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CONTENT AND CONTEXT

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Beliefs are ordinarily attributed in English by sentences with embedded 'that'-clauses—for example, 'Jones believes that rock-climbing is dangerous.' Such sentences identify beliefs by what have come to be called 'broad contents.' Since broad contents individuate beliefs in part by reference to the believer's environment, beliefs are *relational* mental states: the conditions for having a belief, say, that water is wet or that arthritis is painful, depend not only on the intrinsic properties of the believer, but also on the nature of the believer's physical and social environment.¹

Assuming that beliefs individuated by broad contents are relational, I am here concerned with the explanatory status of belief states. Are beliefs (or the properties that individuate them) causally explanatory?² Are relational properties ever causally explanatory? Some philosophers—prominently, Jerry A. Fodor—acknowledge the causal relevance of relational properties generally, but take beliefs individuated by broad content to be metaphysically unsuitable for purposes of psychological explanation.

Explanatory properties in the relevant sense are taxonomic, i.e., they are projected by the laws of some science; and since the sciences aim at causal explanations, Fodor holds, taxonomy in the sciences is by causal powers.³ Fodor argues that broad contents do not contribute in the relevant way to an individual's causal powers, and hence that they can not be taxonomic in psychology. Nonetheless, he upholds the explanatory status of other relational properties; indeed, Fodor says, "Taxonomy by relational properties is ubiquitous in the sciences." (MANC, 12) Thus, Fodor defends the conjunction of (A) and (B):

- (A) Relational properties that individuate belief states are not taxonomic in psychology.
- (B) Some relational properties are taxonomic in the special sciences.

I shall try to show that (A) and (B) do not sit comfortably on the same bench. Fodor's arguments, I shall urge, either fail to disqualify broad contents as taxonomic, or else disqualify all relational properties as taxonomic. I am not going to claim that broad contents must be taxonomic in psychology, only that the metaphysical considerations against their being taxonomic are faulty. Logically and metaphysically speaking, as broad contents go, so go relational properties generally—Fodor's claims to the contrary, notwithstanding.

Fodor's new argument for (A) is part of an argument that intentional psychology individuates states with respect to narrow content, where narrow contents are nonrelational. Narrow content supervenes on the subject's intrinsic properties, without regard to the subject's environment. The skeleton of Fodor's new argument for narrow content is this:

- (1) All scientific taxonomies individuate states with respect to their causal powers.
- (2) Intentional psychology individuates states with respect to intentional content.
- (3) Difference in broad content does not suffice for (relevant) difference in causal powers.

Therefore,

- (4) Intentional psychology individuates states with respect to narrow content.

Fodor's latest argument consists mainly of a new defense of (3), in which Fodor proposes a necessary condition (what I shall call the "no-conceptual-connection" test) for a difference to count as a difference in causal power, and then claims that broad contents fail it.

Fodor formulates two tests—the "no-conceptual-connection" test and the "cross-context" test—for determining when a property is a causal power and hence may be taxonomic in some science. More precisely, the tests are to show when the difference between having a particular property and not having it is a difference in causal power, in virtue of the responsibility of the property for properties of the subject's behavior. Only properties whose possession makes a difference to the bearer's causal powers can be taxonomic; taxonomic properties in psychology must make a difference to the subject's actual or possible behavior. Broad contents can not be taxonomic in psychology, Fodor argues, because they fail the no-conceptual-connection test; but other relational properties, like the property of being a planet, can be taxonomic in other sciences, because they pass both tests.

In the next two sections, I shall argue that the only principled way that Fodor has to rule out broad contents as taxonomic would also rule out other relational properties, like that of being a planet, as taxonomic. In particular,

broad contents actually pass Fodor's no-conceptual-connection test in the relevant way — i.e., difference in broad content is difference in causal powers, in virtue of the responsibility of the property for the properties of the subject's behavior; and any interpretation of the cross-context test which would disqualify broad belief as taxonomic would also disqualify relational properties generally as taxonomic. In the final section, I shall turn to larger issues.

The "No-Conceptual-Connection" Test

In this section, I want to show that broad contents in fact do satisfy Fodor's necessary condition for a difference to count as a difference in causal power, in virtue of its responsibility for a difference in behavior.⁴ Hence, the argument for (3) collapses.

Fodor offers a schema in terms of which he casts his argument. Consider a situation in which there is a pair of causes C1, C2, and their effects E1, E2, such that

C1 differs from C2 in that C1 has cause property CP1 where C2 has cause property CP2.

E1 differs from E2 in that E1 has effect property EP1 and E2 has effect property EP2.

