Philosophy of Mind

Double Disjunctivitis

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ABSTRACT: Direct Informational Semantics, according to which [X]s represent (express/mean) X if 'Xs cause [X]s' is a law, and Fodorian naturalistic semantics both suffer from double disjunctivitis. I argue that robustness, properly construed, characterizes both represented properties and representing symbols: two or more properties normally regarded as non-disjunctive may each be nomologically connected to a non-disjunctive symbol, and two or more non-disjunctive symbols may each be nomologically connected to a property. This kind of robustness bifurcates the so-called disjunction problem into a Represented-Disjunction Problem, of which Fodor was aware, and a Representer-Disjunction Problem, of which he was on the whole oblivious. Fodor fails to solve these problems: his solution to the former, the Asymmetric Dependence Condition, presupposes a successful solution to the latter, while possible responses that Fodor might make to the latter either beg the former or cannot be met or else flout the Naturalistic Requirement and the Atomistic Requirement. Even setting the Representer-Disjunction Problem aside, the Represented-Disjunction Problem does not get solved, because the robustness involving phonological/orthographic sequences (tokens and types) guarantees that nothing can meet the Asymmetrical Dependence Condition. Indeed there is a serious problem of individuating phonological/orthographic tokens and types in a manner that satisfies Fodor's expectations. This is made manifest by the presence of orthographic tokens embedded in larger tokens.

I. Fodor's Naturalization Proposal and the Represented-Disjunction Problem

The specific task which the naturalization project is designed to accomplish is to construct an information-based semantic theory that articulates (I) an atomistic and (II) naturalistic — i.e., in non-intentional, non-semantic terms — *sufficient* condition for a syntactically primitive predicate to express a property. (1) For convenience (I) will be referred to as the Atomistic Requirement and (II) as the Naturalistic Requirement. Now if Direct Informational Semantics were correct, "tamarao" would express the disjunctive property *tamarao or thump* because, under certain conditions, a thump and a tamarao are each sufficient for its tokening. Thus a tokening of a symbol would be *ipso facto* true. There would be no accounting for the fact that meaning is *robust*:' "cow" tokens get caused in *all sorts of ways*, and they all mean *cow* for all that'. (2) I shall refer to this problem (3) as the Represented-Disjunction Problem, considering that it figures on the represented side.

Fodor proposes to solve the Represented-Disjunction Problem without abandoning the main thrust of the information-theoretic account. His proposal (FP) is that "X" means X if: (4)

(1) ‘Xs cause [X]s’ is a law. (Information Condition)

(2) Some [X]s are actually caused by Xs.

(3) For all Y not = X, if Ys qua Ys actually cause [X]s, then Ys *causing* [X]s is (synchronically) asymmetrically dependent on Xs *causing* [X]s. (Asymmetrical Dependence Condition)

(4) Some [X]s are actually caused by non-Xs. (5) (Robustness Condition)

(1) should be read as saying that the property in virtue of which Xs cause [X]s is nomically connected with the property of being the cause of [X]s. (6) The process of naturalization is constrained to withhold the morphemic specification of tokens in favour of the more neutral phonological/orthographic reading. I have marked this distinction by using brackets for phonological/orthographic sequences whilst morphemes or words shall be indicated in the usual way by using double quotes. Thus [cow] for the phonological/orthographic sequence, and "cow" for the morphemic entity. But a warning is in order. The ordinary or natural construal of ‘phonological/orthographic reading’, involving as it does a presupposition of the notions of convention, conventional correctness and language, and these being intentional as anything can be, cannot be the right construal in the present context. The phonological/orthographic elements that are said to figure in the laws appealed to have to be brute phonological/orthographic elements, i.e., brute physical shapes.

II. Robustness and the Representer-Disjunction Problem

The way FP handles the Represented-Disjunction Problem looks very straightforward and has some intuitive appeal. Tokening a [horse] has many causes but it does not follow that "horse" means (represents or expresses) all of them or a disjunction thereof. "Horse" means *horse* because the *horse*-[horse] connection is the law on which all the other nomic connections involving [horse] tokens asymmetrically depend: Cows woudn’t cause [horse]s but that horses do.

