'If Josef kills Leon, is Leon dead?'*

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If Josef kills Leon, is Leon dead? Little introspection is required to determine that he must be: 'Josef kills Leon' entails the death of the unfortunate Leon. A traditional account of this fact would be given by decomposing the meaning of 'kill' as in (1).[1]

(1) 'kill' = CAUSE TO DIE

As pointed out by Fodor (1975), the lexical decomposition theory of word meaning faces serious problems. One of the most obvious is the clear absence of definitions for most monomorphemic words. This has been demonstrated by Wittgenstein, in his famous discussion of the word 'game', and by the general failure of analytic philosophy. In the case of 'kill', for example, while every case of killing is a case of causing to die, not every case of causing to die is a case of killing.[2] Fodor proposed that, rather than being definitions, word meanings were atomic, as in (2).

(2) 'kill' = KILL

In order to account for the meaning relations between certain words, Fodor proposed 'meaning postulates' linking atomic concepts, as in (3)–(4):

(3) RED → COLOUR
(4) *x* KILL *y* → *y* DIE

(Although originally conceived of as axioms constraining the interpretation of a logic, I will follow Fodor 1975, and much work since, in viewing meaning postulates as inference rules.) Because these meaning postulates capture one-way entailment relations, they do not involve a commitment to lexical decomposition and avoid the problems of the decompositional approach, while still capturing intuitions of meaning relatedness.

In his recent work Fodor has rejected meaning postulates as a way of capturing meaning relations, because he sees no principled way of distinguishing meaning postulates from empirical knowledge. In fact, he claims (Fodor 1998) that the facts which meaning postulates are claimed to explain are not *semantic* at all—they are facts about what the words refer to, but they are not facts about the meanings of the words themselves. So, for example, while Fodor would not disagree that '*x* KILL *y* → *y* DIE' is necessary, he denies that it is semantic.

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[1] In fact, as Fodor et al. (1975: 526) point out, decomposing the meaning of 'kill' as in (1) is not sufficient to explain why '*x* KILL *y*' entails '*y* DIE', since we still need to explain the role of CAUSE ('*x* CAUSE *y* TO DIE' entails '*y* DIE', but this does not generalise: '*x* INTEND *y* TO DIE' does not entail '*y* DIE').

[2] Suppose Josef is the designer of a new light-weight ice-pick, and this design facilitates an assassination of Leon, then although Josef has in some sense caused the death of Leon, he has not thereby killed him.

For Fodor, it is not a fact about the meaning of the words 'kill' and 'die', but rather it is a fact about killing.

In this paper I present a number of arguments which suggest that Fodor is wrong to reject meaning postulates.

First, it is just not possible to completely eliminate meaning postulates. Almost everyone (including Fodor) agrees that we need meaning postulates to account for the meanings of logical words such as 'and', 'or' and 'not'. Fodor accepts that there are meaning postulates associated with logical words, but he rejects the idea that there are meaning postulates associated with non-logical words, as in examples (3) and (4). If Fodor wishes to maintain this position, it follows that he needs to be able to draw a clear distinction between the logical and non-logical vocabularies. But it is not possible to draw a clear distinction between the two.

Specifying the logical vocabulary

Fodor claims that "there is no reason at all to suppose that the logico-syntactic vocabulary is itself interdefined with the *non*-logical vocabulary" (Fodor 1994: 76, original emphasis). But there is no clear way of specifying the logical vocabulary. Fodor is not explicit about *which* words he takes to make up the logical vocabulary, but he seems to have in mind the standard propositional connectives ('and', 'or', 'not', and so on). There is no general agreement about which system of logic best captures natural language semantics, however. Most people would probably want to allow the standard quantifiers of predicate calculus into the logical vocabulary, but what about less obvious cases such as the following:

(5) non-standard quantifiers: 'many', 'several', 'few', 'most'
(6) modals and tense (for which logics have been developed)
(7) other seemingly 'logical' words such as 'either', 'both', 'other', 'else', 'except', 'besides' (we need to account for the entailment relation between 'both' and 'two', for example)
(8) numerals (to account for entailments such as '$nx\ Px \rightarrow \exists x\ Px$' or '$both\ x\ Px \rightarrow 2x\ Px$')

These examples show that it is not a straightforward matter to specify the logical vocabulary. At the very least, Fodor must give us some way of deciding these questions.

