Is *Even* Thought Compositional?

1. Introduction

Fodor has endorsed the following argument for the thesis that the semantic content of *language* is dependent upon the semantic content of *thought*, or as he puts it that thought content "comes first in the order explanation of content" (2001, p. 10):

> [1] As between thought and language, whichever is compositional is the one that has content in the first instance.
> [2] The evidence strongly suggests that language is not compositional.
> So,
> [3] unless the evidence is misleading, it's thought, rather than language, that has content in the first instance. (2001, p. 14).

The argument has attracted a lot of attention, and most of the attention has focused on premise [2]. Indeed, independently of Fodor's argument there has been, and continues to be, a long-standing debate among philosophers of language concerning [2]. Many philosophers of language, those who endorse some version of *radical pragmatics*, maintain, roughly, that the nearly ubiquitous *context sensitivity* of natural language is incompatible with the truth-conditional compositionality of natural language.[1] But others, those who endorse either *minimal semantics*[2] or *contextualism*[3], attempt to reject [2] by explaining away the sort of empirical evidence Fodor describes. I agree with Fodor with regard to premise [2]; I endorse Fodor's claim that language is not compositional. What I will focus

[1] Paradigmatic defenses of various forms of *radical pragmatics* include Bach (1994), Carston (2002), Neale (2004) and Recanati (2004). For my purposes here I include *dynamic semantics*, *relevance theory*, and even *semantic relativism* as versions of radical pragmatics. What all of these theoretical perspectives have in common is the rejection of the traditional view that natural languages are *truth-conditionally compositional*.

[2] Cappelen and Lepore (2005) present a thorough minimalist response to several alleged counterexamples against truth-conditional compositionality. Also see Borg (2004).

[3] See Szabó (2001) for a paradigmatic contextualist defense of the claim that language is truth-conditionally compositional from Travis' alleged counterexample. Another paradigmatic defense of contextualism is presented in Stanley (2000).

on instead is premise [1]. Note that [1] entails, or better *presupposes*, a more fundamental claim:

[1*] As between language and thought, *at least one of them* is compositional.

Fodor is confident in the truth of this disjunction because he thinks that thought *must be* compositional. So, since he is persuaded by the arguments provided by the radical pragmatists that *language* is not compositional, Fodor finds himself defending the mixed position that thought, but not language, is compositional.[4] My purpose here is to evaluate this mixed position: Assuming that the radical pragmaticists are right that *language* is *not* compositional, what arguments can be provided in support of the claim that *thought is* compositional? I will evaluate three such arguments that Fodor presents, or could present, and I will find all of these arguments inadequate. I will conclude that Fodor's argument for the primacy of thought content over language content fails *not* because Fodor is wrong to think that language is *not* compositional, but rather because Fodor is wrong to suppose that this mixed position is defensible: If one agrees with the radical pragmaticists that *language* is not compositional, then one should also maintain that *thought* is not compositional.[5]

2. What Is Compositionality?

As one might expect, much hangs on what exactly it would be for *language* and/or *thought* to be *compositional*, and my first task will be to clarify this question. Fodor has said many things about compositionality, including that it is "non-negotiable" (1991, p. 14

[4] Though it makes no difference to the arguments of this paper, it seems that Fodor continues to endorse the mixed position. In Fodor's most recent book he writes, "One can imagine a view according to which only thought is compositional in the first instance and the apparent productivity, systematicity, etc. of languages is parasitic on the thoughts they are used to express. In fact, I am inclined to think that's the right view (see Fodor [2001])" (2008, 55, note 8).

[5] Carston (2002, pp. 74-83) briefly considers the question as to whether or not Mentalese is truth-conditionally compositional (though she does not put it this way), but she does not come to any definite conclusion.

in Fodor 2002), and that "nobody knows exactly what [it] demands" (2001, p. 6), and that he "is not going to tell us what it is" (2001, p. 6). Instead of trying to sort through all of the things Fodor has said, and not said, about compositionality to arrive at a working account of the notion, I am going to simply assert an account that most of the philosophers of language involved in the debate concerning premise [2] would, I think, assent to. After stating this definition of compositionality, I will explain why philosophers of language disagree as to whether or not natural languages satisfy it. In this way I hope to arrive at a relatively clear and generally acceptable account of what it would be for language and/or thought to be, or fail to be, compositional.

Here then is a definition of the compositionality of a language that most parties in the debate concerning premise [2] would, I believe, accept:

> Truth-Conditional Compositionality: A language *L* is *truth-conditionally compositional* iff for all declarative sentences *S* of *L*, the *truth conditions* expressed by *S* (relative to a context) are a *function* of (a) the semantic content of the words in *S* (where the semantic content of indexicals and other context-sensitive words is determined relative to the context) and (b) the relevant syntactic structure (the LF) of *S*.

I am not going to try to resolve every question one might raise about this definition, but some remarks of clarification are in order. First, let us note that the principle *presupposes* that, to put it crudely, only *languages* can be compositional in the relevant sense. The principle presupposes that the candidates for being truth-conditionally compositional are combinatorial systems of discrete symbols that admit of a type/occurrence (or *type*/*token*[6]) distinction, and that some of the complex occurrences (or tokens) express *truth conditions*. Second, truth-conditional compositionality is specifically concerned with *sentences*; it says

[6] An *occurrence* is a type relative to a context. It is plausible then to identify *occurrences* of types with *tokens* of the type, but this issue raises a host of metaphysical questions that I cannot pursue here.

nothing about how the semantic contents of *sub-sentential phrases* are determined, nor does it impose any requirements on what the semantic contents of such sub-sentential phrases are. In the debates concerning the compositionality of natural languages, however, it is usually assumed that the semantic content of *every* molecular expression (relative to a context), including both sentences and sub-sentential phrases, is determined by (a) the semantic contents of its atomic constituents (relative to a context) and (b) its relevant syntactic structure (logical form).

These observations illustrate that truth-conditional compositionality is an extension, or application to the specific case of *sentences*, of a broader notion of compositionality. The claim that language (and/or thought) is *truth-conditionally compositional* is thus best viewed as being equivalent to the conjunction of two more basic assumptions. The first basic assumption is that language is *semantic content compositional*, where *semantic content compositionality* is a broader notion of compositionality defined as follows:

> Semantic Content Compositionality: A language *L* is *semantic content compositional* iff for every molecular expression *E* of *L*, the *semantic content* of *E* (relative to a context) is a *function* of (a) the semantic contents of the words in *E* (relative to the context) and (b) the relevant syntactic structure (the LF) of *E*.

And the second basic assumption is that the semantic content of a declarative *sentence* (relative to a context of utterance) is a set of truth conditions, a *proposition*. I will call this latter assumption *propositionalism*:

> Propositionalism: The semantic content of a declarative *sentence* (relative to a context) is the set of conditions under which the sentence (relative to the context) is true; i.e. the semantic content of a *sentence* (relative to a context) is a *proposition*.[7]

[7] Propositionalism, and hence truth-conditional compositionality, apply only to *declarative* sentences. One who defends the claim that natural language is truth-conditionally compositional probably holds that analogous principles hold for *indicative* and *interrogative* sentences. But I will not consider such analogous principles here.

The claim that natural language (and/or thought) is *truth-conditionally compositional* is a consequence of *propositionalism* together with the claim that language and/or thought is *semantic content compositional*. Thus, one, such as Fodor, who rejects the claim that natural language is truth-conditionally compositional must reject either propositionalism, or the claim that natural language is semantic content compositional, or both.