It must be noted at the outset, however, that the robustness of meaning has a facet not emphasized by Fodor. It is that robustness means not only that a symbol’s getting caused in various ways is compatible with its representing a single non-disjunctive property, it means — corollarily-that (instantiations of) represented properties cause various events including but not limited to tokenings of phonological/orthographic sequences and tokenings of symbols *compatible with their being picked out by non-disjunctive symbols*. Properties typically produce in the exercise of their causal powers a multiplicity of effects some of which can be specified intentionally, some physically and others phonologically/orthographically. The causal power of X, which may be either intrinsic or extrinsic, is not exhausted by its causing [X]. I believe that Fodor’s failure to emphasize this aspect of robustness is due to his contempt for holism and strong commitment to the Atomistic Requirement, a requirement which favours adopting the methodological stance of determining the content of a symbol in isolation from the determination of the contents of other sysmbols.

Our presentation of the phenomenon of robustness highlights what is otherwise concealed in discussions of the Asymmetric Dependence Condition, the condition which forms the core of FP’s solution to the disjunction problem. In these discussions, the disjunction

problem is exhibited as something about the represented property, but this portrayal covers only half of the story. The other half concerns the representing side. Consider situations like these:

(i) *horse*—>[horse]

cow—>[horse]

(ii) *horse*—>[horse]

horse—>[cow]

In (i) two properties are each nomically connected with the same phonological/orthographic sequence. This is the type of situation which raises the Represented-Disjunction Problem for Direct Informational Semantics. Now (ii) is interesting because it raises a different type of disjunction problem. Here we have two different phonological/orthographic sequences being nomically connected with the same property. Direct Informational Semantics must say that it is [horse]-or-[cow] (7) rather than just [horse] which expresses *horse*. Insofar as it wants to identify these phonological/orthographic sequences with our English morphemes, it must say that "horse"-or-"cow", rather than just "horse", expresses *horse*. In a way the problem is to look for the semantically relevant difference between *the property of being a cause of [horse] tokens and the property of being a cause of [cow] tokens*. Hereafter I shall refer to this type of disjunction problem as the Representer-Disjunction Problem, considering that it figures on the representer side of the semantic relation. Therefore there are are least two types of disjunction problem. Adding the two together, Direct Informational Semantics and all information-based naturalistic semantics are saddled with the problem of having to avoid saying, on the level of primitives, that:

[*horse*]-or-[cow] expresses *horse-or-cow*.

The actual world, I suppose, is such that the 'disjunctions' on either side of this relation may be intolerably massive.

Direct Informational Semantics leads not merely to pansemanticism, as Fodor calls the doctrine that everything means something, but to double disjunctivism. To be sure, Direct Informational Semantics is open to another possibility, viz., [horse] and [cow] individually express *horse* — but only because it cannot give any reason for preferring one over the other. Since this possibility of acute semantic redundancy, itself only one remove from disjunctivism, is intolerable, we are well-advised to reject it as without mitigating potential. It is necessary for a Fodor-type naturalization project to solve both types of disjunction problems. Naturalizing the representational relation comes down to naturalizing the property of *being a representation of X and* naturalizing the property of *being represented by Y*. The former property is as intentional as the latter. This alone should have made it obvious that if there is a disjunction problem to be dealt with on the represented side, there must at the same time be a disjunction problem on the representing side, the latter being no less urgent than the former. The Representer-Disjunction Problem shows its sting because one is not entitled to assume that orthographic/phonological divisions coincide with morphemic ones. In fact, in large measure, the problem of the naturalization project is whether, for example, [tamarao] can be identified with "tamarao".

How might FP's solution to the Representer-Disjunction Problem and the Represented-Disjunction Problem go? *Prima facie* FP has no solution to offer of the former problem. Remember that the Asymmetric Dependence Condition has something to do with, for instance, the law involving [horse]s on which all other laws involving [horse]s

asymmetrically depend. It is designed to deal with the latter problem, and its application presupposes that a successful solution to the former has been found whereby [horse] in (i) and (ii) is determined to be the right phonological/orthographic sequence. So let us review some moves that Fodor might make.

