Lewis' conditional analysis of dispositions revisited and revised

Markus E. Schlosser, University College Dublin, markus.schlosser@ucd.ie

Abstract: The conditional analysis of dispositions is widely rejected, mainly due to counterexamples in which dispositions are either "finkish" or "masked". David Lewis proposed a reformed conditional analysis. This view avoids the problem of finkish dispositions, but it fails to solve the problem of masking. I will propose a reformulation of Lewis' analysis, and I will argue that this reformulation can easily be modified so that it avoids the problem of masking. In the final section, I will address the challenge that some dispositions appear to lack any stimulus condition, and I will briefly turn to the issue of reductionism.

Keywords: Conditional analysis, dispositions, counterexamples, finkish dispositions, masked dispositions, David Lewis

1. Introduction

David Lewis (1997) remarked that most philosophers used to think, and that many still think, that the ascription of dispositions can be analysed in terms of counterfactual conditionals. This has changed quite dramatically since then. Nowadays, a widely shared standard view is that the conditional analysis of dispositions is false. One of the main reasons for this is that this analysis appears to be subject to clear counterexamples. Two main types of counterexamples are cases in which dispositions are "finkish" and cases in which dispositions are "masked" (Johnston 1992; Martin 1994; Lewis 1997; Bird 1998; Fara 2005; Handfield & Bird 2008; Manley & Wasserman 2008). Lewis proposed a "reformed conditional analysis". This analysis solves the problem of finkish dispositions and it avoids the related problem of the "finkish lack" of dispositions. But it does not solve the problem of masking. On the basis

of some reflections on Lewis' reformed analysis and on the ascription of dispositional properties in ordinary cases, I will propose a reformulation of Lewis' analysis. We will see that this reformulation solves the problem of finkish dispositions just as well Lewis' analysis, and I will show that it can easily be modified so that it avoids the problems of masking and reverse masking (or "mimicking"). In the final section, I will address the challenge that some dispositions appear to lack any stimulus condition, and I will briefly turn to the issue of reductionism.

2. The traditional conditional analysis

It is very widely assumed that there are dispositional properties: roughly, properties that may be possessed without being manifested, such as fragility, solubility, conductivity, and so on. According to a traditional conditional analysis, ascriptions of dispositional properties can be analysed in terms of counterfactual conditionals. Fragility, for instance, can be analysed as follows: an object is fragile just in case it would break when struck (or stressed to degree d). In general, the traditional conditional analysis can be stated in terms of the following schema (where S is the object or agent, M the disposition's manifestation, and C the stimulus condition):[1]

(TAD) S is disposed to M when C if and only if S would M if C.

Numerous counterexamples have been put forward against both the sufficiency and the necessity of the counterfactual (as a condition for dispositionality). Let us begin with finkish dispositions and the finkish lack of dispositions. According to Lewis, a disposition is called "finkish" if it "would straight away vanish if put to the test" (1997: 144). For instance, a glass has the finkish disposition of fragility if a sorcerer were to change its intrinsic properties when

---

[1] I shall follow the fairly common practice of leaving temporal modifiers implicit.

it is struck, so that it would lose its fragility. This glass has the dispositional property of being fragile, but it is not the case that it would break when struck. The possibility of such cases shows that the truth of the counterfactual in TAD is not necessary for the possession of the disposition.

Further, we can imagine cases that feature a "finkish lack of a disposition" (ibid: 144). Consider a plastic cup that is clearly not fragile. Imagine, now, that the sorcerer would change its intrinsic properties when struck, so that it would break when struck. It seems false that the cup is fragile, and yet it is true that it would break when struck. This modification of the example shows that the counterfactual is not sufficient either. Examples of this kind have widely been taken to demonstrate that TAD is false (Johnston 1992; Martin 1994; Lewis 1997; Bird 1998; Fara 2005; Handfield & Bird 2008; Manley & Wasserman 2008).