It will be useful at this point to describe the debate concerning premise [2] making it clear how this debate concerns whether or not English is truth-conditionally compositional. Recall Travis' (1997, p. 89) example concerning two utterances of the sentence 'The leaves are green.' One of these utterances expresses truth conditions which are satisfied if the leaves of the plant in question have been painted green, but are dead-brown underneath the paint. The other utterance expresses truth conditions which would *not* be satisfied if the leaves were dead and brown, but had been painted green. Travis here presents a *counterexample* (or at least an *apparent* counterexample) against the traditional view that English is truth-conditionally compositional: He describes a case in which there are two utterances of the *same indexical-free sentence* (type) that express *different* truth conditions. If such a case is *possible*, then the truth conditions of utterances of 'The leaves are green' cannot be a function of (a) the meanings of the constituents in 'The leaves are green', and (b) the syntactic structure of ´The leaves are green'. For these factors appear to remain constant across the two utterances, yet the truth conditions of the utterances differ. (Travis is careful to choose an example which, aside from the irrelevant tensing of the verb, contains no indexicals or other context-sensitive words, so the apparent counterexample

cannot be *readily* explained away by appeal to differences between contexts of utterance.[8] All of the examples considered here will resemble Travis' example in this way, and thus the relativization to context in the definitions of truth-conditional and semantic content compositionality can largely be ignored.)

Note that though Travis' counterexample does (apparently) undermine truth-conditional compositionality, it does not undermine the weaker thesis of *semantic content compositionality*; it is compatible with Travis' claims that the semantic content of 'The leaves are green' in a particular context is a function of the semantic content of the semantic contents of the words in the sentence (relative to the context) and its syntactic structure. And, *a fortiori*, Travis' claims are also compatible with the even weaker thesis that *the conventional linguistic meaning* of a sentence (type) is a function of the conventional linguistic meanings of its constituent words and its syntactic structure. Those who endorse Travis' counterexample against truth-conditional compositionality thus need not – and typically do not – reject either meaning compositionality or semantic content compositionality, but they must reject *propositionalism*.[9] Defenders of radical pragmatics thus reject the underlying assumption of truth-conditional compositionality that sentences, even sentences relative to contexts, encode propositions, or truth-conditions, and instead maintain that what is semantically encoded in a sentence (even relative to a context) is only

[8] One might object that the "incomplete" definite description 'the leaves' is a context sensitive expression. But this is irrelevant, as Travis' example is designed so that the denotation of this description remains constant across the two utterance contexts.

[9] In the familiar terms of Kaplan (1989), Travis-style counterexamples undermine neither the claim that the *content* of sentence *S* in context *c* is a function of the *contents* of the words in *S* (relative to *c*) and the syntactic structure of *S*, nor the claim that the *character* of a sentence (type) *S* is a function of the *characters* of the words in *S* and the syntactic structure of *S*. In Kaplan's terms, the target of Travis-style counterexamples is the identification of the content of an occurrence of *sentence* with *what is said* by an assertive *use* of a sentence.

a "propositional schema" (Carston, 2002), and that truth-conditions are expressed by *assertive uses* of sentences encoding such schemas. Or as Recanati puts it, "it is speech acts, not sentences, which have a determinate content and are truth-evaluable" (2004, p. 154).[10]

I am proposing then that we interpret Fodor's argument using the notion of *truth-conditional compositionality* which applies only to *language-like* systems of symbols and is at least open to refutation via counterexamples such as Travis'. Interpreting Fodor's argument in this way makes perfect sense, for of course Fodor maintains that our *thoughts* are occurrences – or *tokenings* – in a language of mental representations, Mentalese. Hence, we can interpret Fodor's mixed position as the claim that truth-conditional compositionality does *not* hold for natural languages such as English, but it does hold for Mentalese; i.e. the claim that *thought* is compositional is the claim that the *truth conditions* of a tokened thought (where a *thought* is a sentence type of mentalese) is a *function* of (a) the semantic contents of the thought's constituents (relative to a context), and (b) the syntactic structure of the thought.

3. Does Thought Have To Be Compositional? Three Arguments

Having clarified what it would be for language and thought to be *compositional*, I will articulate and criticize three arguments in support of

[1*] As between language and thought, *at least one of them* is compositional.

all of which have been advanced by Fodor in some form or other. Though it would be possible to argue in support of this disjunction without arguing in support of either disjunct, this is not what Fodor does. Fodor (2001) thinks that at least one of language or thought

[10] Bach (1994) refers to the non-truth-conditional semantic content of a sentence (relative to a context) as a "propositional radical." Neale (2004) more picturesquely refers to it as a "blueprint".

must be compositional because he thinks that *thought* is compositional. And thus each of the three arguments I will consider supports the disjunction by supporting the disjunct that thought is compositional.

3.1 The Essence Argument

The general idea of the essence argument is that thoughts have their truth-conditional contents *essentially*, and consequently thought must be compositional. We are allowing that the *same indexical-free sentence* of natural language, e.g., 'The leaves are green' can express *different* truth-conditional content on different occasions, but if thoughts have their truth-conditional contents essentially – perhaps because thoughts *just are* truth-conditional content – then it would be impossible for the *same thought* to ever have *different truth-conditional content.* So, counterexamples against the truth-conditional compositionality of thought are impossible, and so thought must be truth-conditionally compositional. This line of thought is considered, though not endorsed, by Travis:

> The identity of words leaves their content open. So the content of given words must depend on further factors: on the character of their surroundings. This leaves it open that their surroundings might, on some occasions of considering them, count as conferring one semantics on the words, while on other such occasions those surroundings might count as conferring another. In that way, the semantics of words – how they are rightly understood – may be an occasion-sensitive affair. By contrast, the semantics of a given thought is meant to depend on *nothing*. So there are no such possibilities for variation across occasions in the semantics a given thought *counts* as having. (Travis, 1997, p. 104)

Does Travis' argument establish that thought is truth-conditionally compositional? Suppose we grant that thoughts have their truth-conditional contents essentially, or as Travis puts it the "semantics of a … thought is meant to depend on nothing." To keep things simple, let us suppose that the truth-conditional content of a thought is essential to it because truth-conditional contents *just are* thoughts. This identification is wholly compatible with the way we ordinarily use the word 'thought': the *thought* I am thinking is

constituted by what things would have to be like in order for what I am thinking to be true. So, for example, my thinking *that the leaves are green* on Monday is thinking a different *thought* than the thought I think when I think *that the leaves are green* on Tuesday, because what the world would have to be like for what I think on Monday to be true is different than what the world would have to be like in order for what I think on Tuesday to be true. So, if we use 'thought' in this familiar way it follows that there cannot be a *counterexample* against the truth-conditional compositionality of thought. And so does it not follow that thought is truth-conditionally compositional?

No, it does not. Consider the following analogous argument: It is impossible to provide a counterexample to the claim that all numbers are at least six feet tall – there are no numbers shorter than six feet. Does the impossibility of a counterexample to this claim entail its truth? Clearly not; the reason one cannot find a counterexample is that the claim makes no sense: one cannot find a number with a height of less than six feet *not* because all numbers have heights greater than or equal to six feet, but rather because numbers do not have heights. And similar remarks apply to the claim that thought – where thoughts are identified with truth-conditional contents – is compositional. Recall that the notion of *truth-conditional compositionality* applies only to *languages*, and thus it makes sense to apply the notion only to systems of representation that admit of a type-token distinction. But truth-conditional *contents* admit of no such distinction and hence the notion of compositionality simply does not apply to thought conceived of in this way; it makes no sense to say that every *instance* of a truth-conditional content has (or is), or does not have (or is not) the same content, because truth-conditional contents do not have *instances*.