The difference between C1 and C2 is responsible for the difference between E1 and E2 in the sense that, if C1 had had CP2 rather than CP1, then E1 would have had EP2 rather than EP1; and if C2 had had CP1 rather than CP2, E2 would have had EP1 rather than EP2. (MANC, 9)

I shall follow Fodor and think of the schema "sometimes as relating events and sometimes as relating event types." (MANC, 9) Now, asks Fodor, which instances of the schema "are cases where the difference between having CP1 and having CP2 is a difference in causal power in virtue of its responsibility for the difference between E1 and E2?" More briefly, when is the difference between CP1 and CP2 a difference in causal power? Fodor's answer: when the difference in cause properties is not conceptually connected to the difference in effect properties. Fodor initially states this requirement by saying that the difference between CP1 and CP2 is a difference in causal power

Only when it is not a conceptual truth that causes which differ in that one has CP1 where the other has CP2 have effects that differ in that one has EP1 where the other has EP2. (MANC, 19)

This necessary condition is supposed to rule out broad contents as causal powers because, although the difference between having water-thoughts and having twin-water-thoughts is responsible for the difference in intentional properties of behavior (e.g., drilling for water vs. drilling for twin-water), it is a conceptual truth that thoughts that differ only in being water- or twin-water-thoughts have effects that differ only in being water-drillings or being twin-water-drillings.⁵

The necessary condition is then revised to take care of an objection posed by Stephen Stich. Suppose, for example, that water is Bush's favorite drink. Then, it is not a conceptual truth that beliefs that differ in that one is about Bush's favorite drink and the other is about twin-water have effects that differ in that one is a water-behavior and the other a twin-water-behavior. Yet, Fodor does not want to count the difference between being about Bush's favorite drink and being about twin-water as a difference in causal powers. So, he must amend his necessary condition on causal powers to rule out such a case.

Although Fodor never actually formulates the patched-up version of the necessary condition, he adds the requirement that the following not be conceptually necessary:

If B [e.g., being concerned with Bush's favorite drink] is a property that water behaviors have, then if my thoughts are water thoughts, then my behaviors have B.

If B is the property of being concerned with Bush's favorite drink, then this conditional is, as Fodor wants, conceptually necessary: There is a conceptual connection between water-thoughts and water-behaviors, and there is no possible world in which being concerned with Bush's favorite drink is a property of water behaviors, and Fodor's thoughts are water thoughts, yet Fodor's behaviors fail to be concerned with Bush's favorite drink.

To see that not all conditionals of this form are conceptually necessary truths, Fodor says, suppose that thinking about topology causes headaches and compare the following conditional:

If B [e.g., being painful] is a property of headaches, then if S's thought is about topology, S's mental state is painful.

This conditional, though true, is not a conceptually necessary truth. The "headache" conditional is only a contingent truth, because it is a contingent truth (if it is a truth at all) that topology thoughts cause headaches. In some other world, headaches have B (the property of being painful), S has topology thoughts, yet S's mental state lacks B—because in that world topology thoughts do not cause headaches.⁶

Putting these conditions together, we have the following as a necessary condition on causal powers: Suppose that C1, C2, CP1, CP2, E1, E2, EP1 and EP2 satisfy Fodor's schema. Then:

- (CP) Two cause-properties, CP1 and CP2, are different causal powers only if neither (i) nor (ii) is a conceptual truth:
- (i) Causes, C1 and C2, which differ in that C1 has CP1 and C2 has CP2, have effects, E1 and E2, which differ in that E1 has EP1 and E2 has EP2; and
 - (ii) If B is a property that events with EP1 have, then if C1 has

CP1, then E1 has B.⁷

Fodor believes that broad contents fail to satisfy this necessary condition for being causal powers. However, I believe that Fodor has too limited a view of the difference that difference in broad content can make. I want to show that differences in broad content unaccompanied by physiological differences make a causal difference in behavior that satisfies Fodor's necessary condition(s) on causal powers. So, let us consider an example.

In English, the word 'jade' denotes both jadeite and nephrite, which differ in structure. Although they are similar in appearance, jadeite, which is found mainly in Burma and in Central America, is much more valuable than nephrite, which is found all over the world. Despite the fact that knowledgeable people are aware of these differences, 'jade' in English still refers not only to jadeite, but to nephrite as well. As (spoof) proof, let me cite Webster's Unabridged Dictionary, which gives the following as a definition of 'nephrite': "the less valuable of two varieties of jade, compact in structure and varying in color from white to dark green."