3. A reformed conditional analysis

Lewis (1997) argued that the counterexamples show only that TAD is false, not that we should altogether abandon the project of giving a conditional analysis. He proposed a reformed conditional analysis on the basis of the following assumptions and observations. Most importantly, he argued that an entity has a certain dispositional property only if it has the relevant causal basis. In particular, he argued that a disposition's causal basis is some intrinsic property of the entity in question, which would causally interact with the occurrence of the stimulus condition so as to bring about the response (the manifestation of the disposition). Further, Lewis assumed that the question of what having a dispositional property consists in can be answered independently from the question of how a disposition and its causal basis are related—he assumed, in other words, that one can give a conditional analysis without having to commit oneself to a particular metaphysical account of the relationship between dispositions and their causal bases.

Once we take this into account, we can see, as Lewis observed, that a disposition is finkish when its causal basis is finkish. Consider again our example. The disposition is finkish because the sorcerer would change the glass' intrinsic composition so that it would not break when struck. Which intrinsic property would he have to change? The property that would interact with the stimulus so as to bring about the manifestation. This property is the disposition's causal basis. It seems, then, that what makes the disposition finkish is that its causal basis would change or vanish in response to the stimulus.

One the basis of this, Lewis (1997: 157) proposed a reformed conditional analysis, which can be stated as follows (with some modifications and simplifications):[2]

(LAD) *S* is disposed to *M* when *C* if and only if *S* has some intrinsic property *B* in virtue of which *S* would *M* if *C* and if *S* were to retain *B*.

This analysis incorporates the point that an entity, *S*, has a disposition only if it has the relevant causal basis, *B*. This analysis avoids the problems generated by finkish dispositions in a straightforward fashion. Return to our example. The glass is fragile. It seems clear that the closest possible worlds in which the glass retains the relevant causal basis are worlds in which the glass breaks, because they are worlds in which the sorcerer does not interfere. Given this, LAD says that the glass is fragile, because the glass would break when struck, if it retained the relevant causal basis. The problem of a finkish lack of a disposition is solved, simply, by the condition that the entity in question must already possess the relevant causal basis (as opposed to acquiring it in response to the stimulus).

---

[2] Here I follow Manley & Wasserman (2008: 61), with minor alterations. See also footnote 1.

4. The problem of masking

In cases in which a disposition is said to be "masked", there is some agent or mechanism which would prevent the manifestation of the disposition *without* removing or changing the relevant causal basis. Suppose, for instance, that our sorcerer would cover the fragile glass with some kind of protective coating if it were to be struck. Lewis' reformed conditional analysis fails to accommodate such cases. The glass appears to be fragile, because it has the relevant causal basis. But it is false, according to LAD, that the glass would break when struck, even if it retained the relevant causal basis.

Just as there are reverse cases of finkish dispositions, there are also reverse cases of masking (we call the former a finkish lack of a disposition, and the latter are often called cases of "mimicking"). Here are two examples. Handfield & Bird (2008: 289) consider an iron cooking pot which is breakable, but not fragile. As it happens, "attached to the pot is a grenade with a sensitive detonator", so that it would break when struck. Similarly, Manley & Wasserman (2008: 62) consider a sturdy concrete block which is also breakable, but clearly not fragile. Here we are asked to suppose that the sorcerer would turn the floor into diamond and raise it quickly into the air whenever the block is dropped. Given this, the block would break when dropped, even though it is not fragile. As in cases of masking, the agent or mechanism does not change the causal basis in order to bring about the response. Both cases seem to be counterexamples to the claim that the truth of the counterfactual in TAD is sufficient for the possession of the dispositional property. And they seem to be counterexamples to LAD, because the entities in question have (and retain) an intrinsic property in virtue of which they would manifest the response.

Lewis' stance on the problem of masking has remained somewhat unclear. In a brief remark on this (Lewis 1997: 153), he seemed to suggest that we have a choice here. One may either specify the stimulus condition in more detail so as to exclude the presence of the mask.

