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TRANSLATIONAL SEMANTICS*

David Lewis has criticized semantic theories which assign meanings to sentences of a language L by translating them into some other language L^*. Even if L^* has been expressly designed to exhibit semantic features, he thinks such a theory would nevertheless fail to be a theory of meaning for L. His primary target is Katz and Postal's theory which he claims interprets English by translating it into a symbolic language he calls "Semantic Markerese." The objection is that:

... we can know the Markerese translation of an English sentence without knowing the first thing about the meaning of the English sentence: namely, the conditions under which it would be true. Semantics with no truth conditions is no semantics.[1]

Clearly, Lewis thinks that an adequate semantics for L must assign to the (indicative) sentences of L their *truth-conditions* and that translational semantics fails to do this.

Jerry Fodor and Gilbert Harman have each responded to Lewis' criticism by arguing that Lewis overstates the difference between translational semantics and truth-condition semantics.[2] Fodor parries the criticism by arguing that Lewis' objection applies equally to truth-condition theories. Harman agrees and further claims to have shown how to convert a translational semantics into an "equivalent" truth-condition semantics. He also argues that truth-conditions have less to do with meaning than is commonly supposed and that truth condition semantics illuminates meaning not by assigning truth-conditions but through exhibiting the role of logical words "and," "or," etc. in its recursion clauses.

A number of other authors have agreed with Harman and Fodor in seeing little difference, if any, between specifying meaning by translation and specifying meaning in terms of truth-conditions.[3] In this paper we argue that all these authors have misunderstood Lewis' objection. We will show that at least with respect to one task semantics is reasonably called on to perform, there is an important difference between truth-condition semantics and translational

semantics. By focusing on this task we will not only explain why translational semantics is inadequate but also provide a partial justification for the slogan that to give the meaning of a sentence is to give its truth-conditions.

What should a semantics for a language L accomplish? There is no uniquely correct answer to this question. Here are some: it should show how the meanings of complex expressions depend on the meanings of their constituents; it should account for logical and other semantic features of a language (like logical consequence, logical truth, synonymy, analyticity, and so on); it should provide an account of how the illocutionary force of an utterance is determined on the basis of its semantical features and context. These are worthy undertakings. Here we will focus on a task that is related to these but is relatively simple. Consider the following simple communication episode.

> Arabella looks out the window, turns toward Barbarella and asserts in their common language L these words: "Es schneit." Barbarella hears these words and justifiably acquires the belief that it is snowing.[4]

Suppose that someone, we will call him Interpretor, witnesses the scene described. Further suppose he later discovers that Barbarella came to justifiably believe that it is snowing upon hearing Arabella utter "Es schneit." However, he was not himself justified in this belief upon hearing Arabella's utterance because he does not understand L.

A natural way of characterizing the difference between Barbarella and Interpretor is that she has knowledge through understanding L which he lacks. If it is propositional knowledge which distinguishes her from him and which characterizes her understanding of L, it must be enormously complicated. In our episode, e.g., it is plausible that Barbarella knows that "Es schneit" is a sentence of L, that Arabella asserted that it is snowing, that her utterance means that it is snowing, etc. For the purpose of this paper we will assume that Barbarella's understanding of L does consist, at least in part, of her having certain propositional knowledge. We want to focus on a part, an especially significant part, in particular, the knowledge which warrants Barbarella's belief that it is snowing on the basis of her belief that Arabella asserted the words "Es schniet."

In our scenario we isolated one of Barbarella's beliefs as requiring justification and neglected any other she may acquire. But, of course, she may acquire beliefs other than it is snowing on the basis of Arabella's utterance, e.g., that it is cold outside, that the university will close, etc. Interpretor will not know beforehand which of these belief acquisitions needs to be justified by citing her non-semantic as well as her semantic knowledge. For our purposes there need not be a sharp distinction between these two sorts of knowledge. However we make the distinction (or even if we do not make it) it appears that some knowledge about their common language will be required to justify many of the indefinite number of beliefs Barbarella may acquire on the basis of Arabella's utterances. We begin by supposing that Barbarella justifiably believes that Arabella is a speaker of L and is, in this instance at least, reliable (i.e., whatever Arabella asserts is usually true). On the basis of this and her belief that Arabella asserted "Es schneit" she is justified in believing that "Es schneit" is true. What additional knowledge would justify her concluding that it is snowing?