Now suppose that there is another community, in which all the differences between jadeite and nephrite are also well known by the experts and by the informed jewelry-buying public. But in the other community, the word that sounds like 'jade' denotes only jadeite. 'Jade' is as inapplicable to nephrite in the other community as 'gold' is to iron pyrite in our community. The less valuable nephrite is called something else and is not in the extension of 'jade.' The truth conditions of the sentences 'There are jade stones,' then differ in the two communities. In English, 'There are jade stones' is true iff there are either jadeite or nephrite stones. In the other community, 'There are jade stones' is true iff there are jadeite stones.

Consider another possible world that has in it both our English-speaking community and the other community (or their counterparts), and suppose that there are two microphysical duplicates, A and B, in that other world. A lives in the English-speaking community, and B in the other community. Although both use (what sounds like) 'jade' in various correct sentences in their respective communities, neither is a jewelry-buyer and neither knows that there are two similar kinds of tough green stones. So, when A has thoughts about jadeite-or-nephrite, B has thoughts about jadeite.

Now suppose that A and B both appear as contestants, in their respective communities, on qualitatively identical quiz shows. For the grand prize, each has to identify a stone. (The stones are qualitatively identical pieces of nephrite.) Each quiz show host says: "Here's a lovely green stone. Can you identify it?" To this, A and B give acoustically identical replies: "The stone is jade." Now A has given a winning answer; in A's community, nephrite is a variety of what is called 'jade.' B, however, has given a losing answer; in B's community, nephrite is not a variety of what is called 'jade.' At this point—when A hears the

audience applaud and B hears the audience groan — the stories depart; A and B cease to be duplicates.

Now put this story into Fodor's schema. A tokens neurophysiological type T, which has the property of being a belief with the same truth condition as the English sentence, "The stone is jadeite or nephrite," and which causes emission of a sound of acoustical type U that has the property of being a winning answer. B tokens neurophysiological type T, which has the property of being a belief with the same truth conditions as the English sentence, "The stone is jadeite," and which causes emission of a sound of acoustical type U that has the property of being a losing answer. Schematically, let:

- C1: a state realized by neurophysiological type T.
- C2: a state realized by neurophysiological type T.
- CP1: being a belief with the same truth condition as the English sentence, "The stone is jadeite or nephrite."
- CP2: being a belief with the same truth condition as the English sentence "The stone is jadeite."
- E1: emission of a sound of acoustical type U.
- E2: emission of a sound of acoustical type U.
- EP1: being a winning answer.
- EP2: being a losing answer.

The beliefs, C1 and C2, have different cause properties, CP1 and CP2, and the answers, E1 and E2, have different effect properties, EP1 and EP2. Furthermore, if C1 had had the truth conditions that C2 had, then E1 would have been a losing (rather than a winning) answer. Fodor proposes to block broad contents as causal powers if the relevant instances of (i) and (ii) in (CP) are conceptual truths. To see that they are not conceptual truths, let (i') and (ii') illustrate relevant instances of (i) and (ii):

- (i') Two states realized by neurophysiological states of type T, which differ in truth conditions (as described), have effects (acoustically identical sounds), which differ in that one is a winning answer and the other is a losing answer.
- (ii') If being a winning answer is a property of winning answers, then if a state realized by neurophysiological state of type T has the property of being a belief with the same truth conditions as the English sentence, 'The stone is jadeite or nephrite,' then the emitting of a sound of acoustical type U is a winning answer.

(i') and (ii') are, of course, true; but, obviously, they are not conceptually necessary truths. There is no conceptual connection between having certain truth conditions and being a winning answer. (ii') is parallel to Fodor's "headache" conditional; the "headache" conditional is only contingently true, because in other worlds, topology thoughts do not cause headaches, and the conditional is

false in such worlds. (ii') is only contingently true, because in other worlds, a belief with the given truth conditions may not produce a winning answer. If A and B had been presented with the same stones and asked the same questions in some context other than a quiz show, then their answers would not have had the properties, respectively, of winning and losing.

Although in the example, being a winning answer and being a losing answer are different "effect properties," notice that they, in turn, are causally efficacious and that they produce very different results. E1 elicits cheers from the studio audience; E2 elicits groans from the studio audience. E1 leads to A's taking away the grand prize; E2 leads to B's going away empty-handed. When A's husband suspiciously questions A about how she suddenly acquired such wealth, A can cite this *as a cause*: "I gave the winning answer." The winning answer allows A to retire while the losing answer forces B to return to a dreary job. Such differences in subsequent effects indicate that the quiz-show-episodes are parts of *causal* processes.