Or one may argue that masking cases are irrelevant to the task of providing a general schema for the analysis of dispositions, as they are relevant only to the application of such a schema to particular dispositional properties. The latter suggestion has not found many followers (see Choi 2008 and Gundersen *forthcoming* for discussion). In any case, virtually everyone else who thinks that finkish dispositions are a problem for a conditional analysis thinks that masked dispositions are a genuine problem as well. Concerning the first option, Manley & Wasserman (2008) have recently argued that the strategy of "getting specific" is untenable. I find their arguments convincing and the current consensus is that the problem of masking remains an open problem for Lewis' reformed analysis. Given this, it is worthwhile to investigate whether Lewis' account can be revised so that it can accommodate both finkish and masked dispositions.

5. A reformulation: Counterfactual independence

In this section, I will first offer some further reflections on Lewis' analysis and on the ascription of dispositional properties in ordinary cases. On the basis of this, I will propose a reformulation of Lewis' analysis which avoids the problem of finkish dispositions just as well. In the following section, I will show that this reformulation can easily be modified so that it also avoids the problems of masking and of reverse masking.

To begin with, let us ask why Lewis proposed to add the condition that the object retains the relevant causal basis and why this is not *ad hoc* or question-begging. In one passage, Lewis raises the question of whether it is true that *B*, the causal basis, "would join with striking to cause breaking", and he says:

> *What I meant*, when I said that [*B* would join with striking to cause breaking], was that if the glass were struck *and retained B*, then *B* together with the striking would cause breaking. (1997: 150, emphasis added)

Lewis merely spelt out what he meant in the first place, when he added the condition that the object is to retain the relevant causal basis. As we have seen, Lewis presumed that dispositions have a causal basis: an intrinsic property that would play a causal role in bringing about the manifestation of the disposition. Obviously, a certain intrinsic property can play a causal role only if the entity in question has and retains this property when the stimulus occurs. Given this, it makes perfect sense to add the condition that the entity retains the relevant causal basis, and it seems perfectly clear that doing so is neither *ad hoc* nor in any way question-begging.

A first thing to note here is that possible worlds in which the entity retains the relevant causal basis are worlds in which the disposition is not finkish. As pointed out, the disposition is finkish because the causal basis is finkish. The causal basis is finkish because it would be removed if the stimulus were to occur. So, possible worlds in which the entity retains the causal basis are worlds in which the disposition is not finkish.

Next, note that this observation can be stated in more general terms. In our example, the occurrence of the stimulus would result in the removal of the relevant causal basis. That is to say that the causal basis depends on the stimulus in the following way: whether or not the glass retains the causal basis depends on whether or not the stimulus occurs. It seems, then, that what makes the disposition finkish, in the actual world, is the fact that the causal basis and the stimulus depend on each other in this way. And it seems that the closest possible worlds in which the causal basis and the stimulus do not depend on each other in this way are worlds in which the glass retains the causal basis.

Unfortunately, we cannot express this by saying that the closest possible worlds in which the disposition is not finkish are worlds in which the causal basis and the stimulus are independent of each other, because the causal basis and the stimulus depend on each other, crucially, in another way. The causal basis and the stimulus would causally interact with each

other in bringing about the response. There is, that is, a relation of causal dependence between the stimulus, the causal basis, and the response. Moreover, in our example, the occurrence of the response would coincide with the removal of the causal basis. The breaking of the glass is the response, and it is also the destruction of the causal basis.[3]

More generally, then, the causal basis and the stimulus depend on each other insofar as the interaction between them would bring about the response and insofar as this interaction might change or remove the causal basis. Given this, it seems that we can exclude conditions that render the causal basis finkish by requiring that the causal basis and the stimulus may depend on each other *only insofar as* they would causally interact in bringing about the response, and only insofar as this interaction might change or remove the causal basis. Let us call this the *condition of independence*, and let us say that the causal basis and the stimulus are *otherwise independent* if they depend on each other only as specified by this condition. This condition requires that no other relations of causal, explanatory, or counterfactual dependence hold between the possession of the causal basis and the occurrence of the stimulus, other than the ones specified. In particular, it must not be the case that the object would acquire the causal basis just when the stimulus occurs, and it must not be the case that the object would lose the causal basis in some other way, when the stimulus occurs (that is, not due to the interaction between the stimulus and the causal basis in bringing about the response).