But of course Fodor endorses the representational theory of mind, and he identifies *thoughts* with sentences of Mentalese. Thoughts so understood *are* representations that

admit of a type-token distinction. So perhaps by using 'thought' to denote a sentence (type or token) of Mentalese, Fodor *can* utilize a version of the essence argument to establish the compositionality of thought. This is what he appears to be doing in the following passage, in which he *both* explicitly identifies thoughts with contents *and* invokes the representational theory of mind:

> there can't be more – or less – to a thought than there is to its content because a thought just *is* its content. If you put this in the language of a representational theory of mind, it comes out something like: A mental representation is ipso facto compositional with respect to the content that a correct semantics would assign to it. (2001, p. 14)[11]

The reasoning here seems to go as follows: According to ordinary usage, "a thought just *is* its [truth-conditional] content," and according to the representational theory of mind, all thoughts are mental representations. So, it follows that it would be impossible to have two instances of the *same* mental representation that had *different* truth-conditional contents. That is, there can be no *counterexamples* against the truth-conditional compositionality of mental representations. So, "A mental representation is ipso facto compositional with respect to the [truth-conditional] content that a correct semantics would assign to it." So, it follows that thought is truth-conditionally compositional, and since we are now taking *thoughts* to be mental representations it can no longer be objected that the notion of truth-conditional compositionality does not apply to thought.

But something has gone awry. A thought cannot be *both* a mental representation and at the same time the truth-conditional content *of* that representation. Making the inference here more explicit will serve to identify the problem with the argument:

1. "a thought just *is* its [truth-conditional] content"

[11] Carston (2008, 339) cites this passage from Fodor with approval, and uses it to support a relevance theoretic version of the mixed view.

2. RTM: all thoughts are mental representations.
Therefore,
3. A mental representation just *is* its truth-conditional content
Therefore,
4. It would be impossible to have two instances of the *same* mental representation that had *different* truth-conditional contents.
Therefore,
5. Thought is compositional.

The conclusion 3 here is clearly false – even Fodor wants to distinguish between "vehicles" and their "contents." And it is pretty clear that, though premises 1 and 2 are plausible considered separately, the inference from 1 and 2 to 3 equivocates on 'thought'. There is one sense of this word under which premise 1 is true – thoughts just are truth-conditional contents, or propositions. So, if premise 1 is true, then thoughts are things like sets of possible worlds, or perhaps structured Russellian propositions which in turn determine sets of possible worlds. So, a thought just is a certain truth-conditional content, where such content is *represented by* some sort of representation. So now we can restate premise 1 in this way: *Truth-conditional content is content*. And this is clearly correct.

But 'thought' as it is used in premise 2 clearly does not denote truth-conditional content, but rather something that *has*, or *represents*, such content. So, 'thought' as it appears in premise 2 does not denote truth-conditional content, rather it denotes what is at least alleged to have, or represent, that content, viz. sentences of Mentalese. Thus we can restate premise 2, which summarizes RTM, as follows: *What has or represents truth-conditional content is mental representations*. And now if the premises are restated to preclude the equivocation on 'thought' the inference from 1 and 2 to 3 is clearly invalid:

1. Truth-conditional content is content.
2. All mental representations are mental representations.
Therefore, (?!)
3. A mental representation just *is* its content.

The upshot is this: As the passage from Travis indicates, we do ordinarily use 'thought' in such a way that the truth-conditional content of a thought is essential to it, indeed even identical to it. But if 'thought' is used in this ordinary way, it simply makes no sense to either affirm or deny that "thought is compositional." However, if one follows Fodor and endorses RTM, according to which thinking is a matter of instantiating sentences of Mentalese and thus thoughts are sentences of Mentalese, then it does make sense to affirm or deny that "thought is compositional." But if thoughts are taken to be such mental representations then it cannot be *assumed* that thoughts have their truth-conditional contents essentially. If thoughts are sentences of Mentalese, then to *assume* that it is impossible for two (indexical free) instances of the *same* sentence of Mentalese to have *different* truth-conditional contents would be to blatantly beg the question of whether or not thought is truth-conditionally compositional. If one takes the representational theory of mind (and the associated hypothesis of a *language of thought*) seriously, as Fodor clearly does, then, as Travis might put it, "the identity of sentences of Mentalese leaves their truth-conditional contents open." That is, if one endorses that *thoughts* are sentences of Mentalese, then it is at least possible that there be counterexamples – á la Travis – against the claim that Mentalese is truth-conditionally compositional.

3.2 Systematicity and Productivity

For the question of whether or not thought is truth-conditionally compositional to even make sense then, we have to follow Fodor in taking the language of thought hypothesis seriously and literally. But by construing *thoughts* as sentences in a language Fodor makes available another means of arguing that thought is compositional: perhaps the traditional arguments appealing to *systematicity* and *productivity* that philosophers – perhaps beginning with Frege (1914) – have used to support the compositionality of

language can be retooled to support the compositionality of thought, or specifically the *language* of thought. And this is exactly what Fodor does. But before looking at these traditional arguments let us note how contorted the dialectic has become: Fodor (2001) claims that language is not compositional, but thought is. We are here granting to Fodor that, as is claimed by radical pragmatics, language is not truth-conditionally compositional, and investigating what reasons one could provide for thinking that thought *is* compositional, *given that language is not*. And now we are considering the possibility of retooling arguments originally designed to show that *language* is compositional – arguments which Fodor (2001) must of course reject – to demonstrate that *thought* is compositional. This odd dialectic should raise our suspicions. If, as anyone who denies the compositionality of *language* must hold, appeals to systematicity and productivity fail to establish that *language* is compositional, how could such appeals establish that *thought* – indeed the *language* of thought – *is* compositional?

If this were not confusing enough, matters are made worse by the fact that in Fodor (2001), wherein Fodor endorses the mixed position, Fodor states that the systematicity and productivity arguments establish the compositionality of *both* language and thought:

> For present purposes, we can collapse systematicity and productivity together, and make the point like this: There are, for better or worse, indefinitely many things that English allows you to say about pigeons and the weather in Manhattan. …. *English being compositional* is what explains why so many of the sentences that you can use to say things about pigeons and the weather in Manhattan, share some or all of their vocabulary. So, in particular, the word 'weather' occurs in many, many of these sentences; and in more or less every case where it does, it contributes the very same semantical property to its sentential host; viz. a reference to the weather. Barring idioms and such, this is the general case. A word's occurring in one sentence licenses its occurrences in many others, and its semantic contribution is the same in all of them. Were this not so, we couldn't explain the familiar pattern according to which natural languages exhibit open ended clusters of semantically and syntactically related forms. *Ditto, mutatis mutandis, for thoughts*. (2001, p. 7, all emphasis added)

I do not think there is any way to avoid the conclusion that there is a substantial tension in Fodor (2001): Fodor claims *both* that "the evidence strongly suggests that language is not compositional" (2001, p. 15) and also that "both human thought and human language are, invariably, productive and systematic; and the only way that they could be is by being compositional" (2001, p. 6). Since my primary concern is with evaluating the mixed position that thought, yet not language, is compositional, I am not going to try to resolve this tension nor examine its sources.[12] Instead I will proceed as follows: First, I will obviate the tension in Fodor (2001) by refuting the traditional arguments from systematicity in support of the truth-conditional compositionality of *language*. This first step thus in effect *supports* Fodor's (2001) mixed position that *language* is not compositional, yet *thought* is. But then, second, I will argue that essentially the same criticism applies to the arguments from systematicity in support of the truth-conditional compositionality of *thought*. This second step thus undermines Fodor's mixed position, because it leaves us without a reason for supposing that *thought* is truth-conditionally compositional. (Though I believe there are some significant differences between the systematicity and productivity arguments, I will follow Fodor in treating them interchangeably; in what follows I will articulate only systematicity arguments, but I assume the same conclusions will follow, *mutatis mutandis*, for productivity arguments.[13])

The first step then is to support Fodor's mixed view by showing that the traditional argument from systematicity does *not* support the truth-conditional compositionality of

[12] Elugardo (2005) notes this tension in Fodor, and proposes a version of *semantic minimalism* to resolve it.