Someone may object that psychologists are not concerned with the difference between being a winning answer and being a losing answer. To this objection, I have a two-fold reply. First, there may well be contexts in which the difference between winning and losing answers is exactly what a psychologist is interested in. (You may seek out such a psychologist to treat your under-achieving child, who oddly produces wrong answers when you suspect that he knows better.) We can not say a priori under what kinds of descriptions psychologists will explain behavior. Second, even if psychology never countenanced properties like 'being a winning answer,' that fact would be irrelevant to my point. For Fodor's condition is perfectly general; it has nothing in particular to do with psychology. My point is that Fodor gave a necessary condition for properties to be explanatory (in the sense described above) and he claimed that broad contents do not satisfy this condition (the no-conceptual-connection test). And I provided a counterexample to show that, in fact, broad contents do satisfy it. Hence, Fodor's no-conceptual-connection test can not rule out differences in broad contents as causally explanatory differences, regardless of what counts as behavior in psychology.

Here, then, is what I claim for the "jadeite" example: Differences in broad content, unaccompanied by neurophysiological differences, causally explain differences in behavior which are not conceptually connected to the broad contents that explain them. Fodor may insist that such differences in broad content as I have described fail to be differences in causal powers in his sense; in that case, I would reply that causally explanatory properties need not be causal powers in his sense. (I do not care about the term 'causal powers,' which seems to flop around anyway.) On the other hand, if we simply agree to call causally explanatory properties "causal powers," then I do not believe that Fodor's conditions have ruled out broad contents as causal powers.

Thus, I do not believe that Fodor has given reason to think that differences

in broad content, unaccompanied by neurophysiological differences, fail to be taxonomic. Fodor's necessary condition on causal powers, in terms of conceptual connections between cause- and effect-properties, does not preclude differences in broad contents as differences in causal powers. I now want to show that broad contents are as worthy as nonpsychological relational properties to be causally explanatory "powers."

The "Cross-Context" Test

The no-conceptual-connection test is not the only weapon against broad content in Fodor's arsenal. In addition to passing that test, explanatory properties must also pass the cross-context test. To see whether causal powers are the same or different, we must compare the individuals "*across* contexts rather than *within* contexts." (MANC, 8) The idea of the cross-context test is that two individuals have the same causal powers if and only if: in the same context, they have the same effects. To see whether or not a relational property makes a difference to causal powers, consider two individuals who are similar except that one has the property in question and the other lacks it. Now, according to Fodor, the property makes a difference to causal powers only if the individuals have different effects when considered "across contexts."

Before examining the cross-context test, note that Fodor himself no longer puts stock in the cross-context test to rule out broad contents as explanatory. Indeed, in order to motivate the no-conceptual-connection test, Fodor says that broad contents *do* survive the cross-context test:

[W]hatever the context of utterance, my utterance is a water request and his utterance is a twater request. So our behaviors remain relevantly different under these intentional descriptions *even by the across-context test*. It is this residual difference between the behaviors—their cross-context difference under certain intentional descriptions—which is the challenge to individualism and local supervenience." (MANC, 8-9; emphasis his.)

Fodor seems to be admitting here that —without the aid of the no-conceptual-connection test, which we have seen to be no help—the cross-context test does not disqualify differences in truth condition alone as differences in causal powers, in virtue of the effects of such differences on the properties of behavior. Nonetheless, the cross-context test deserves consideration. In particular, does my counterexample pass the cross-context test?

The difficulty with the cross-context test is that Fodor never explicitly formulates it, and his comments about it suggest more than one interpretation. I shall offer several interpretations of the cross-context test—all the interpretations for which I find evidence in Fodor—and argue with respect to each one of them either that broad contents pass it or that other relational properties (like being a planet) do not pass it. On each of the interpretations of the cross-context test, either having certain truth conditions passes it or being a planet fails it, or

both. If that is right, then the cross-context test can not rule out broad contents as taxonomic without ruling out nonpsychological relational properties in good standing also.

Here is an initially plausible way to interpret the cross-context test:

CCT1: *x* and *y* have the same causal powers if and only if: if *x* had been substituted for *y*, then *x* (in *y*'s context) would have had all the same effects that *y* did have.