(a) He might react with his usual dismissive strategy and simply legislate that [horse] is the relevant sequence, [cow] isn't, and that is all there is to it: so nothing prevents the application of his conditions including the Asymmetric Dependence Condition. The reason why the move won't do is because it amounts to an acknowledgment that the distinction between the semantically relevant and the irrelevant sequences is not principled. What the relevant sequence is does not lie in the nature of things, it is rather imposed by the theorist. The Naturalistic Requirement, in consequence, is compromised. With the Representer-Disjunction Problem, it becomes implausible to insist that it is enough to have an objective asymmetrical dependence of the *cow*-[horse] law on the *horse*-[horse] law as if there is no need to explain the special status accorded to the [horse] token or type. It now appears that asymmetrical dependence cannot explain that, for asymmetrical dependence is given pride of place in part because [horse], in the situation, is special.

(b) Fodor might devise, if only to pursue an aesthetically satisfying symmetry between the two disjunction problems, a Second Asymmetric Dependence Condition which runs like this:

> (5) For all [Y] not = [X], if Xs qua Xs actually cause [Y]s, then Xs causing [Y]s is asymmetrically dependent on Xs *causing* [X]s.

And to complete the symmetry, in analogy with the idea that "asymmetric dependence engenders content only if it produces robustness," (8) a counterpart of the Robustness Condition might be deemed essential:

> (6) Some non-[X]s are actually caused by Xs.

(6) merely reaffirms the importance of the other side of robustness — as such there should not be any qualms about it. The Second Asymmetric Dependence Condition is a different matter. When applied to situations (i) and (ii), it requires that the horse-[cow] connection be asymmetrically dependent on the *horse*-[horse] connection. Unfortunately, whereas the application of the Asymmetric Dependence Condition takes for granted the availability of a successful solution to the Representer-Disjunction Problem, the Second Asymmetric Dependence Condition reverses the direction, as it were, by begging the Represented-Disjunction Problem. Moreover, there is a manifest impossibility of satisfying it. Look at situations (i) and (ii) again. Imagine that Mary is a normal human being (in the actual world) so that the laws in (i) and (ii) are operative. Now it is physically possible for her to acquire a rare neurological disease which makes her incapable of tokening [horse] in writing and in speech (or, if you will, tokening [horse] in the brain). In that possible world, let us suppose, she can still token [cow]. Though the *horse*-[horse] law and the *cow*-[horse] law are in effect broken, the *horse*-[cow] law remains intact. Mary's case can be generalized, showing that the Second Asymmetric Dependence Condition can never be satisfied.

(c) An alternative strategy which won't do is to claim that [cow] is to be taken out of consideration when determining what expresses *horse*, because its content is determined independently through the application of FP. Our not recognizing this alternative strategy, it might be said, is due to our limiting our attention to (i) and (ii). But, one might continue, there are situations like the following:

> (iii) *cow*—>[cow]

horse—>[cow]

The problem with this, despite its call for more attention, is that it suffers from partial vision. The Representer-Disjunction Problem appears here as well as shown by this situation:

(iv) *cow*—>[cow]

cow—>[horse]

Even ignoring the fact that the strategy does not in any way address the problems already mentioned, it is definitely not open to Fodor. For one thing, it violates the Naturalistic Requirement: the condition proposed here is obviously semantic. It can no doubt be rephrased in a way which can seem to disarm this objection, by saying that [cow] is ruled out because it participates in another set of relations where the Asymmetric Dependence Condition holds. But quite independently of whether the redescription will ultimately go through so as to avoid violating the Naturalistic Requirement, it cannot help violating the Atomistic Requirement in that the determination of the semantically relevant token or type is made to rest on the content of another having been determined.