This is in line with the presuppositions that underlie the ascription of dispositional properties to ordinary objects and agents. When we ascribe dispositional properties in ordinary cases, we take it for granted that the entities in question do not suddenly or

---

[3] After the glass is broken, fragments may be broken further into smaller pieces. But I take it that this would not count as a breaking of the glass, but as a breaking of glass fragments (which were once constitutive parts of the glass).

miraculously undergo significant changes in their intrinsic composition. We presume, in particular, that they do not undergo significant changes in their intrinsic composition when the relevant stimulus condition occurs, and we presume that the occurrence of the stimulus would not somehow remove the causal basis just before it brings about the response. We presume, that is, that the causal basis depends on the stimulus only insofar as they would interact in bringing about the response and as this interaction may change or remove the causal basis; we presume that the causal basis and the stimulus are otherwise independent.

Similarly, we presume that objects and agents do not suddenly or miraculously acquire the causal basis of a certain disposition when its characteristic stimulus occurs, and we presume that the occurrence of the stimulus would not somehow instil the causal basis. Again, we presume that the possession of the causal basis is dependent on the occurrence of the stimulus only insofar as the interaction with the stimulus in the generation of the response may change or remove the causal basis; we presume that the possession of the causal basis and the stimulus are otherwise independent.

Given all this, it seems plausible to suggest that we also presuppose such independence when we propose a conditional analysis. This analysis provides a condition for what it is to possess a certain disposition by making an explicit claim about a relationship of counterfactual dependence between the stimulus and the response. We tend to presume, here, that the occurrence of the stimulus would interact with the object or agent only by bringing about the response: we presume that the occurrence of the stimulus would not somehow remove or change the causal basis of that very disposition right before it would bring about the manifestation, and we presume that the occurrence of the stimulus would not somehow instil the causal basis of the disposition right before it would bring about the manifestation.

In other words, when we give the analysis we tend to presume that all cases are *ordinary* in those respects (see Choi 2008). The problem, of course, is that cases in which

dispositions are finkish are not ordinary; they are extraordinary. In particular, cases with finkish dispositions show us that an entity can possess a dispositional property even if the causal basis and the stimulus are not otherwise independent.

Lewis' reformed conditional analysis suggests a solution. Lewis avoided the problem of finkish dispositions by adding the condition that the entity in question retains the causal basis. As we have seen, we can also ensure that the entity is not finkish by requiring that the causal basis and the stimulus should be otherwise independent. All we need to do, then, is to make the condition of independence counterfactual. From this, we obtain the following reformulation of Lewis' analysis:

(RLA)   *S* is disposed to *M* when *C* if and only if *S* has some intrinsic property *B* in virtue of which *S* would *M* if *C* and if *S*'s having *B* and *C* were otherwise independent.

Does this reformulation deliver the same result as Lewis' analysis for finkish dispositions? Suppose the sorcerer intervenes and removes the causal basis when the stimulus occurs. According to LAD, the glass is fragile, because it would break if it retained the causal basis. According to RLA, the glass is fragile as well. The causal basis and the stimulus are not otherwise independent, because the sorcerer would intervene and remove the causal basis if the stimulus were to occur. But the glass would break if the stimulus were to occur, and if the causal basis and the stimulus were otherwise independent.

More generally, we need to ask whether there are possible worlds in which the stimulus occurs, and in which the causal basis and the stimulus are otherwise independent, but that are not also worlds in which the entity retains the causal basis (given, that is, that the entity possesses the causal basis in the actual world)?

To determine this, let us first consider the following. Suppose that the closest possible worlds in which the stimulus occurs are worlds in which the glass happens to lose the causal

basis when the stimulus occurs by coincidence. According to LAD, the glass is disposed to break, because it has the causal basis in the actual world, and because it would break if the stimulus occurred and if it retained the causal basis. According to RLA, we obtain the same verdict. The glass would lose the causal basis if the stimulus were to occur, but not due to the interaction between the causal basis and the stimulus in bringing about the response. This means that the causal basis and the stimulus are not otherwise independent. But it is the case that the glass would break if the stimulus were to occur and if the causal basis and the stimulus were otherwise independent.