CCT1 would disqualify all relational properties—such as being a planet—as causal powers. Fodor says that being a planet is a relational property in good standing, and that this property could “distinguish molecularly identical chunks of rock,” and that being a planet constitutes a causal power in good standing. (MANC, 12) Let R1 be a planet revolving around a star and R2 be a nonplanetary microphysical duplicate held (for a time at least) in an elliptical orbit by the distribution of matter in the universe. Now substitute R1 for R2 and vice versa. Since R2 is a microphysical duplicate of R1, when R2 is substituted for R1, R2 will orbit around R1's star, and hence will be a planet when put in R1's environment. So, if R2 is substituted for R1, R2's effects have all the same properties that R1's effects did have. Hence, on CCT1, R1 and R2 have the same causal powers, and the difference between being a planet and not being a planet fails to be a difference in causal power. So, on CCT1, the property of being a planet does not pass the cross-context test.

No relational property can pass the cross-context test as interpreted via CCT1 for the simple reason that CCT1 amounts to a requirement (or stipulation) that properties that suffice for a difference in causal powers be nonrelational. Indeed, CCT1 is almost a paraphrase of Stephen Stich's replacement argument for his “Autonomy Principle,” the point of which is to confine explanatory properties to those that supervene on the current intrinsic properties of their bearers.⁸ And, as Fodor points out, the property of being a planet does not supervene on the current intrinsic properties of its bearer.

Thus, if we use CCT1 to interpret the cross-context test, then no relational properties are taxonomic. Since Fodor says that “[t]axonomy by relational properties is ubiquitous in the sciences...,” CCT1 does not yield the correct interpretation of the cross-context test.

So, let us try another interpretation. In discussing the cross-context test in “A Modal Argument for Narrow Content,” Fodor comments in a footnote: “[O]ne applies the cross-context test by asking whether A would have the same effects as B does have if A were to interact with the same things...with which B does interact.” (MANC, 8) This suggests interpreting the cross-context test by means of CCT2:

CCT2: *x* and *y* have the same causal powers if and only if: if *x* had interacted with the same things (or their counterparts) that *y* did

in fact interact with, then *x* would have had all the same effects that *y* in fact did have.

Interpreting the cross-context test on the basis of CCT2, a difference in truth conditions suffices for a difference in causal powers, but the difference between being and planet and not being a planet does not suffice for being a difference in causal powers.

The case of broad contents: A and B also differ in causal powers if the original story is amended slightly. Suppose that A and B had never interacted with either jadeite or nephrite, and that both learned what sounds like 'jade' in their respective languages from teachers who had never interacted with either jadeite or nephrite either. Indeed, the teachers themselves could be microphysical duplicates. (If this seems implausible, take the original story and suppose that A and B have microphysically identical children to whom A and B teach what each calls 'jade' in her respective language — before the quiz show, while A and B are still duplicates.) The physical identities of the individuals with whom A and B interacted are irrelevant to the intentional and semantic properties that A and B acquire. So, given CCT2, the cross-context test does not block the counterexample.

The case of the property of being a planet: Again, let R1 be a planet revolving around a star and R2 be a nonplanetary microphysical duplicate held in an elliptical orbit by the distribution of matter in the universe. Then, assuming gravitational pull to be an interaction, if R2 had interacted with everything that R1 in fact interacted with, R2 would be revolving around the star and thus would be a planet; and if R1 had interacted with everything that R2 in fact interacted with, R1 would not be revolving around a star and hence would not be a planet. Hence, on CCT2, the difference between being a planet and not being a planet fails to be a difference in causal powers.

So, CCT2 can not provide the interpretation of the cross-context test that suits Fodor's purposes: for CCT2 both allows the counterexample to go through and disqualifies differences in nonintentional relational properties like that of being a planet as differences in causal powers.

Here is a final attempt to interpret the cross-context test. In introducing the cross-context test, Fodor gives an example in *Psychosemantics*: "Roughly, our biceps have the *same* causal powers if the following is true: For any thing *x* and any context *C*, if you can lift *x* in *C*, then so can I; and if I can lift *x* in *C*, then so can you." (P, 35) This suggests interpreting the cross-context test by means of CCT3:

CCT3: *x* and *y* have the same causal powers if and only if: there is no context *C* such that *x* has an effect in *C* that *y* in *C* does not have.

Interpreting the cross-context test on the basis of CCT3, A and B clearly have

different causal powers. Here is a relevant context: Let the quiz show be part of the international Quiz Show Olympics, in which multi-lingual translators determine what each contestant says—i.e., what answer she gives. In this context, the property of being a winning answer is one that A's behavior has and B's behavior lacks. Assuming that the quiz-show's translators are competent and alert, A's is the winning answer and B's the losing answer—as in the original story. So, given CCT3, the cross-context test does not block the counterexample.