III. Asymmetric Dependence and Phonology/Orthography

But assume, for the sake of discussion, that the Representer-Disjunction Problem has been fixed for naturalization purposes, (9) we can still ask directly if there is truth to the assertion that the favoured status falls on the *horse*-[horse] connection in the manner required by the Asymmetric Dependence Condition. Robustness, as we have described and exemplified it, demonstrates the falsity of such claim. Block has objected to FP along this line:

> If you mean by "cow" something like *the phonological/orthographic sequence [cow]*, (10) then there's just no reason at all to believe the claim you're making. For example, there is surely a possible world in which cows don't cause [cows] but trees do, viz., *the world in which [cow] means tree*. So ... it clearly can't be nomologically necessary in order for "cow" to mean *cow* that nothing causes [cow]s in worlds where cows don't.
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> . . . There is *no* orthographic/phonetic sequence [X] which mightn't mean *tree* in some nomologically possible world or other, whatever [X] happens to mean here. . . . It follows that there is no orthographic/phonetic sequence [X] the nomologically possibility of tokenings of which is dependent on [X]s being caused by Xs. So there is no such sequence that satisfies your sufficient condition for meaning X. (11)

The response is evasive and brings in a substantial modification to FP:

> [T]he asymmetric dependence proposal is that *all else being equal*, breaking the cow—>[cow] breaks the X—>[cow] for all X.... [W]hat's wrong with Block's argument is that all else *isn't* equal in the worlds that he imagines. To get those worlds, you need to suppose *not only* that cow —>[cow] is broken, *but also and independently* that tree—>[cow] is in force. It's this independent supposition that violates the 'all else equal' clause.
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> ... If you put in 'all else equal', then what the theory requires is *not* that cows cause [cow]s in *every* nomologically possible world where Xs cause [cows]s. Rather, what's required is just that there be worlds where cows cause [cow]s and noncows don't; and that they be nearer to our world than any world in which noncows cause [cow]s and no cows do.... [T]he intuitively plausible assumption [is] that worlds that are just like ours except that it's the case that cows don't cause [cows] are ipso facto nearer to us than worlds that are just like ours except that it's both the case that cows don't cause [cow]s *and* that trees do. (12)

The supposition in this response is that in the *actual world* trees never cause [cows] — unless such connection asymmetrically depends on the *cow*-[cow] connection. Which

brutally begs the problem. It is Fodor who assumes that *tree*—>[horse] is *not* in force. There is no need to imagine, as Block does, possible but non-actual worlds in which [cow] means *tree*. Robustness affirms that trees or other things, events and processes cause — 'independently' cause — [cow] tokens among others. Suppose that the *tree*-[cow] connection is mediated and sustained in my own case by a memory of seeing a tree on whose bark a [cow] has been accidentally or intentionally etched. This guarantees the non-existence of the required (synchronic) asymmetric dependence, and far from being isolated cases like this are ubiquitous. Connections between properties and phonological or orthographic sequences are mediated in all sorts of ways. (13) It matters not at all whether the 'all else equal' clause, as understood by Fodor, is violated, what matters is that robustness, as described, is the way the world is. I do not *stipulate* independent connections; I merely draw attention to how things are. In the actual world — and so nothing could be nearer — there are [cow]s which *don't mean cow*: the [cow] in [cowage], for instance. *Cowage* would still cause [cows] even if cows don't, because *cowage* would still cause [cowage] and this orthographic sequence contains [cow]. Therefore, Fodor's "intuitively plausible assumption" stated in his reply is false.

It should have become apparent to the proponent of FP how insurmountable the problems would be for any causal account couched in terms of tokenings of phonological/orthographic sequences. The unsurprising thing about them is that they are embedded in many contexts. Note that the use of "limpkin", for example, depends neither on the use of "limp" nor on the use of "kin". In general, 'nomic' connections implicating the tokenings of *semantic or morphemic* entities like "limpkin" do not asymmetrically depend on laws about the tokenings of other *semantic/morphemic* entities like "limp" and "kin". Likewise for the corresponding orthographic sequences. It doesn't help to add that one is speaking, for example, of [S]s *qua* [S]s, (14) purporting thereby to rule out [SZ]s as involving tokenings of [S]s. "[S]s *qua* [S]s" simply means [S]s as brute orthographic tokens. In so far as cases of embedded phonological/orthographic sequences abound, they pose a serious challenge to FP as a general theory of reference. (15) There is just no reason to suppose that orthographic individuation coincide with semantic/morphemic typing; whilst there is every reason to believe that phonological/orthographic classification cuts across semantic/morphemic classification. Fodor seems to have presupposed that they do coincide, and so he begged the problem which lies at the heart of the naturalization program he wants to carry out. (16)