But, come to think of it, things are even worse for Fodor than this. Because there are some words which have *both* logical and non-logical properties, in which case it is just not possible to draw a distinction between logical and non-logical words. Many words support recognised logical inferences, but have non-logical meaning as well. Consider the example of 'inside' in (9)–(10) (cf. Sperber & Wilson 1995: 105).

(9) a. *x* is inside *y*
b. *y* is inside *z*

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(10) *x* is inside *z*

This is a valid inference, but 'inside' is clearly not part of the logical vocabulary, as such inferences do not exhaust its meaning.

Furthermore, some words have the logical properties of one or other of the logical operators, but also clearly have non-logical meaning. Consider the examples in (11).

(11) NOT: adjectives such as 'raw', 'dark' ('raw' entails 'NOT cooked')
AND: connectives such as 'since', 'because' ('*x* since/because *y*' entails '*x* AND *y*')
OR: 'sibling', 'unless' ('sibling' entails 'brother OR sister' and '*x* unless *y*' entails '*x* OR *y*')

In none of these cases do these logical properties ('not', 'and', 'or') exhaust the meaning of the word, so these words cannot be assigned to the logical vocabulary. The logical properties of these words must be accounted for, presumably in the same way as the corresponding logical operator, via inference rules. So they cannot be assigned to the non-logical vocabulary either.

A similar point can be made with regard to non-truth-conditional connectives such as those in (12).

(12) 'but', 'although', 'yet', 'even', 'notwithstanding', 'moreover', 'furthermore'

Are these logical or non-logical words? Most people agree that 'but' is logically equivalent to 'and', so that it would be governed by the same inference rules. Clearly 'and' and 'but' do not have the same meaning, however—in addition to its truth-conditional meaning, 'but' introduces some non-truth-conditional notion of 'contrast' or 'denial of expectation'. Here is another set of cases where the logical and non-logical vocabularies appear to be interdefined.

The only conclusion we can draw from this is that no distinction between the logical and non-logical vocabularies can be made. It follows that meaning postulates can neither be eliminated completely, nor confined to some specified logical vocabulary.

Accounting for meaning relatedness

For Fodor (1998), the meaning relations formerly captured by meaning postulates must now be seen as non-semantic (entertained, perhaps, as encyclopaedic knowledge of the world). But as Chomsky (1988: 31-34) has pointed out, it seems that some meaning relations have to be semantic, or conceptual. Consider his example of 'persuade'. If I persuade John to go to university, I must cause him to decide to go to university; if John at no point decides to go to university, then I have not persuaded him. But note that we cannot merely define 'persuade' as 'cause to decide', since I could cause John to decide to go to university without thereby persuading him (for example, if I caused him to decide through force, or by accident). It is, however, *surely* part of the meaning of 'persuade' that '*x* persuade *y* to *z*' entails '*y* decide to *z*'. Similarly, it is *surely* part of the meaning of 'kill' that '*x* kill *y*' entails '*y* die'.[3] If we reject meaning postulates, then we have no way of accounting for such meaning relations.

[3] Of course, the explanation for this is *conceptual*, not *linguistic*; 'kill' and 'persuade' in other languages behave similarly. The correct generalisation, then, is '*x* KILL *y* → *y* DIE' (following convention, concepts are referred to using small capitals).

So, Fodor must say that the validity of the inference '*x* kill *y* → *y* die', for example, does not turn on the meaning of 'kill', and that it would therefore be possible for someone to know the meaning of 'kill' without being disposed to make this inference. This seems implausible, to say the least. We would not attribute the concept KILL to someone if we were not also prepared to attribute the concept DIE to them. Similarly, if someone were not disposed to accept the inference from '*x* KILL *y*' to '*y* DIE', we would not be inclined to attribute the concept KILL to that person. This strongly suggests that there is a meaning relation between 'kill' and 'die'.

To summarise, I have looked at two kinds of argument in support of meaning postulates. First, meaning postulates are needed to account for the logical properties of certain words. Since it is not possible to make a distinction between the logical and non-logical vocabularies, it follows that we cannot confine meaning postulates to some specified 'logical vocabulary'. Second, rejecting meaning postulates forces Fodor to make a rather startling claim: that the validity of an inference such as 'Josef killed Leon so Leon is dead' does not turn on the meaning of 'kill' (or 'dead' or 'so', for that matter). I suggested that this claim is implausible. The conclusion is that, *pace* Fodor, meaning postulates must be retained.

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