Although I think that this is an adequate response to CCT3, let me elaborate a bit by posing a possible objection. The objection is that we should allow A and B to differ only in the truth conditions of their mental states, not in any other way that quiz show judges can detect.⁹

This objection amounts to an ad hoc stipulation. Typically, in Olympic Competitions, the knowledge of national identities of the participants is highlighted, not bracketed. In any case, a counterexample may assume whatever is necessary for there to be a difference in truth conditions in what sounds like 'The stone is jade' in each language, and (I believe, but shall not argue here) the difference in truth conditions that I described requires other intentional differences between the two communities. If so, then I am free to exploit such differences as are required for A's and B's mental states to differ in truth condition. I need only claim that A's and B's local contexts are physically similar, not that there are no other differences elsewhere in the communities. (Note that A's and B's communities are in the same possible world; so there is no question of whether their "whole worlds" are physical duplicates.) But even though I am dubious about the legitimacy of the complaint, I shall try to give a direct reply to it.

First, distinguish two ways to understand 'the winning (or losing) answer'—one that is "recognition-transcendent" and the other "recognition-dependent:" (i) an answer is a winning answer just in case it is the correct answer, whether it is judged to be correct or not; (ii) an answer is a winning answer just in case it is judged to be the correct answer, whether it is in fact correct or not.

(i) The recognition-transcendent case: If we allow that the winning answer was the correct identification, whether it was recognized as such or not, then—assuming that A and B take the truth conditions of their respective beliefs with them when they are switched—A still identified the stone correctly in B's context, and B still misidentified the stone in A's context. So, in the recognition-transcendent case, A still gives the winning answer in B's context, and B still gives the losing answer in A's context. Of course, if the winning answer is not recognized as such, then A's winning answer in B's context fails to make A richer, and B's losing answer in A's context does make B richer. That is, nobody would realize that the effects, E1 and E2, had different properties; but in the recognition-transcendent case, they do have different properties, which in fact distinguish the causal chains in which they occur.

Hence, if we take ‘the winning answer’ and ‘the losing answer’ to be recognition-transcendent, the difference between A and B qualifies as a difference in causal powers. Fodor seems to admit as much in a passage already quoted: “It is this residual difference between the behaviors—their cross-context difference under certain intentional descriptions—which is the challenge to individualism and local supervenience.” (MANC, 8-9) In the recognition-transcendent case, people may have causal powers of which no one is aware, and A’s answer remains the winning answer even in B’s context, and even though the winning answer in this recognition-transcendent alternative goes unrewarded. So, if we take being a winning answer to be recognition-transcendent, then the objection does not provide a way for CCT3 to block my counterexample.

(ii) The recognition-dependent case: Construe winning answers to be those judged to be correct, whether they are correct or not. If we are considering winning answers to be those recognized as such, the connection between the truth condition of A’s mental state and her answer’s being a winning answer is indeed mediated by some sort of truth-condition-detector. (Fodor explicitly allows that “it is (nomologically) possible to build a detector for any contingent property.” (MANC, 13)) A truth-condition-detector—like the translator at the international Quiz Show Olympics—would distinguish between the two answers. (Of course, it is possible that a detector might malfunction; but this is my example, and since we can build detectors that are generally reliable, I say that it works right in this case.) So, in the recognition-dependent case, we have a context in which A has an effect (giving the winning answer, which is recognized to be such) that B does not have.

The requirement of a truth-condition-detector is simply an artifact of the alternative of taking the property of being a winning answer to be recognition-dependent. A recognition-dependent property would be uninstantiated in a context that lacked means (perhaps fallible) to detect it. Thus, to rule out detection devices would be to rule out construing being a winning answer as recognition-dependent. On the recognition-dependent understanding of ‘winning answers,’ truth conditions, mediated by detection devices, are causal powers in virtue of their effects on behavior, and the objection again fails to block my counterexample.

In sum, I can not find an interpretation of the cross-context test that blocks my counterexample without also ruling out uncontroversial relational properties (like being a planet) as unsuitable for scientific taxonomy. The moral is that broad contents are on a par with other relational properties, whose usefulness in science cannot be ruled out on a priori grounds.

Causal Powers and Relational Properties

I believe that there is an incoherence between what Fodor says about causal

powers and his endorsement of relational properties as (often) taxonomic. In *Psychosemantics*, Fodor emphasizes that “[c]ausal powers supervene on local microstructure.” (P, 44) He considers this view to concern the metaphysics of science, and as far as I know, he has not retracted it. Given the weight that Fodor accords to this principle, he ought to tell us if he no longer endorses it, or if he now restricts its application in some way. So, in the absence of evidence that he has given it up, I take Fodor to be committed to the local supervenience of causal powers and hence to the following:

- (a) Necessarily, for all x and y , if x and y differ in causal powers, then x and y differ in local microstructure.