What should really drive one to resist the belief that the Asymmetric Dependence Condition can be met either in thought (Mentalese) or in public language, are such examples as: "[cow]s cause [cow]s" is a law (read: the property of being a [cow] token is nomically connected with the property of being a cause of [cow] tokens); "[horse]s cause [horse]s" is a law; and so on. That they defy the condition is so convincing that if one of them behaves in the way the naturalizer wants them to, it can only be regarded as no more than a fortuitous state of affairs. The [cow]-[cow] connection does not (synchronically) asymmetrically depend on the *cow*-[cow] connection, and one might even be tempted to bet on the proposition that it's the *cow*-[cow] connection which asymmetrically depends on the nomic connection between [cow]s and [cow]s. I surely do not intend to go that far, but if the proposition were true the naturalizer would have to say that [cow] means [cow], naturally an unpleasant thing to say. Nor should it ever occur to us to escape from the present difficulty by considering [cow] to be ambiguous, by claiming that it means [cow] and *cow*.

The conclusion holds that Fodorian naturalistic semantics is yet to cure itself of double disjunctivitis. No indication is felt that relief from within, if not from without, is forthcoming.

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Notes

(1) See Fodor (1990), pp. 52, 82. Cf. Fodor (1987), p. 98.

(2) Fodor (1990), p. 91.

(3) See Fodor (1990), p. 59; Fodor (1987), pp. 101-102.

(4) See Fodor (1990), p. 121.

(5) See Fodor (1990), pp. 117-118, 127, 128.

(6) See Fodor (1990), p. 102.

(7) This expression — "[horse]-or-[cow]" — is used to indicate the point that [horse] has as much (or as little) right to be picked out as [cow] as that which expresses whatever it is that is expressed. It is *the property of being a cause of [horse] tokens-or-the property of being a cause of [cow] tokens* that is nomologically related to some other property.

(8) Fodor (1990), p. 118.

(9) Insofar as Fodor cannot solve the Representer-Disjunction Problem, he fails to answer Baker's fundamental query variously expressed as: "What nonsemantic, nonintentional conditions make 'an 'A'-token' even a candidate as a description of the token caused by B?" (1989, pp. 170-171); "What nonintentional, nonsemantic conditions determine that the token caused on this occasion by a cow is a 'horse'-token?" (1989, p. 171); "In virtue of what is this cow-caused token a 'horse'-token?" (1989, p. 171). This query is reiterated in her (1991): 'What are the *relata* of the nomic relation to which representation of a cat, say, is to be reduced? How do we complete the statement: "It is a law that cats cause Xs," where Xs are tokens of a certain type' (p. 289).

(10) The convention originally used has been replaced. Subsequent quotations will also bear my own convention.

(11) Fodor recounts this unpublished objection in his (1990), pp. 111-12.

(12) Fodor (1990), pp. 112-13

(13) See Fodor (1990) p. 109.

(14) Fodor employs the word ‘qua’ quite liberally. I’m not sure about its import in contexts like Fodor’s. He speaks, for instance, of cows *qua* cows causing [cow]s; and I don’t know why he doesn’t speak instead of cows-on-a-bright-day *qua* cows-on-a-bright-day causing [cow]s. This is all the more suspicious because he also talks of horse-on-a-dark-night causing [cow]. The only explanation I can think of is that he’s desperately trying to hide his implicit appeal to normal conditions, an appeal which he vigorously denounces when used by his competitors in the naturalization business.

(15) Witness the existence of these orthographic sequences: [zebra], [zebra finch], [zebra wood]; [plea], [sure], [pleasure]; [posit], [ion], [position]; [jet], [ton], [jetton], [cot], [cotton]; [lace], [wing], [lace wing]; and many more.

(16) At this point the Fodorian naturalist might feel an urge to finesse this difficulty through functional role typing of the semantically relevant phonological/orthographic sequences, but this would sit ill with the overall standpoint of Fodor who is on record for impugning the cogency of functional role semantic theory both for its motivation and for its details, in particular because it invites the specter of holism and hence a violation of the Atomistic Requirement. See Fodor (1987), chapter 3; Fodor (1991), pp. 301-304; Fodor and LePore (1992), chapter 6.