[13] Fodor (1998c, pp. 96-98) claims that systematicity arguments in support of compositionality are superior to productivity arguments. A similar preference for systematicity arguments is expressed in Fodor and Pylyshyn (1988, pp. 36-37).

language. Consider the following version of the systematicity argument from Fodor and Lepore:

> A language is compositional if and only if (idioms aside) the meaning of its complex expressions is inherited from the meaning of their syntactic structures together with the meaning of their syntactic constituents. … Compositionality is at the heart of some of the most striking properties that natural languages exhibit. The most obvious of these are *productivity* (roughly, the fact that every natural language can express an open-ended set of propositions) and *systematicity* (roughly, the fact that any natural language that can express the proposition P will also be able to express many propositions that are semantically close to P. If, for example, a language can express the proposition that *aRb*, then it can express the proposition that *bRa*; if it can express the proposition that P→Q, then it can express the proposition that Q→P; and so forth)" (1991, pp. 14-15 in Fodor and Lepore, 2002)

How exactly does the argument go? In broad form the argument is that since it is an empirical fact that natural languages are systematic, and the best explanation of this empirical fact is that they are truth-conditionally compositional, we should conclude that natural languages are truth-conditionally compositional.[14] But what exactly is it for a language to be *systematic*?[15] Fodor and Lepore are not very explicit about this, but from

[14] Note that this passage provides an argument in support of the truth-conditional compositionality of language only if *propositionalism* is assumed.

[15] There is an extensive literature devoted to systematicity and the associated *generality constraint*, and within this literature there are significant differences between not only the how these notions are understood, but moreover between the *uses* to which they are put. Though limitations of space prevent me from comparing truth-conditional systematicity as it is defined and used here with other notions and uses, a brief description of some relevant differences may be helpful. All the notions share the basic idea that if a representation *S* has some property *P*, then some *range of permutations* of *S* also have *P*. But theorists differ as to what *P* is. Indeed, even within Fodor's writing there are substantial differences as to what property *P* is: Sometimes (e.g. Fodor and Lepore 1991, pp. 14-15 in Fodor and Lepore, 2002) *P* is taken to be *expressing a proposition;* other times (Fodor 1987, p. 150) *P* is taken to be only *having a meaning*, and still other times (e.g. Fodor and Pylyshyn 1988, p. 38) *P* is merely *being grammatical*. (Johnson, 2004, considers a version of such *grammatical systematicity* and argues persuasively that it is vacuous.) Theorists (e.g. Evans 1982; Camp 2004; and Caruthers 2009) also differ as to what the range and nature of the relevant *permutation* ought to be. Moreover the *uses* to which the notions are put differs substantially. Evans (1982) initially invoked the generality constraint as a condition of adequacy for *theories* of human thought. Other theorists (e.g. Camp 2009; Carruthers 2009; Dickie 2010) use it as a criterion for a creature's being capable of thought. And finally, still others (e.g. Fodor and Lepore, 1991) use the notion as a description of an empirical fact in need of explanation.

the examples they provide (and other passages[16]) it is relatively clear that what they have in mind. Let us say that a language *L* is *truth-conditionally systematic* just in case every non-idiomatic sentence *S* of *L* is *truth-conditionally permutable*, where this notion is defined as follows:

> *S* is *truth-conditionally permutable* iff for all contexts *c*, if *S* expresses truth conditions in *c*, then every *sentential permutation* of *S* also expresses truth-conditions in *c*.[17]

The notion of a sentential permutation is exemplified by the examples provided by Fodor and Lepore. For instance, '*bRa*' is a sentential permutation of '*aRb*', because '*bRa*' contains no atomic expressions not found in '*aRb*' and (we may suppose) '*bRa*' is a grammatical sentence of *L*.[18] In contrast, '*aRc*' is not a sentential permutation of '*aRb*' because it contains an atomic constituent that is not a constituent of '*aRb*'. Moreover, '*baR*' is not a sentential permutation of '*aRb*' because, though it contains no atomic constituent not found in '*aRb*', it is not (we may suppose) a grammatical sentence of *L*. And finally, '*Ra*' is not a sentential permutation of '*aRb*' because, though it contains no

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[16] See for example Fodor (1998c, p. 97) and Fodor and Pylyshyn (1988, pp. 37-41).

[17] I interpret the claim that 'if it can express the proposition that P→Q, then it can express the proposition that Q→P' as saying that if a *sentence* of the form P→Q expresses a proposition (relative to a context), then so does the converse of that sentence. I think this is the most charitable interpretation. Note that if 'the proposition that P→Q' is interpreted as describing structured *propositions* of a certain form, then the inference from systematicity to the hypothesis of truth-conditional compositionality is weak at best. Suppose that a certain structured *proposition* of the form P→Q is expressed in a certain language by '♥►♦' and further suppose that the converse structured proposition (i.e. Q→P) can be expressed, but only by a wholly distinct atomic symbol, '♣'. The fact that both *propositions* can be expressed in the language in this odd way would give us no reason whatsoever for supposing that the *language* is truth-conditionally compositional. But if 'the proposition that P→Q' is interpreted as describing structured propositions, then merely possessing this sort of expressive power would qualify a language as possessing *systematicity*. If the fact that language possesses *systematicity* is supposed to provide a compelling reason for thinking that language is *truth-conditionally compositional*, then systematicity had better have something to do with the relation between the structure of *sentences* and the truth-conditions occurrences of sentences express.

[18] It is noteworthy that in providing examples to illustrate the truth-conditional systematicity of natural language, Fodor and Lepore do not appeal to utterances of actual sentences of natural language. Rather, they provide only formal sentential schemas, and make no mention of contexts relative to which sentences could express truth-conditions. This ought to raise our suspicions.

atomic constituent not found in '*aRb*' and moreover is (we may suppose) a grammatical expression of *L*, it is nonetheless not a *sentence* of L (or so we may suppose). In summary then, where *S* is a sentence of *L* and *E* is a string of atomic expressions of *L*, *E* is a *sentential permutation* of *S* iff (i) *E* contains no atomic constituent not found in *S*; (ii) *E* is a grammatical expression of *L*, and (iii) *E* is a sentence of *L*.