Now, Fodor explains his views on relational properties as follows:

Taxonomy by relational properties is ubiquitous in the sciences, and it is not in dispute that properties like being a meteor or being a planet— properties which could, notice, distinguish molecularly identical chunks of rock—constitute causal powers. (MANC, 12)

But let P be the property of being a planet and suppose again that P is a causal power. Then, two things that differ in that one has P and the other lacks P differ in causal powers. That is,

- (b) Necessarily, for all x and y , if x has P and y lacks P , then x and y differ in causal powers.

According to the passage just quoted, the property of being a planet could “distinguish molecularly identical chunks of rock.” I take this to mean that there could be molecularly identical chunks of rock such that one was a planet and the other was not. For purposes here, I shall assume that if the property of being a planet can distinguish two molecularly identical things, that property can also distinguish microphysically identical chunks of rock. In that case, Fodor seems committed to the following:

- (c) Possibly, there are some x and y such that x has P and y lacks P and x and y do not differ in local microstructure.

But (a)-(c) are an inconsistent triad.¹⁰ In case the inconsistency is not obvious, let me make it explicit. From (a) and (b), it follows that:

- (d) Necessarily, for all x and y , if x has P and y lacks P , then x and y differ in local microstructure,

which is equivalent to this:

- (e) Necessarily, it is not the case that: there are some x and y such that x has P and y lacks P and x and y do not differ in local microstructure,

which is equivalent to this:

- (f) It is not the case that: Possibly, there are some x and y such that x has P and y lacks P and x and y do not differ in local microstructure.

But (c) and (f) are directly contradictory.

I would recommend removing the inconsistency by giving up (a)—the local supervenience of causal powers. However, abandoning that thesis in general would kick the motivation out from under the project of showing that a difference in broad contents is not a difference in causal power in virtue of its responsibility for the properties of one's behavior. For if causal powers generally do not supervene on local microstructure, why must mental causal powers supervene on local microstructure?

Here, I think, is Fodor's rationale for holding mental causal powers to be locally supervenient: Mental causal powers are properties invoked by nonbasic laws. Nonbasic laws must be implemented by mechanisms that connect the satisfaction of the antecedents to the satisfaction of the consequents. In the case of psychological laws, the only plausible implementing mechanisms, claims Fodor, are neurological, and neurological properties supervene on local microstructure.

But to conclude from this that psychological properties must supervene on local microstructure is a *non sequitur*. If we take implementing mechanisms to be chains of individual events, Fodor may be seen as claiming that for each sequence of individual events subsumed by a psychological law, there is a sequence of individual events subsumed by a neurological law. But, as Burge has argued, this claim entails nothing about the individuation of event-types. For the following are consistent (whether true or not): (i) Neurological properties supervene on local microstructure; (ii) Psychological laws are "implemented" by neurological mechanisms; (iii) Properties projected by psychological laws do not supervene on neurological properties; nor do psychological property instantiations supervene on neurological property instantiations.

From the fact that neurological mechanisms "implement" psychological laws, it does not follow that the neurological properties of any individual event fix the psychological properties of any individual event. Instantiations of psychological properties may fail to supervene on instantiations of neurological properties because individuation of psychological states is more sensitive to the subject's environment than is individuation of neurological states.¹¹

Indeed, in general, property instantiations of a higher-level process do not supervene on property instantiations of mechanisms that implement them. To take a commonsensical example, consider a Presidential press conference carried live on TV. The political property of being a televised Presidential press conference does not supervene on the intrinsic properties of implementing mechanisms. A microphysically duplicate mechanism may implement something quite different from a Presidential press conference.

Or consider the mechanism by which the automatic-teller machine gives me

money from my checking account. The same mechanism could be used to implement an entirely different process; it could, for instance, give me green pieces of paper (functionally equivalent to “pink slips”) whose numbers tell me which employees to lay off. There are endless examples like these. The moral is that the intrinsic properties implementing mechanisms do not generally fix the properties of the processes that they implement. So, the fact that neural mechanisms implement psychological laws provides no motivation for narrow taxonomy in psychology.

To sum up the discussion of causal powers and relational properties: If Fodor takes all causal powers to supervene on local microstructure (as his “metaphysical point” in *Psychosemantics* says), then the assumption that a relational property (like that of being a planet) is a causal power leads to contradiction. If Fodor takes only mental causal powers to supervene on local microstructure, then he needs special motivation to treat mental causal powers differently from other (sometimes relational) causal powers; but the rationale that Fodor gives seems to rest on a *non sequitur*. Finally, if Fodor has no good argument for requiring psychological causal powers (but not other causal powers) to supervene on local microstructure, then he has no principled way to treat broad contents differently from other relational properties with respect to their suitability for science.