A short answer is that her knowing the meaning of "Es schneit" justifies her believing that it is snowing. But this answer, though perhaps correct, is unilluminating in this context since it does not *specify* the meaning of "Es schniet" in a way that Interpretor can discern it. If Interpretor already understood Arabella's language then the short answer would explain to him why Barbarella is justified in believing that it is snowing. But we have assumed he does not understand L. Knowing our short answer puts him in no better position to explain why Barbarella is justified in interpreting any particular sentence, e.g., "Es schneit" as it is snowing.[5] How then should Barbarella's knowledge be specified?

Katz and Postal's translational semantic suggests one kind of specification. For our purposes it is not important to discuss in any detail how their theory develops. Suffice it to say that Lewis thinks semantic interpretation within this theory ultimately involves translating natural language sentences into sequences of objects called "semantic markers."[6] That is to say, their theory ultimately issues in consequences which express translations between an expression of a natural language and an expression of Semantic Markerese. The kind of specification of Barbarella's knowledge this account suggests is that she knows that "Es schneit" translates as M (where M is a

sentence of Semantic Markerese). But Barbarella's knowing this does nothing to justify her belief that it is snowing. To see that this is so, note that the following inference is invalid:

> "Es schneit" is true.
> "Es schneit" translates as M.
> It is snowing.

Clearly, "it is not snowing" is logically compatible with these premises. It is perfectly possible for the words uttered by Arabella, "Es schneit" to be true and for it not to be snowing. Of course, such a possibility would be one in which "Es schneit" has a meaning different from the meaning it has. We cannot assume that it has the meaning it has since it is the meaning of "Es schneit" that we are attempting to specify.

The trouble with specifying meaning by translation is that knowing "Es schneit" translates as M does not warrant the belief that it is snowing on the basis of the belief that "Es schneit" is true. We think it is precisely this point that is the crux of Lewis' objection to translational semantics.

If knowing that "Es schneit" translates as M does not suffice to justify Barbarella's belief that it is snowing, what knowledge will? Suppose we attribute knowledge to Barbarella that "Es schneit" means that it is snowing. The reasoning that would justify her believing that it is snowing from "Es schneit" is true is now clear:

(1)   "Es schneit" is true.

(2)   "Es schneit" means that it is snowing.

(3)   If a sentence S means that p and S is true, then p.

(4)   It is snowing.

The third premise bridges the gap between meaning and truth; without it both these concepts lie idle. Given that Barbarella knows (or believes) these premises she is justified in believing that it is snowing. Note, however, that something less than her knowing that (2) and (3) would suffice to justify her belief that it is snowing. If (2) and (4) are replaced by:

(2')   "Es schneit" is true if and only if it is snowing;

then the resulting argument is still valid.

Replacing (2) and (3) by (2′) might be thought to be advantageous at least by those who consider truth a clearer semantical concept than meaning. For our purposes in this paper it is enough to observe that both (1)–(3) and (1)–(2′) provide justification for (4). Whether or not knowledge of truth conditions is all there is to knowing the meaning of a sentence is a question which we will return to at the end of this paper.

The question, What knowledge justifies Barbarella's belief that it is snowing on the basis of her hearing Arabella's utterance "Es schneit" has served as a magnifying glass to make obvious the difference between translational and truth-condition semantics. We now want to diagnose Fodor's and Harman's responses to Lewis.

Fodor and Harman seem to claim that Lewis' objection that one can know the Markerese translation of an English sentence without knowing the first thing about its meaning applies equally to Lewis' own truth condition account:

This will hold for absolutely any semantic theory whatever so long as it is formulated in a symbolic system, and of course, there is no alternative to so formulating one's theory. We're *all* in Sweeney's boat; we've all gotta use words when we talk. Since words are not, as it were, self-illuminating like globes on a Christmas tree, there is no way in which a semantic theory can guarantee that a given individual will find its formulas intelligible.

So, the sense in which we can "know the Markerese translation of an English sentence without knowing ... the conditions under which it would be true" is pretty uninteresting.[7]

... there is a sense in which a theory that would explain meaning in terms of truth conditions would be open to Lewis' objection to Katz and Postal's theory of semantics markers. Lewis says, you will recall, "But we can know the Markerese translation of an English sentence without knowing the first thing about the meaning of the English sentence: namely, the conditions under which it would be true." Similarly, there is a sense in which we can know the truth conditions of an English sentence without knowing the first thing about the meaning of the English sentence. To borrow David Wiggin's example, we might know that the sentence "All mimsy were the borogroves" is true if and only if all mimsy were the borogroves. However, in knowing this we would not know the first thing about the meaning of the sentence, "All mimsy were the borogroves."[8]

Apparently Fodor and Harman construe Lewis as saying that one must understand the language in which the canonical representation is expressed before one can use the semantic theory to determine what the represented sentence means – and this is a problem any semantic

theory must face. For example, one must understand the English sentence:

> "Es schneit" translates "it is snowing"

if this sentence is to provide one with an account of the meaning of "Es schneit." Similarly, one must understand

> "Es schneit" is true if and only if it is snowing

if this sentence is to provide an account of the meaning of "Es schneit." If knowledge is stated in a language which Interpretor does not understand then that statement of the knowledge is *useless* to him.