Here I will not question the strength of the abductive inference; I will grant that if English were truth-conditionally systematic, where this premise is understood in terms of truth-conditional permutability, then we would have compelling evidence that English was truth-conditionally compositional. Rather here I will argue that a defender of the mixed position has good reason to reject the premise: if one endorses the view of radical pragmatics that language is not truth-conditionally compositional, then one has good reason to think that many (non-idiomatic) sentences of English are not *truth-conditionally permutable*.[19]

Let us consider then an utterance that, according to defenders of radical pragmatics, undermines the claim that English is truth-conditionally compositional. The utterance exhibits what Bach (1994) calls *semantic underdetermination*: the sentence itself – even after referents are assigned to context-sensitive indexicals and demonstratives – does not seem to express truth conditions, but in sufficiently rich contexts interpreters have no trouble understanding utterances of the sentence as expressing truth conditions. (*Semantic undetermination* is clearly what Fodor, 2001 p. 12, has in mind when he claims that "language is strikingly elliptical and inexplicit.") I will now describe such a context, call it

[19] A defender of the mixed position could reject the truth-conditional systematicity argument in support of the truth-conditional compositionality of language simply on the grounds that it begs the question against radical pragmatics. For both the premise and the conclusion presuppose propositionalism, which is rejected by radical pragmatics. But an objection that refutes the argument on its own terms, and thereby *motivates* the rejection of propositionalism, is much more compelling.

context *c**, and such an utterance. Suppose we are gossiping about our mutual friends John and Mary. I tell you that John has been studying in preparation to take the exam to obtain his driver's license, and Mary has been ill. And then I utter,

(1) John is ready, and Mary is recovering.

The first conjunct is *semantically underdeterminate* in the sense that the sentence 'John is ready' *in and of itself* does not encode truth-conditions, even relative to context *c**. Even if 'John' is assigned our friend John as referent and the verb is evaluated relative to the time of utterance, the sentence – or what it encodes – cannot be evaluated for truth. This is because, intuitively speaking, there is no such thing as simply *being ready*; rather one can be ready, or fail to be ready, only relative to some upcoming challenge or activity. And since the sentence does not *encode* any such challenge or activity, even relative to a context, it is semantically underdeterminate.[20] Despite the underdetermination of the first conjunct, however, competent interpreters understand an utterance of (1) in *c** as expressing truth-conditions. Relative to *c**, wherein it is mutually understood that John has been studying for his driver's license exam, the utterance of the first conjunct is interpreted as expressing something like, "John is ready *to take the driver's license exam*." So, despite the underdetermination of the first conjunct, it is an empirical fact regarding competent use of English that an utterance of (1) in *c** expresses truth conditions. Thus, if English is

[20] Of course a *contextualist*, following the strategy of Stanley (2000), would deny this. She would claim that in the LF for 'John is ready' there is some sort of "hidden-indexical" that has as its value in a context the relevant sort of challenge or activity. Regardless of whether or not contextualism is a viable strategy in general, it is not relevant at this point in the dialectic. Here, in this first step, we are trying to *support* Fodor's mixed position by showing how one who denies that language is truth-conditionally compositional, and *thus rejects contextualism*, can object to the traditional systematicity arguments in support of the truth-conditional compositionality of language. And, as is explained below, invoking *semantic minimalism* would also be irrelevant at this point.

truth-conditionally systematic, every sentential permutation of (1) must also express truth conditions in *c**. But this does not seem to be the case.

Consider the following obvious sentential permutation of (1) relative to *c**:

(1_p) Mary is ready and John is recovering.

Because the first conjunct of (1_p) is also underdeterminate, an utterance of (1_p) in a context expresses truth conditions only if it is mutually understood in the context that *Mary* faces some upcoming challenge or activity. But in context *c** there is no such mutual understanding. And thus, in contrast to an utterance of (1) in *c**, an utterance of (1_p) in *c** will not be interpreted as expressing truth conditions, but rather will be met with raised eye-brows, and requests for clarification. (A competent interpreter would not respond by accepting or rejecting the assertion, but rather by asking for clarification. An interpreter would respond with a question such as, "Wait, didn't you say it was *John* who was preparing for the exam?" or, "Hold on, what is Mary ready *for*?"[21]) So, those who agree that 'is ready' is semantically underdeterminate have good reason to deny that if a sentence *S* containing this predicate expresses truth conditions in a context *c*, then every sentential permutation of *S* also expresses truth conditions in *c*. That is, if Fodor agrees with radical pragmatics that there are semantically undeterminate sentences, then Fodor *ought* to reject the systematicity argument in support of the truth-conditional compositionality of language on the grounds that language is not truth-conditionally systematic.[22]

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[21] A competent interpreter is also likely to ask what setback it is that John is recovering *from*, but let us set this problem aside.

[22] The claim that (1_p) does not express *truth-conditions* in *c** implies neither that (1_p) does not encode *semantic content* in *c**, nor that (1_p) does not have a *conventional linguistic meaning*. In other words, I have argued that semantically underdeterminate sentences provide good reason to reject the premise that English is *truth-conditionally systematic*, but this argument does nothing to undermine the weaker claims that English is

At this point one might be tempted to appeal to *semantic minimalism*. For a semantic minimalist could defend the systematicity argument in support of the traditional view that language is truth-conditionally compositional in the following way: despite our inability to discern the truth conditions allegedly expressed by the first conjunct of the above occurrence of (1_p), it does express a *minimal proposition* – something like, Mary is ready *for something or other* – and our being flummoxed results from the fact that we have no idea why in *c** one would utter a sentence that expresses this minimal proposition. But, continues the minimalist objection, that is "mere pragmatics"; our failure of imagination is not something *semantics* needs to account for. There are two problems with this appeal to semantic minimalism.

The first problem is that, regardless of whether or not minimalism can save the sytematicity argument in support of the truth-conditional compositionality of language, at this point in the dialectic such an appeal to minimalism is irrelevant. Recall that what we are doing in this first step is resolving the tension in Fodor (2001). We are *helping to support* the position that *language* is *not* truth-conditionally compositional, though *thought is,* by showing why one who endorses this view can and should reject the systematicity argument in support of the truth-conditional compositionality of language. We are in effect asking, "Suppose, like Fodor (2001), you thought that *semantic minimalism* was not a viable means of preserving the truth-conditional compositionality of language. Under this supposition, what criticism could you level at the systematicity argument in support of the traditional view that language is truth-conditionally compositional?" So, regardless of whether or not semantic minimalism would adequately support the systematicity argument

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meaning systematic, or *semantic content systematic*. And from such weaker systematicity claims, weaker compositionality claims might be supported.

in support of the truth-conditional compositionality of language, we are *assuming* that Fodor and the radical pragmaticists are correct to claim that language is not truth-conditionally compositional, and this entitles us to assume that minimalism is in some way flawed. (And *mutatis mutandis* for appeals to *contextualism*. See note 11.)

The second problem – which in light of the first problem must be understood as a digression – is that even if the appeal to semantic minimalism is allowed, natural language will fail to be truth-conditionally systematic. The above argument against the truth-conditional systematicity of language assumes that some sentences are semantically undeterminate. But the general form of the argument does not require this specific assumption; rather, the general form of the argument requires only that there be some context *c*, sentence *S*, and sentential permutation S_p of *S*, such that though *S* expresses truth conditions in *c*, S_p does not express truth conditions in *c*. Specifying such a context and sentence-pair does not require that S_p be semantically underdeterminate – *Sp* might fail to express truth conditions in *c* for any number of familiar reasons. Here I will construct an argument that depends upon the claim that utterances suffering from referential presupposition failure do not express truth conditions, but it is to be understood that similar arguments could be constructed involving utterances that fail to express truth conditions for other sorts of reasons.