More generally, the condition of independence rules out cases in which the entity loses the causal basis *because* the stimulus occurs and cases in which the entity loses the causal basis *when* the stimulus occurs, unless the loss of the causal basis is due to the interaction between the causal basis and the stimulus in bringing about the response. Given this, any world in which the stimulus occurs, and in which the causal basis and the stimulus are otherwise independent, is a world in which the entity retains the causal basis (provided, of course, that the entity in question has the causal basis in the actual world). And given this, we can conclude that LAD and RLA will deliver the same verdicts in all cases.

6. The proposed conditional analysis

The main difference between finks and masks is that the latter prevent the manifestation of the disposition without removing the causal basis. Lewis' analysis does not accommodate such cases, because it says that the entity would manifest the disposition if it retained the causal basis. The proposed reformulation in terms of independence does not accommodate masked dispositions either, because the causal basis and the stimulus are otherwise independent in such cases. It does, however, point to a way how to deal with them.

11

As noted, in ordinary cases we presume that the occurrence of the stimulus would not result in the removal of the causal basis (in entities that have it), and we presume that it would not instil it (in entities that do not have it). We presume, that is, that ordinary entities do not have finkish dispositions and that they do not have a finkish lack of dispositions. Arguably, and in contrast, the masking of dispositions is fairly common among ordinary objects and agents (Fara 2005: 50).[4] Despite this, it does usually take some reflection on particular examples for one to realize this. Without this, we do tend to presume that the occurrence of the stimulus would not somehow result in the prevention of the response *with or without* removing the causal basis. That is, we tend to presume not only that the stimulus and the causal basis are otherwise independent, but also that the stimulus and the *response* are otherwise independent: that the stimulus and the response depend on each other only insofar as the stimulus and the causal basis would interact in bringing about the response. The possibility of masked dispositions shows that we cannot simply require that the stimulus and the response should be otherwise independent. In cases where a disposition is masked, the entity has the disposition even though the stimulus and the response are not otherwise independent. In our example of masking, the glass is fragile, but the sorcerer would prevent breaking if it were to be struck, and he would do so without removing the causal basis.

---

[4] However, I am not convinced by Fara's examples. First, he says (2005: 50) that "I'm disposed to go to sleep when I'm tired; but this disposition is sometimes masked by too much street noise". It is not clear, here, that this is a case of masking, because it is not clear that the neural processing of street noise does not interfere with the relevant causal basis. (Further, I wonder whether being tired is a genuine stimulus condition for falling asleep. Usually, tiredness is followed by sleep. But does it *cause* sleep?) Next, Fara considers a cylinder of rubber that is disposed to roll downhill. This disposition, he says, "can be masked by applying a car's brakes". I shall not question that a bare cylinder of rubber has this disposition. But the corresponding disposition of a wheel that is attached to a car (and to a brake) would seem to be more complex. Finally, Fara mentions a piece of wood that is disposed to burn, but that "won't burn if heated in a vacuum". Here it can be argued that the presence of oxygen is part of the stimulus condition, because the consumption of oxygen is a contributory cause in the process of combustion.

However, in light of what has been said above, it is clear now how we can solve this problem. We cannot require that the stimulus and the response be otherwise independent, but we can make this condition counterfactual. To be more precise, and to bring all this together, I propose the following condition of independence:

> *S*'s having *B*, *C*, and *M* are *otherwise independent* if and only if *S*'s having *B*, the occurrence of *C*, and the occurrence of *M* may depend on each other only insofar as, if *C* occurred, *C* and *B* would interact in bringing about *M*, and this interaction may change or remove *B*.

The condition of independence requires that there are no other relations of causal, explanatory, or counterfactual dependence that hold between *B*, *C*, and *M*. In particular, it must not be the case that, if *C* occurred, *M* would occur, but not due to the interaction between *C* and *B*. Note, however, that it does allow that the occurrence of *M* depends on other causal background conditions, such that the interaction between *C* and *B* would bring about *M* only if those background conditions are present. On the basis of this condition of independence, I propose the following conditional analysis of dispositions:

(PAD) *S* is disposed to *M* when *C* if and only if *S* has some intrinsic property *B* in virtue of which *S* would *M* if *C* and if *S*'s having *B*, *C*, and *M* were otherwise independent.