This is certainly correct but Lewis' point is not this obvious one; instead Lewis is arguing that someone who understands a translation and knows it to be true need not know the meaning of the sentence of the translated language. It is just this we established when we argued that attributing to Barbarella the knowledge *that* "Es schneit" translates as *M* does nothing to justify her belief that it is snowing.

Because a number of writers have been misled on this point we will perhaps be forgiven for belaboring it. No one denies that I cannot understand sentence (5) unless I understand English.

(5)   The sentence "Es schneit" in German translates the sentence "it is snowing" in English.

Similarly, no one denies that I cannot understand sentences (6) and (7) unless I understant English.

(6)   The sentence "Es schneit" is true in German if and only if it is snowing.

(7)   The sentence "Es schniet" in German means that it is snowing.

But whereas knowledge that (5) [together with knowledge that (1) and (3) alone] does not justify Barbarella's belief that it is snowing, knowledge that (6) or that (7) does. In part, this is because knowledge that (6) or that (7) does not require any competence with English. Simply note that whereas (5)–(7) are all grammatical, the following sentence is not:

> The sentence "Es schneit" in German means that it is snowing in English.

I need not know any more English to know that (6) or that (7) than Galileo knew for us to truthfully say of him that he knew the earth is round. Moreover, as we have seen, knowledge that (6) or that (7), contrary to that (5), does help to complete the chains of reasoning we have been probing.

Harman also claims that "there is a sense in which we can know the truth conditions of an English sentence without knowing the first thing about the meaning of the English sentence." The example he borrows from Wiggins to show this is peculiar. Does he really mean that someone might know that "All mimsy were the borogroves" is true if and only if all mimsy were the borogroves? His example makes sense only if "All mimsy were the borogroves' is true if and only if all mimsy were the borogroves" is a sentence of English (or extended English); otherwise, the sentence which results from prefixing to it "Someone knows that" would be nonsense. But if it is a sentence of English then someone who knows what it expresses will be justified in believing that all mimsy were the borogroves when he hears "All mimsy were the borogroves" asserted by a reliable English speaker.

It is our guess that Harman confused this sentence with the sentence:

(8)   "'All mimsy were the borogroves' is true if and only if all mimsy were the borogroves" is true.

Of course, someone might know that (8) without knowing much about the meaning of "All mimsy were the borogroves" but then this knowledge does not attribute to him knowledge of truth conditions but the quite different knowledge that a certain English sentence is true.

Harman has another argument which is supposed to establish that truth-condition   semantics   and   translational   semantics   are "equivalent."

It is easy to see that a theory of meaning in this sense is equivalent to a formal theory of translation. Suppose that we have a formal procedure for translating a language L into *our* language. Suppose in particular that we have a recursive procedure for recognizing the relevant instances of "s (in L) translates into our language as t." Then we can easily formulate a recursive procedure for recognizing relevant instances of "s (in L) means p" or "s (in L) is true if and only if p" (where what replaces "s" is the same name of a sentence as what replaces "s" in the previous schema and what replaces "p" is the sentence named by what replaces "t" in the previous schema).

Then we treat each of the instances of one of the latter schemas as axioms in a formal theory of truth, since each of the infinitely many axioms in the theory will be formally specifiable and recognizable. Similarly, given a formal theory of truth or a formal theory of meaning in this sense, we can easily state a formal theory of translation. [our emphasis][9]

Harman's procedure for constructing a truth (or meaning) theory from a translation theory is this: suppose that TR is a translation theory which for each sentence s of L has a consequence of the form:

s (in L) translates a t (in L^*).

He assumes that L^* is *our* language, say English. Harman observes that anyone who understands English will for each sentence t know the truth of a sentence of the form:

t is true if and only if p;

where "p" is the sentence named by t. The truth-theory Harman constructs, T^*, results from adding to TR each instance of "t is true if and only if p."

We first observe that TR and T^* are neither equivalent as theories of meaning nor necessarily equivalent. Suppose that TR entails:

(9)   "Es schneit" translates as "it is snowing".

Then the corresponding T^* will entail:

(10)   "Es schneit" is true if and only if it is snowing.