Consider then a context *c*** in which it is understood that there is no ugly monster, and we are discussing the imaginative game being played by Johnny, a little boy. Because referential presuppositions do not project out of the arguments of 'Johnny is pretending that', an utterance of

(2) Johnny is pretending that the ugly monster is sleeping.

would be interpreted as expressing truth conditions in *c***. But an utterance of

(2_p) The ugly monster is pretending that Johnny is sleeping.

would not be interpreted as expressing truth conditions, as in *c*** such an utterance would suffer from referential presupposition failure. The point is that even if one follows minimalism in denying that there are semantically underdeterminate sentences, the same general objection against the truth-conditional systematicity of language can be formulated by invoking sentences and utterances that fail to express truth conditions for other reasons.[23] It seems that defending the truth-conditional systematicity of language would require one to endorse the extremely counter-intuitive view that *every* utterance of a declarative sentence expresses truth conditions. End of digression.

So now we have completed the first step. We have seen that anyone, such as Fodor (2001), who denies that language is *truth-conditionally* compositional can and should reject the truth-conditional systematicity argument in support of the truth-conditional compositionality of language on the grounds that language, at least English, is not *truth-conditionally systematic*. But now the question arises: Are the systematicity and productivity arguments in support of the truth-conditional compositionality of *thought* any better? And the second step is to answer this question in the negative: essentially the same problems that undermine the systematicity argument in support of the truth-conditional compositionality of *language* serve to undermine the systematicity argument in support of the truth-conditional compositionality of *thought*.

[23] A forceful, albeit somewhat contrived, case involves a sentence *S* that (in *c*) is not paradoxical, but whose sentential permutation S_p is (in *c*) paradoxical. Suppose that in context *c* it is understood that (L) is the liar sentence '(L) is not true'. Now let *S* be '(L) is a sentence and something is not true' and let S_p be '(L) is not true'. *S* clearly express truth conditions in *c*, since it is obviously true. But its sentential permutation S_p does not express truth conditions because it *cannot* be either true or false (unless it is both).

Suppose that under normal conditions when a competent speaker encounters a sentence she somehow tokens the corresponding sentence of Mentalese in her brain. (Fodor might have it that one writes the corresponding sentence of Mentalese on one's "interpretation black-board.") Hence, when one hears

(1) John is ready and Mary is recovering.

in *c** the following sentence of Mentalese gets instantiated in one's brain somewhere:

(1^M) JOHN IS READY AND MARY IS RECOVERING.

So, an instance of (1^M) is tokened in the brain of a competent speaker who interprets an utterance of (1) in context *c**. And the truth conditions the interpreter understands the utterance of (1) as expressing simply are the truth conditions of (1^M) (in *c**). Similarly then, if one were to hear

(1_p) Mary is ready and John is recovering.

in *c** the following sentence of Mentalese would be instantiated in one's brain somewhere:

(1_p^M) MARY IS READY AND JOHN IS RECOVERING.

And, again, whatever truth conditions the interpreter understands the utterance of (1_p) as expressing simply are the truth conditions of (1_p^M) (in *c**). But, as was explained above, those who follow radical pragmatics in rejecting the truth-conditional compositionality of language have compelling reason to maintain that in c* an utterance of (1_p), though it may encode a *conventional linguistic meaning* and even a *semantic content*, does not encode *truth conditions*. And since the truth conditions, if any, of an utterance are identical to the truth conditions, if any, of the corresponding token of Mentalese, it follows that since the utterance of (1_p) in *c** does not express truth conditions, neither does its corresponding token of Mentalese (1_p^M). The point can be put succinctly as follows: As Fodor has

repeatedly claimed, thought is truth-conditionally systematic if and only if language is truth-conditionally systematic.[24] So one who follows radical pragmatics in denying the truth-conditional compositionality *and* systematicity of language must also reject the truth-conditional systematicity of thought.

The argument for the second step is then this:

1. Whatever truth conditions are expressed by an occurrence of a sentence of natural *language* are identical to whatever truth conditions are expressed by the corresponding tokened sentence of Mentalese.[25]

2. Natural language sentence (1) does express truth conditions in *c**, but its sentential permutation (1_p) does not express truth conditions in *c**.

Now supposing that a token of (1^M) is the Mentalese correlate of the utterance of (1) in *c** and (1_p^M) is the Mentalese correlate of the utterance of (1_p) in *c**, it follows that,

3. Tokened Mentalese sentence (1^M) expresses truth conditions (in *c**) but its sentential permutation (1_p^M) does not express truth conditions (in *c**).

But this entails,

4. Mentalese, i.e. thought, is not truth-conditionally systematic.[26]

A defender of the mixed position might resist this argument by rejecting premise 1, i.e. by rejecting the claim that for each occurrence of a sentence of natural language there is a tokened "Mentalese correlate" and that the truth-conditions of the natural language

[24] Fodor (2008, p. 59) claims that "As usual, the arguments in the case of Mentalese run parallel to the arguments in the case of English". Fodor invokes the parallel to support his inference from the premise that that formulas of English "exhibit constituent structure" (2008, p. 58) to his conclusion that the formulas of Mentalese also exhibit such structure. In a similar way I could invoke the parallel to support the inference from the premise that English is not truth-conditional systematic to the conclusion that Mentalese is also not truth-conditionally systematic.

[25] Clearly some relativization to individual interpreters is called for here, as one occurrence of a natural language sentence may correspond to several Mentalese tokens in the brains of different interpreters. But, since nothing of importance for my concerns here depends upon such relativization, for ease of exposition I will suppress articulation of it.

[26] Notice again, however, that there would be no corresponding objection against a *meaning systematicity* argument in support of the *meaning* c*ompositionality* of Mentalese, nor against a *semantic content systematicity* argument in support of the *semantic content compositionality* of Mentalese.

occurrence, if there are any, are provided by the Mentalese token. But I do not think this option is available to Fodor. For, as we shall see in the next section, Fodor's "explicitness argument" in support of the mixed position depends upon this assumption. In that argument Fodor assumes "that the content of a sentence is, or is the same as, the content of the corresponding thought," and the conclusion of the argument is that "whereas the content of a sentence may be inexplicit with respect to the content of the thought it expresses, a thought can't be inexplicit with respect to its content" (2001, p. 12). Both the assumption and the conclusion presuppose (at least[27]) that every occurrence of a natural language sentence has a corresponding token of Mentalese.

Moreover, Fodor often assumes the stronger premise that every natural language *type* has a unique Mentalese *type* correlate. Fodor relies on this stronger assumption when attempting to establish the claim that thought and language are *systematic* and/or *productive.* One such passage is above (p. 21.) And here is another typical passage:

> … language and thought are both productive and systematic. Productivity is the property that a system of representation has when it contains an infinite number of syntactically and semantically distinct symbols (as, for example, English contains the open-ended non-synonymous expressions: 'missile shield', 'anti-missile shield', 'anti-anti-missile shield' …) (2002, p. 1)

This example from the morphology of English would do nothing to support the claim that Mentalese was *also* productive unless it were assumed that for each well-formed expression type of English there was a corresponding well-formed type of Mentalese.

And finally, perhaps the most important of Fodor's original (1975) arguments for the very existence of Mentalese presupposes that there is a mapping from natural language

[27] In the passages cited it seems as if Fodor is making the stronger assumption that every natural language *type* has a corresponding Mentalese *type*, but, as will be shown in the next section, the argument is best interpreted as relying only on the weaker claim that every *occurrence* of a natural language sentence has a corresponding *token* of Mentalese.

sentence types to Mentalese thought types. The argument is, roughly, that explaining how we are able to first *learn* a natural language requires that there be an innate "internal code" in which can be expressed every meaning expressible in the target natural language. Fodor summarizes the idea as follows:

> … a compiler which associates each formula in the input language *I* with some formula in the computing language *C* can usefully be thought of as providing a semantic theory for *I*, taking *C* as the metalanguage in which the semantic properties of the sentences of *I* are represented. In effect, the theory of meaning for formulae in *I* is simply the translation function which maps them onto formulae of *C*. On the present account then, it would be plausible to think of a theory of meaning for a *natural* language (like English) as a function which carries English sentences onto their representations in the putative internal code. (1975, 119).