Consider again our example of masking. According to Lewis' analysis, the glass would not break when struck, even though it retains the causal basis. According to the proposed reformulation, RLA, it would not break when struck, even if the causal basis and the stimulus were otherwise independent. However, the glass would break when struck, if the causal basis, the stimulus, *and the response* were otherwise independent. This is clearly the case in the example of the sorcerer who would prevent the manifestation in response to the occurrence of

the stimulus, because the closest possible worlds in which the condition of independence is satisfied are worlds in which the sorcerer does not prevent the manifestation. It also holds in cases where the sorcerer would prevent the response by coincidence. In such cases, the stimulus and the response are not otherwise independent, because the response would be prevented if the stimulus were to occur. But the glass would break if the stimulus were to occur and if the stimulus and the response were otherwise independent. So, PAD avoids the problem both when the masking would occur in response to the stimulus and when the masking would be coincidental.

Can PAD solve the mentioned case of reverse masking where the sorcerer would turn the floor into diamond and raise it quickly towards the falling concrete block? Let me first note here that this example is not as convincing as it may seem. The problem is supposed to be that the block would break when dropped, even though it is clearly not fragile. But being dropped is not the right stimulus condition. Being dropped usually results in being struck, which is why it may seem to be the right stimulus. The proper stimulus is being struck, not being dropped. Further, note that the stimulus for fragility is being struck, not being struck *very hard*. Clearly, not every object that breaks when it is struck very hard is fragile. The concrete block would break when dropped, but only because it would be struck very hard when dropped. For all we know, it would not break if it were merely struck (not very hard).

Bearing this in mind, let us return to the question of whether this is a counterexample to PAD. All depends here on how we interpret the clause that "*C* and *B* would interact in bringing about *M*" in the condition of independence. On one reading, this does not exclude the possibility that the occurrence of *C* causes certain states and events that result in *M*. This is what happens in the example at hand. However, it should be clear that this is not the intended reading. The intended reading is that the *interaction between C and B* would bring about *M directly*, without causing first some *other* states and events that would bring about *M*

in an indirect and wayward fashion.[5] Note, again, that this does allow that the occurrence of *M* depends on other causal background conditions, for it may well be that the interaction between *C* and *B* brings about *M directly*, but only when the relevant background conditions are present.

With this qualification in place, it is clear that the stimulus and the response are not otherwise independent in the example. Further, it is clear that the block would not break if it were to be struck and if the stimulus and the response were otherwise independent. For if they were otherwise independent, the sorcerer would not turn the floor into diamond and raise it quickly towards the falling concrete block, if the stimulus were to occur. This shows that this example of reverse masking is not a counterexample to PAD.

The other example mentioned above (section 4) fails for the same reason. In that case, being struck leads to the detonation of a grenade which blows the iron pot into pieces. The stimulus and the response are not otherwise independent, because they do not depend on each other only insofar as the interaction between them would directly bring about the response. If they were otherwise independent, then the pot would not break when struck. So, PAD avoids this counterexample as well.

I suggested that in ordinary cases we tend to presume that the causal basis, the stimulus, and the response are otherwise independent. We tend to assume this, because that is what ordinary cases are like—they do not feature the extraordinary dependencies that make a disposition finkish. As far as that goes, the proposed strategy seems similar to the strategy of hedging the counterfactual conditional with a *ceteris paribus* clause. It is often remarked that adding a *ceteris paribus* clause to an analysis (or to anything other than an empirical generalization) is unsatisfactory, as this amounts to nothing more than requiring that other

---

[5] This notion of direct or proximal causation plays a central role in some solutions to the problem of deviant causal chains in the philosophy of action. See Brand 1984 and Mele 2003.

things should be normal, without giving any indication of what normal conditions are. Let us set aside here the question of whether or not this is a fair assessment of the use of *ceteris paribus* clauses. Note, rather, that this common complaint against *ceteris paribus* clauses does not apply to the proposed analysis. First of all, the proposed analysis does not say that the conditions must be normal or ordinary. Rather, I merely point out, in the processes of developing the view, that we tend to assume that the condition of independence is satisfied in ordinary cases. More importantly, in contrast to an analysis that is hedged with a *ceteris paribus* clause, the proposed analysis does provide guidance as to which cases are to be excluded: cases in which the entity in question does not possess the relevant causal basis and cases in which the manifestation would not occur in response to the stimulus even if the stimulus, the response, and having the causal basis were otherwise independent.