Conclusion

I have tried to show that broad contents are as metaphysically meritorious as candidates for scientific taxonomy as are other relational properties, or at least that there are no good reasons to think otherwise. The a priori tests that Fodor gives to rule out broad contents as causal powers, and hence as taxonomic in psychology, either allow broad contents in fact to pass or disqualify all relational properties as taxonomic.

The no-conceptual-connection test does not in fact disqualify broad contents as causal powers in the relevant sense; and the cross-context test admits of various interpretations, none of which allow nonpsychological relational properties to be taxonomic while disallowing broad contents. Thus, Fodor has provided no way to rule out broad contents to be taxonomic in psychology while admitting nonpsychological relational properties—like the property of being a planet—as taxonomic in other of the special sciences.

Finally, I tried to show that in Fodor’s published remarks on causal powers and relational properties, there is a submerged contradiction, which can be removed by denying that causal powers supervene on local microstructure. But to take that route out of the contradiction would be to remove the metaphysical motivation for denying that broad contents are taxonomic in psychology.¹²

Notes

1. Tyler Burge is largely responsible for the widespread agreement that (*de dicto*) beliefs as ordinarily attributed are relational. See his "Individualism and the Mental" in *Studies in Metaphysics* (Midwest Studies in Philosophy, Vol. IV), ed. by Peter A. French, Theodore E. Uehling, Jr., Howard K. Wettstein (Minneapolis: University of Minnesota, 1979): 73-122.
2. I shall follow Fodor and speak sometimes of states and sometimes of their individuating properties as causally explanatory. See footnote 3.
3. Sometimes Fodor speaks of causal powers as properties (as in "a cause property might fail to count as a causal power in virtue of its responsibility for one effect property, but still might constitute a causal power in virtue of its responsibility for some other effect property"); and sometimes he speaks of causal powers as the things that have such properties (as in "We have seen that twater thoughts and water thoughts are not different causal powers"). For my purposes, I think that I can overlook this ambiguity. "A Modal Argument for Narrow Content," *Journal of Philosophy* 88 (1991): 12, 25. Hereafter, references to this article will appear in the text as 'MANC,' followed by a page number.
4. Fodor is specifically concerned with properties' being causal powers in virtue of their responsibility for the properties of their bearers' behavior, but I shall leave this qualification implicit in most of what follows.
5. I can not here explore complexities (and perplexities) surrounding the notion of conceptual truth.
6. I am paraphrasing Fodor here. I believe that this point raises deep questions about (Fodor's conception) of the nature of causal laws. In "Making Mind Matter More" (*Philosophical Topics* 17 (1989): 63), Fodor says that he is "hard put to see how anybody could seriously object" to the "idea that hedged (including intentional) laws necessitate their consequents when their *ceteris paribus* clauses are discharged." Fodor's conception of causal law there warrants close attention, which I can not give here.
7. Since Fodor himself never actually formulates his amended condition, I can only guess at how clause (ii) should go. Clause (ii) as stated needs further work; however, since I do not see how better formulation of (ii) could block my counterexample, I shall not undertake to improve it here. Ultimately, it is up to the proponent of the "no-conceptual-connection" test to formulate the condition that is supposed to block counterexamples.
8. Stephen P. Stich, *From Folk Psychology to Cognitive Science: The Case Against Belief* (Cambridge MA: MIT/Bradford, 1983).
9. Paul Boghossian made a similar objection in conversation. I formulated the response that I give below in part in correspondence with Pierre Jacob.
10. In an earlier version of my argument, I had a slightly different formulation of the inconsistency, of which Fodor said (in correspondence) that he was not guilty. However, he did not say which proposition he would reject, and I have given strong textual support for all three.
11. This general line of thought is advanced by Tyler Burge, "Individualism and Psychology," *The Philosophical Review* 95 (1986): 3-46. A similar argument is developed in "Individuation and Causation in Psychology," *Pacific Philosophical Quarterly* 70 (1989): 303-322.
12. This essay is a descendant of versions of a paper presented to helpfully critical audiences at Princeton University, the Ecole Polytechnique (Paris), and at the University of California at Davis. Gareth B. Matthews, Pierre Jacob, Russell Trenholme, Jerry A. Fodor and Derek Pereboom also provided useful comments on ancestors of this paper.