In summary, many of Fodor's arguments in support of the representational theory of mind, and his particular version of it, rely on the premise that every natural language expression type has a Mentalese type correlate which provides the semantic properties of the former. But the argument presented above does not even require this strong assumption concerning *types*. Rather it depends only upon the weaker assumption that every *occurrence* of a natural language sentence has a corresponding Mentalese *token*. And this weaker assumption is, as will be shown in the next section, invoked by Fodor himself in his defense of the mixed position. Rejecting premise 1 is therefore not a readily available option for a defender of the mixed position.

So now I have completed the second step of my argument. The first step was to show that there are good reasons to reject the systematicity argument for the truth-conditional compositionality of *language*. (Especially if one assumes, as we must, that *contextualism* and *semantic minimalism* are not viable.) This first step essentially supports Fodor's (2001) mixed position that thought, but not language, is truth-conditionally compositional. But, in the second step I showed that essentially the same considerations

that serve to undermine the systematicity arguments for the truth-conditional compositionality of *language* also serve to undermine such arguments for the truth-conditional compositionality of *thought*. My argument for this second step assumes a tight correlation between natural language and Mentalese, but Fodor himself assumes such a correlation in arguing for the existence of Mentalese, and in defending his mixed position. This second step thus undermines the possibility of retooling the traditional systematicity argument in support of the truth-conditional compositionality of *language* to instead support the truth-conditional compositionality of *thought*. (And I assume the same holds for the corresponding *productivity* arguments.) So, we are still lacking a persuasive argument that thought is truth-conditionally compositional.

3.3 The "Explicitness" Argument

Fodor's explicitness argument is designed to establish that the sorts of arguments that *radical pragmatics* utilizes to show that *language* is not compositional cannot be applied to show that *thought* is also not compositional. Fodor actually combines what I have called "the essence argument" with what (following Elugardo 2005) I am calling the *explicitness argument*. But I think it best to distinguish between the two arguments: the explicitness argument *need not* depend upon the essence argument, and this is good news for Fodor, since, as we have seen, the essence argument is unsound. So, in what follows I will first cite Fodor's *explicitness argument*, and make clear where it depends upon the buttressing essence argument. I will then suggest an alternative buttressing argument, but I will argue that this new buttressing argument is itself undermined by arguments that radical pragmatics utilizes to show that language is not truth-conditinoally compositional.

The core of the explicitness argument is presented in this passage from Fodor (2001):

> No such objections as I've been urging against the compositionality of language can hold against the compositionality of thought. For, whereas the content of a sentence may be inexplicit with respect to the content of the thought it expresses, a thought can't be inexplicit with respect to its content. (2001, p. 14)

To understand this passage, we must understand the relationship between the *inexplicitness* of thoughts and sentences and the *compositionality* of language and thought. And to do this we need to understand the following earlier passage in which Fodor argues that language is not compositional:

> … language is strikingly elliptical and inexplicit about the thoughts it expresses … and [this] couldn't be true … if language were compositional …. For if it were (and assuming that the content of a sentence is, or is the same as, the content of the corresponding thought) the structure of a sentence would indeed have to be explicit about the structure of the thought it expresses; in particular, the constituents of the sentence would have to correspond in a straightforward way to the thought's constituents. For, if there are constituents of your thought that don't correspond to constituents of the sentences you utter, then since compositionality requires that the content of a thought contain all of the content of its constituents, it must be that there was something in the thought that the sentence left out. So you've said less than you intended. (2001, p. 12)

There are then three relevant sorts of entity: sentences, thoughts, and content. Fodor conceives of *content* as Russellian propositions – structured entities "containing" individuals and properties and whatever else – but we should keep in mind that he assumes that Russellian propositions in turn determine truth conditions. *Thoughts* for Fodor are of course sentences of Mentalese, and thus there are types and tokens of both thoughts and sentences. Both sentences and thoughts (types and tokens) *have* truth-conditional content – they correspond in some way to Russellian propositions. Fodor assumes that when one utters a sentence (type) *S*, in virtue of *S*'s meaning, *S expresses* a thought (type) *T*. And both the sentence *S* and the thought *S* expresses, viz. *T*, have, relative to the context of utterance, *content*, a Russellian proposition *P*. So let us consider an utterance of ´The book

is on the table' which is understood by some person. The entities relevant to the argument are:

The "elliptical" sentence of English uttered: *S* = 'The book is on the table'

The sentence of Mentalese tokened: *T* = THE R1 BOOK IS ON THE R2 TABLE. (Where 'R1' and 'R2' refer to "hidden indexicals" that have as their content relative to a context properties that restrict the relevant domain of quantification.)

The content of *the utterance of S*: *P* = <some structured Russellian proposition>

Note that each of *S*, *T* and *P* is a structured entity that "contains" constituents. Now, Fodor assumes that

1. The content of the utterances of *S* is whatever the content of the relevant tokening of *T* is.

And so let us simply stipulate that

2. The content of the tokening of *T* is *P*

It then follows from 1. that,

3. The content of the utterance of *S* is *P* (also).

Now, Fodor construes the sorts of arguments offered by radical pragmatics – e.g. Travis' example concerning 'The leaves are green' or those involving quantifier domain restrictions[28] – in terms of *correspondence* between sentential constituents and thought constituents: According to Fodor what these argument show is that in many cases the constituents of *S* "do not correspond in a straightforward way" with the constituents of *T*. That is, "language is strikingly elliptical," or

4. *S* has *fewer* constituents than does *T*. (I.e. *S* is *inexplicit* with respect to *T*.)

[28] See Stanley and Szabó (2000) for a contextualist response to apparent counterexamples involving quantifier domain restriction.

And now Fodor assumes that "the content of a thought [must] contain all of the content of its constituents."[29] So, for every constituent of *T* there is a corresponding constituent of *P*, or in other words,

5. *P* has *at least as many* constituents as does *T*.

From 4 and 5 it follows that

6. *S* has *fewer* constituents than does *P*. (I.e. *S* is *inexplicit* with respect to *P*.)

Now the conclusion 6 is equivalent to the claim that the truth conditions of utterances of *S* are not a function of the meanings of the constituents of *S* and the structure of *S*. For, given 6, the utterance of *S* has "unarticulated constituents" – constituents of *P* that do not correspond to constituents of *S*. And the crucial feature of such unarticulated constituents is that they are utterance dependent: one utterance of *S* may have Murdock as an unarticulated constituent, the other Palo Alto, and these different utterances of the same sentence *S* will express different propositions, and thus they will express different truth conditions. So, the claim that the utterance of *S* is *inexplicit* with regard to its content is equivalent to the claim that the truth conditions of the utterance are not a function of the semantic contents of *S*'s constituents and *S*'s structure. (And, again, because there are no relevant indexicals or other context sensitive terms in *S*, the variance in truth conditions cannot be explained by appeal to different contexts.)