7. Dispositions without a stimulus and reductionism

The most widely accepted counterexamples to the traditional conditional analysis are cases that involve a finkish disposition, a finkish lack of a disposition, masking, and reverse masking. More recently, another objection has become popular. It has been argued that the conditional analysis is inadequate because there are dispositions that do not have a specific stimulus condition, and because there are dispositions that do not have a stimulus condition at all. As examples of the first kind, Manley & Wasserman (2008) mention irascibility and loquacity.[6] It seems that one may be disposed to get angry or to talk in all kinds of situations, such that it is impossible to formulate any specific stimulus condition. However, as Bonevac et al. (2011) have pointed out, it may very well be that the stimulus is merely *not readily available*. The stimulus, in other words, may be complex, difficult to pin down, and therefore

---

[6] Vetter (2014) proposes an account of dispositions without reference to stimulus conditions. This approach is motivated, in part, by the kinds of examples provided by Manley & Wasserman (2008).

not easily captured with a succinct formulation. And this, of course, would not mean that there is no stimulus condition. Further, the dispositions in question may be multi-track dispositions. This possibility is compatible with an analysis in terms of conditionals. Examples of the second kind include the purely active (or agent-causal) power to make free choices and the spontaneous decay of particles. It is highly controversial whether there are such purely active powers of free choice. Moreover, as many have pointed out, even libertarians about free will should not think that free choices are entirely spontaneous—not in response to anything—as this would mean that they are "just a matter of chance" (Clarke 2009: 327, for instance).

This leaves us with the spontaneous decay of particles. There are several related things to be said here. To begin with, one may question whether the spontaneous decay of particles is the manifestation of a disposition, and one may question whether it is a counterexample to the conditional analysis. Let me explain. As Vetter (2014) points out, we should not appeal to linguistic intuitions on phrases such as 'is disposed to' or 'has the disposition' in order to make judgments about theoretical proposals or even particular cases. The reason is, roughly, that we use such terms in ordinary discourse almost exclusively to talk about people's willingness (or unwillingness) to perform certain actions. What we should do, rather, is to appeal to our intuitions concerning the terms and phrases that we use to describe *particular* dispositional properties, such as fragility, solubility, conductivity, and so on. What should we say, then, about the spontaneous decay of particles? It seems clear that such particles *can* decay, and that there is a certain probably that they *will* decay within a certain period of time. Further, it seems that when a particle decays it manifests something: a capacity or power to decay. Does this mean that such a particle was *disposed* to decay? Is "decayability" an example of a dispositional property? I have no clear intuitions here, and I submit, therefore,

that we are not dealing with a case that has the potential to be a convincing counterexample to any conditional analysis.

A related point is that we should distinguish between the analysis of dispositionality and the analysis of particular dispositional properties. The conditional analysis should be understood as providing analyses of particular dispositional properties (Bonevac et al. 2011). On this understanding, it is not devastating for a conditional analysis if it turns out that there are some dispositional properties that do not have a stimulus condition. On this view, the analysis is not an analysis of dispositionality as such. Rather, the analysis provides a general schema for particular analyses of particular dispositional properties such as fragility, solubility, conductivity, and so on. Those are core cases of dispositional properties, and they all seem to have stimulus conditions. If it turns out that there are dispositional properties that do not have stimulus conditions, then the schema is not perfectly general. But it may nevertheless successfully deliver conditional analyses of core cases.

