable domains, subjunctive conditionals, or certain sentences about the future or the past. For such ‘verification transcendent’ sentences, Dummett submits, “there is no content to an ascription

of implicit knowledge of what [their truth-condition] is, since there is no practical ability by means of which such knowledge can be manifested” (ibid., 46).

Dummett therefore comes to the conclusion that the basic semantic notion cannot be truth.<sup>32</sup> He considers two alternatives: verificationism or falsificationism (cf. Dummett 1976, 62ff). According to verificationism, understanding consists in the ability to recognize the conditions under which a sentence is verified, and according to falsificationism it consists in the ability to recognize the conditions under which it is falsified. Dummett argues that the verificationist conception of the meaning of mathematical sentences that has been developed within the intuitionistic tradition provides us with a good model for a general verificationist semantics (cf. Dummett 1976, 70f). The basic semantic notion thus becomes that of proof. Knowledge of the meaning of a sentence then consists in being able to tell for any given object a, whether the property a is a proof of y does, or does not, apply to it.

For a proof-theoretic semantics to apply to natural language in general, we need an understanding of what ‘proofs’ of non-mathematical statements consist in. The basic idea would be to use related, more general notions such as that of warranted assertibility, and to think of meaning in terms of the conditions under which inferences from given premises are valid in a broader sense. Nevertheless, it remains far from clear that proof theoretic semantics can be extended so as to cover sufficiently large fragments of natural language. A related, but no longer verificationist idea would be to conceive of meaning entirely in terms of inferential connections, and to use inferential role as the basic semantic concept.<sup>33</sup>

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<sup>32</sup> It is sometimes assumed that Dummett’s arguments only establish that the basic semantic concept cannot be ‘bivalent’ truth, or truth as ‘realistically’, or non-epistemically, understood. This is mistaken; even if we define being true as, for instance, having a proof, meaning could not consist in truth conditions: For even though the property of being a proof is a decidable one, the property of having a proof is not. Cf. Pagin 1998.

<sup>33</sup> For more on this, see Greenberg & Harman 2006, Peregrin 2008.

Most importantly, however, Dummett's charge that truth conditional semantics is doomed to remain modest can be disputed. McDowell, for instance, argues that modesty is a virtue, not a vice. According to him, the holistic nature of meaning and mind precludes anything but a modest theory of meaning. This, however, does not prevent us from gaining philosophical insights into understanding meaningful use of language; such understanding, he submits, needs to be conceived of as not requiring any kind of 'interpretation', but as an acquired ability to literally hear another's meanings in their words (cf. McDowell 1987).

More substantively, the consequences Dummett charges semantic holism with can be disputed. According to Dummett, such holism makes language acquisition impossible, but this charge is justified only for certain versions of semantic holism. Davidsonian semantic holism, for instance, does not have this consequence: According to Davidson, meaning is determined by the principle of charity on the basis of non-semantic facts about sentences held true under observable circumstances. The principle of charity induces a many-one determination relation between these non-semantic facts and meanings, thus preventing the holism from implying that every new acquisition of a word changes the meaning of every other expression (cf. Pagin 1997; 2006a). Davidson himself and others have argued that meanings can be partially acquired (cf. Davidson 1965). The idea, then, that a truth-conditional formal semantic theory, be it of the T-theoretic or possible-worlds kind, can holistically model linguistic competence might after all turn out to be a viable answer to one of the foundational questions of philosophical meaning theory.<sup>34</sup>

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<sup>34</sup> I would like to thank Peter Pagin and the editors of this volume for helpful comments. The latter also provided the basic outline of this chapter.

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