We will assume that (9) implies

(11)   "Es schneit is true iff "It is snowing" is true.

Then Harman's claim restated is that (10) and (11) are necessarily equivalent. We have already argued that the knowledge expressed by (10) will, but the knowledge expressed by (11) will not, suffice to justify the belief that it is snowing on the basis of the belief that "It is snowing" is true given that "Es schneit" is true. Knowledge of what (11) expresses does justify the belief that "It is snowing" is true given that "Es schneit" is true but that is quite another matter. This is enough to show that a truth theory and the corresponding translation theory are not equivalent as theories of meaning. Using possible world machinery we can also see that (10)

and (11) are not necessarily equivalent. Sentence (11) (and (9)) is true at a world w at which "Es schneit" and "It is snowing" have the same meaning even if they happen to mean that the sun is shining. If the sun is shining at w then (11) is true at w but (10) is false at w since ""Es schneit" is true" is true at w but "It is snowing" is false at w. Of course if we restrict attention to worlds at which "Es schneit" and "It is snowing" are given their standard interpretation (that is as true iff it is snowing) then (10) and (11) are equivalent with respect to those worlds. But a theory of meaning is supposed to specify the interpretation of the sentences of a language. By restricting attention to worlds in which sentences have their standard interpretations we are, in effect, presupposing instead of giving that specification.

Although (10) and (11) are not equivalent it is not difficult to guess why Harman thinks they are. If

(12)   "It is snowing" is true iff it is snowing

were a necessary truth then (10) and (11) would be necessarily equivalent. Now it is very tempting to think that (12) is necessarily true. In defense of this it might be pointed out that (12) is a logical truth since it is true in virtue of its form. Any sentence of the form "'S' is true iff S" is true in virtue of the disquotational effect of the truth predicate. Even if (12) is a logical truth it does not follow that it is necessarily true. Its status is like that of "I am here now" a sentence which is arguably a logical truth but which expresses a contingent truth. For it is clear that (12) does not express a necessary truth since there are possible worlds in which the words "Its snowing" uttered by Arabella are true iff its not snowing. In response to this it might be replied "'Its snowing' is true-in-English iff its snowing" is a necessary (as well as logical) truth since in any possible world in which "Its snowing" has truth conditions other than that its snowing it is not a sentence of English (but of some other language).

While this manoeuvre may render a sentence which states truth conditions a trivial truth it is now far from trivial that a particular utterance of "It is snowing" is a sentence of English. It is a sentence of English iff the utterance is true iff its snowing. So for Arabella to know that a particular utterance of "Its snowing" is true-in-English she would have to know (or it would logically follow from what she knows) "It's snowing" is true iff its snowing and that, we have argued, is not at all trivial.

Our arguments have shown that a theory which specifies the truth conditions of the sentences of a language can serve to characterize part of the knowledge involved in understanding a language while a theory which specifies translation from one language to another cannot accomplish the same task. How far will a theory of truth take us toward specifying the meanings of a language? Farther than Harman thinks but perhaps not as far as some philosophers, e.g. Davidson, have hoped. Farther, because if our argument is correct then to know the meaning of a sentence of L involves being able to make the inference from the truth of the sentence to its truth conditions. There are other inferences that Barbarella can justifiably make from her belief that Arabella uttered "Es schneit." For example, she could naturally conclude that Arabella believes that it is snowing, perhaps using an argument like this:

(13)   Arabella utters "Es schneit";

(14)   If Arabella utters a sentence S then she believes that S is true;

so

(15)   Arabella believes that "Es schneit" is true;

(16)   Arabella believes that "Es schneit" is true iff it's snowing;

so

(17)   Arabella believes that it's snowing.

The key step in this argument is (16). An interpretor who attributed knowledge of what (16) expresses to Barbarella would be in a position to understand why she acquired the belief that Arabella believes that it is snowing after the latter uttered "Es schneit." It would be very nice if all of Barbarella's semantic knowledge of L were expressible as knowledge of truth conditions or knowledge that other users of L know the truth conditions of sentences of L (or know that users of L know that users of L ... know the truth conditions of the sentences of L). But this does not appear to be so. For example, Barbarella would be employing semantic knowledge to conclude from (13) that

(18)   Arabella asserted that it is snowing.