Further, as noted, the meaning of phrases such as 'is disposed to' and 'has the disposition' in ordinary language is much narrower than the meaning that they have acquired in the philosophical debate. In philosophy we use them, to a large extent, as philosophical terms of art. Given this, we should not assume that their precise meaning and extension can be determined by reflection on our linguistic intuitions, which are based on ordinary usage. If one would like to have a precise meaning and extension of such terms, or of 'dispositionality', one must determine it by means of a stipulative definition. And defining dispositionality in accord with a conditional analysis seems to me as plausible as any other definition, analysis, or account that I have seen.

Finally, we can distinguish between reductive analyses of dispositional properties and non-reductive accounts or characterizations. Assume, for the sake of argument, that the project of giving reductive conditional analyses of dispositional properties is doomed to

failure. Would this mean that there is no interesting connection between dispositions and conditionals? Clearly not. In fact, if there is one thing that virtually everyone agrees on in this debate, it is that there is some intimate connection between core cases of dispositional properties and counterfactual conditionals. Would the failure of reductive conditional analyses mean that it is pointless to refine existing analyses so that they avoid the most serious counterexamples? Again, the answer is clearly not. Important insights can be gained from amendments that are designed to avoid certain counterexamples. Lewis' reformed analysis, for instance, does not merely avoid counterexamples that feature finkish dispositions. It is, rather, instructive to see that we can avoid such counterexamples if we make explicit reference to the disposition's causal basis and if we add the condition that the entity must retain that causal basis. Likewise, I hope it is instructive to see that we can furthermore avoid the problems of masking if we revise the analysis in the way proposed here—namely, by adding the condition that causal basis, the stimulus, and the response must be otherwise independent. The main point here is that even if such refinements fail as reductive analyses, they can still provide interesting insights and substantive non-reductive accounts or characterizations of dispositional properties.

8. Conclusion

It is widely agreed that any analysis or account of dispositional properties must accommodate the possibility of finkish and masked dispositions. Lewis' reformed conditional analysis can accommodate the former, but not the latter. I have argued that Lewis' analysis can be reformulated in terms of the proposed condition of independence, and I have shown that this reformulation can easily be modified so that it accommodates cases of masking and of reverse masking.

My aim here was not to provide a full defence of a conditional analysis. This would have required an engagement with various further issues that are beyond the scope of this paper. Rather, my aim was to show that Lewis' analysis can be reformulated and modified so that it can accommodate masked dispositions. Provided that the proposed analysis and my remarks in the previous section are on the right track, the prospects for a successful defence of a conditional analysis—or, rather, of conditional analyses—would appear to be much better than they are currently thought to be.

References

Bird, A. (1998). Dispositions and antidotes. *Philosophical Quarterly*, 48, 227–234.

Bonevac, D., Dever, J. & Sosa, D. (2011). The counterexample fallacy. *Mind*, 120, 1143–1158.

Brand, M., (1984). *Intending and acting: Toward a naturalized action theory*. Cambridge, MA: MIT Press.

Choi, S. (2008). Dispositional properties and counterfactual conditionals. *Mind*, 117, 795–841.

Clarke, R. (2009). Dispositions, abilities to act, and free will: The new dispositionalism. *Mind*, 118, 323–351.

Fara, M. (2005). Dispositions and habituals. *Noûs*, 39, 43–82.

Gundersen, E. B. (*forthcoming*). Lewis's revised conditional analysis revisited. *Synthese*.

Handfield, T., & Bird, A. (2008). Dispositions, rules, and finks. *Philosophical Studies*, 140, 285–298.

Johnston, M. (1992). How to speak of the colors. *Philosophical Studies*, 68, 221–263.

Lewis, D. (1997). Finkish dispositions. *Philosophical Quarterly*, 47, 143–158.

Manley, D. & Wasserman, R. (2008). On linking dispositions and conditionals. *Mind*, 117, 59–84.

Martin, C.B. (1994). Dispositions and conditionals. *Philosophical Quarterly*, 44, 1–8.

Mele, A.R. (2003). *Motivation and agency*. Oxford: Oxford University Press.

Vetter, B. (2014). Dispositions without conditionals. *Mind*, 123, 129–156.