So Fodor's argument in support of the claim that "the content of a sentence may be inexplicit with respect to the content of the thought it expresses," which is equivalent to the

[29] Fodor, actually asserts that *compositionality* requires this. This is correct, the compositionality of thought would require this, but the premise he needs here is *weaker* than the claim that thought is compositional, and moreover it would be blatantly question-begging for Fodor to simply assume the compositionality of thought at this point since he is trying to *argue* that, though language is not compositional, thought *is*. So it is best to simply ignore this appeal to compositionality.

claim language is *not* truth-conditional compositional, can be summarized as the following valid inference:

(E1) $S < T$
(E2) $\underline{T \leq P}$
(E3) $S < P$.

(Where '<' abbreviates *has fewer constituents than*, and '≤' abbreviates *has fewer constituents than or the same number of constituents as*.)

But now why does Fodor also assert that "a thought can't be inexplicit with respect to its content"? In terms of the notation introduced above, what Fodor wants to conclude is that not only $T \leq P$, but also $P \leq T$. That is, he wants to conclude that there is a one-to-one correlation between the constituents of the thought T and the constituents of the content P; we could abbreviate this as

(E4) $T \cong P$.

But how can Fodor infer (E4) from (E1-3)?

What Fodor actually does at this point is to invoke the essence argument, which if sound would support the desired conclusion (E4): if thought is *essentially* compositional then of course any argument that showed that *language* was *not* compositional could not be used to show that *thought* is not compositional. But we have seen that the essence argument is unsound; so if Fodor must depend upon the essence argument to reach the conclusion that a tokened thought cannot be inexplicit with respect to its content, then he has no sound argument for this conclusion. Fortunately for Fodor, however, there is a better argument available at this point. (Perhaps it is this other argument that Fodor really has in mind.)

Fodor could challenge us as follows: "Look, once you grant (E1), that the sentence is *inexplicit* with regard to the thought, what motivation could you possibly have for supposing that in *addition* to *S*'s inexplicitness with regard to *T* (and hence *P*), *T* is *also* inexplicit with regard to *P*? If you grant that one's *mental representation* is richer than the *sentence* uttered, then there could be no reason for supposing that the *content* of your mental representation is *also* richer than your mental representation. To put it crudely, since the inexplicitness of *S* with respect to *P* can be adequately explained by the inexplicitness of *S* with respect to *T*, there is simply no reason to suppose that T is *also* inexplicit with respect to *P*."

If one grants this additional premise to Fodor then he could infer the conclusion he desires, viz. that "no such objections as [radical pragmaticists] have been urging against the compositionality of language can be taken to hold against the compositionality of thought." We can express this additional premise in terms of our simplifying notation as follows:

(E5) If $S<T$, then there is no reason to deny $T \cong P$.

This conditional would license the inference from (E1) to the desired conclusion (E4). (Or at least to the conclusion that there is no reason to deny (E4).)

Does this argument then provide us a reason, albeit inconclusive, for supposing that thought is compositional, even if language is not? I do not think so. The reason is that I think some of counterexamples that radical pragmaticists offer against the truth-conditional compositionality of language are not plausibly explained by claiming only that *S* is inexplicit with respect to *T*, or more generally that utterances of sentences are inexplicit with respect to their Mentalese correlate tokenings. That the inexplicitness of sentences with respect to their contents cannot be wholly explained by the inexplicitness of sentences

with regard to their corresponding mental representations is one of the lessons of Perry's (1986) consideration of the Z-landers.[30] The Z-landers, recall, neither talk *nor think* about anywhere other than Z-land. They have no words for locations in their language. Perhaps it is best to imagine that the Z-landers cannot move, nor even think about moving. So there is no reason to suppose that the Z-landers have mental representations whose contents are Z-land, or any other location. Now suppose a Z-weatherman sincerely reports the weather by uttering 'It is raining'. Since, as Frege would remind us, the content of thoughts is *objective*, when we contemplate the truth of the content expressed and believed by the Z-weatherman, we must be contemplating the *same content*. And what do we judge these objective truth conditions to be? Specifically, *where* must it be raining for the Z-weatherman's assertion to be true? The intuitive response is that it must be raining in Z-land. Here we have, to put the point in Fodor's terms, a good reason for thinking that the inexplicitness of the Z-lander's utterance of 'It is raining' with respect to its content, which contains Z-land is a "constituent," is *not* adequately explained by supposing that the sentence 'it is raining' is inexplicit with respect to the Z-weatherman's mental representation – there is no reason to suppose that the sentence is *inexplicit* with regard to the *thought*. But, if the content *we* grasp is the content the Z-weatherman expresses, then *there is* reason to think that the Z-weatherman´s *thought* is inexplicit with regard to this content.

Fodor might of course deny that the content we grasp is the content the Z-weatherman expresses. Z-landers are, we must admit, outlandish. The problem with this response is that, as Perry would remind us, there is a little Z-lander in all of us: When in

[30] Perry writes, "there is no reason that thoughts that employ representations in the language of thought should not have unarticulated constituents, just as statements that employ sentences of natural language do," (1986, p. 145).

your ordinary day you sincerely assert that the leaves of some ordinary looking plant are green there is no reason to suppose you have *either* something like THE LEAVES ARE GREEN UNDERNEATH WHATEVER PAINT THERE MIGHT BE ON THEM or something like THE LEAVES ARE GREEN EVEN IF ONLY BECAUSE OF GREEN PAINT in your belief-box. (Suppose your utterance is in response to a query about the color of an ordinary plant in your office.) The possibility of the leaves looking green as a result of being painted green is as foreign to you at that moment as the possibility of its raining in Palo Alto is to the Z-weatherman. Now suppose that later I ask you what the truth conditions of your assertion *are*: Does your assertion require for its truth that the leaves be *really* green, underneath whatever paint there might be, or would it suffice for its truth that the leaves be *merely painted* green? If your assertion has truth-conditional *content*, if it expressed a *proposition*, there *must* be an answer to this question. But now you are in the same position with regard to your former self as you were in with regard to the Z-weather man: If it is possible for this question to be answered correctly, then your mental representation at the time of utterance was *inexplicit* with regard to its content. But if it cannot be answered correctly because *you* cannot grasp the content of *your* past utterance, then we are in effect rejecting the notion of *content* altogether, for *content* is essentially shareable. Nor can we say that somehow now you are grasping *the same* content you formerly expressed, but it is has *changed* over time and now possesses different semantic properties. For this would conflict with the assumption that content is immutable, or, as Travis' puts it in the first citation above, that "there are no … possibilities for variation across occasions in the semantics a given thought *counts* as having" (Travis, 1997, p. 104). It seems then that if one accepts the sorts of arguments Perry (1986) advances in support of unarticulated constituents, then one must abandon the truth-

conditional compositionality of thought, on pain of violating the traditional conception of semantic content as essentially shareable and immutable.

4. Conclusion

None of the three arguments considered here provides us with a reason to accept the presupposition of Fodor's main argument, viz. that as between language and thought, *at least one of them* is compositional. This result suggests that Fodor's mixed view is unstable: *If* one agrees with radical pragmatics that *language* is not truth-conditionally compositional, then one should also deny that *thought* is truth-conditionally compositional. But two caveats are in order: First, the result only *suggests* this conclusion because here I have considered and rejected only three arguments in support of the claim that thought, yet not language, is truth-conditionally compositional. It must be acknowledged that there may be an argument not considered here that successfully supports the mixed position. Second, none of the arguments considered here imputes the claim that both language and thought obey a weaker version of compositionality, a version that does not assume *propositionalism*. Indeed, I suspect that when Fodor advances his mixed position what he really wants to say is that language is not *truth-conditionally compositional*, and thought is *conventional meaning compositional*. And there are compelling reasons to endorse both of these claims.

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