By employing what has been called 'a theory of force' (or rather by employing knowledge of certain consequences of a theory of force)

Barbarella could conclude that Arabella's utterance is an assertion. But how could she go from this conclusion to (18). Knowledge that "Es schneit" is true iff it's snowing is insufficient since Barbarella may also know that "It's snowing" is true iff the temperature is below 30 degrees (assuming, say that it's both snowing and the temperature is below 30 degrees on the occasion of the utterance) but she would not be entitled to conclude that Arabella asserted that the temperature is below 30 degrees. (Of course she would be entitled to conclude that the temperature is below 30 degrees. But there would be nothing wrong with her drawing this conclusion on the basis of her beliefs.) For similar reasons her belief that Arabella believes that "Es schneit" is true iff it's snowing does not entitle her to conclude (18). While we have no proof of this claim, what seems to be required is Barbarella's knowing that "Es schneit" (as uttered by Arabella on this occasion) *means that* it's snowing and her also knowing that if someone produces an utterance S which has the force of an assertion and the utterance means that p then that person has asserted that p. But this knowledge goes beyond knowledge of truth conditions and involves knowledge of meanings. Whether or not it is possible to construct a theory of meaning for a language L (a theory which entails for each sentence S of L a true sentence of the form 'S means that p') is an interesting and difficult question which we leave unanswered here.[11]

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NOTES

[1] Lewis, D., 'General Semantics,' *Semantics For Natural Languages*, eds. Davidson, D. and G. Harman, D. Reidel, Dordrecht, 1972, pp. 169–170. By a translation semantic theory for L, we mean a theory which entails for each sentence S' of L a sentence of the form: S in L translates as S^* in L^*. A truth condition semantic theory for L entails for each S a sentence of the form: S is true if and only if p.
[2] Fodor, J., The *Language of Thought*, Crowell, 1975; Harman, G., 'Meaning and Semantics' in *Semantics and Philosophy*, eds. M. Munitz and P. Unger, New York. University, Press, New York, 1974, and 'Three Levels of Meaning,' *Semantics*, eds. Steinberg, D. and I. Jakobovits, Cambridge University Press, 1971.

[3] E.g., Hartry Field, 'Logic, Meaning, and Conceptual Role,' *Journal of Philosophy* 74 (1977); Hilary Putnam, 'The Meaning of "Meaning"', in *Minnesota Studies in the Philosophy of Science*, vol. VII, ed. Keith Gunderson, University of Minnesota Press, Minneapolis,

[4] We use the expression "utters" in the present context (in contrast to "says that") in such a way that a speaker may utter (on a particular occasion) some words without her or our knowing what these words mean.

[5] Since Interpretor presumable understands some language, his knowing that the sounds Arabella makes have meaning and that Barberella knows these meanings certainly provides him with some understanding of why Barberella is justified in acquiring beliefs upon hearing Arabella's utterance. But this understanding does not derive from his knowledge of our short answer alone. This knowledge together with his prior knowledge about understanding a language provides him with whatever insight he has into Barberella's justification. But since this is so, it is inappropriate to exploit it in describing knowledge.

[6] Katz, J. and P. Postal, *An Integrated Theory of Linguistic Description*, MIT Press, Cambridge, Mass., 1964. These translations are constrained (this is the real reason for bringing them and the markers in at all) such that expressions in the natural language are mapped onto the same ordered sequence of semantic markers, anomalous expressions are not mapped onto any sequence of semantic markers, ambiguous expressions are mapped onto different sequences and so on. Taken together these semantic properties and relations provide a reasonably good initial conception of the subject matter of semantics. But our question is whether the theory devised to account for these can accomodate the range of semantic facts we are concerned with.

[7] A reason for not making the replacement is that while knowledge of (2') will suffice for justifying Barberella's belief that it is snowing, it is not sufficient to justify other beliefs that she apparently acquires on the basis of her understanding of *L*. For example, barberella also can come to believe that Arabella believes that it is snowing or that Arabella said that it is snowing. To be justified in concluding that Arabella said that it is snowing it appears that a premise like "'Es schneit' means that it is snowing" is needed. The inference would go like this:

> Arabella uttered "Es schneit"
>
> "Es schneit" means that it is snowing
>
> If someone utters *S* assertively and sincerely, and *S* means that *p*, then she says that *p*

> Arabella said that it is snowing.

The corresponding inference with truth is obviously false:

> If someone utters *S* assertively and sincerely and *S* is true if and only if *p*, then she says that *p*.

"$2 + 2 = 4$" is true if and only if snow is white. But in uttering "$2 + 2 = 4$" I say nothing about snow being white.

[8] Fodor, *ibid.*, pp. 120–21.

[9] Harman, 'Meaning and Semantics,' p. 6. Cf. also his 'Three Levels of Meaning,' p. 74.

[10] *ibid.*, p. 6.

[11] LePore argues for a theory of meaning of this kind in his 'The Concept of Meaning and Its Role in Understanding Language' (forthcoming).