

Abstract: Manley and Wasserman put forward an apparently strong objection to the conditional analysis of dispositions and propose an alternative account of the link between dispositional ascriptions and counterfactual conditionals. But I will argue that their discussion rests on a fundamentally wrong understanding of the phenomenon of masking. The key idea is that they neglect a crucial difference between cases of masking where the disposition is not manifested because the appropriate stimulus conditions are present but a masker prevents the manifestation, on the one hand, and other plain cases where the disposition is not manifested because the appropriate stimulus conditions are not present. To develop this idea with rigour and clarity, however, it will be necessary to look closely into the context-dependence of dispositional ascriptions and the incompleteness of dispositional predicates.

1. The conditional analysis of dispositions and the problem of maskers

Dispositional maskers¹ – also known as dispositional antidotes – have been introduced as counterexamples to the conditional analysis of dispositions that analyzes dispositional ascriptions into counterfactual conditionals. Manley and Wasserman, in their recent paper, put the problem of maskers to an intensive use to demonstrate that the conditional analysis of dispositions or at least its versions currently under discussion by philosophers are hopeless. I will claim, though, that their understanding of dispositional maskers is severely misleading, which impairs, if not completely evaporates, not only the credibility of their criticism of the conditional analysis of dispositions but also the credibility of their own proposal regarding the link between dispositional ascriptions and counterfactual conditionals. In the course of examining the notion of masker carefully, we will learn important lessons about such topics as the connection between dispositional ascriptions and counterfactual conditionals, the context-dependence of dispositional ascriptions, and the incompleteness of dispositional predicates, which underscores the significance of this

¹ Dispositional maskers are first brought to our attention by Johnston (1992) and Bird (1998).

paper.²

The main target of Manley and Wasserman's (2008) criticism is Lewis's (1997) reformed conditional analysis of dispositions that Lewis proposes as an improvement of the simple conditional analysis of dispositions. But there is no relevant difference between the two versions of the conditional analysis of dispositions vis-a-vis the subsequent discussion. And so, I will focus on the simpler one, the simple conditional analysis of dispositions, which Manley and Wasserman (2008, 60) formulate by means of the following proposition:

SCA. N is disposed to M when C iff N would M if C.

Let us call C and M the stimulating circumstance and manifestation of the disposition in question, respectively. SCA is meant to be pertinent to the second step of Lewis's two-step approach, which is to say that it purports to analyze canonical dispositions into counterfactual conditionals, where canonical dispositions are dispositions expressed in the overtly dispositional locution like the disposition to M when C.³

But Manley and Wasserman (2008, 61) take it that SCA is susceptible to the problem of maskers. What is the problem of maskers? They say 'A disposition can be 'masked' in such a way that it is not manifested even when the appropriate stimulus conditions are present and the causal basis remains intact'. Although the appropriate stimulus conditions obtain, the masker prevents the manifestation of the disposition by cutting short the process from the stimulus. Let us consider Manley and Wasserman's example where if a fragile glass were dropped, a sorcerer would step in and alter the extrinsic features of the environment of the glass, say, change the solid floor below into fluffy mattresses; thereby the glass would not break – for later purposes, let us call this case 'MW's case of masking'. SCA tells us that the glass is not disposed to break when dropped. But Manley and Wasserman maintain that intuitively it is disposed to break when dropped. It is evident that the culprit for this problem is the sorcerer who acts as a masker to the glass's fragility. This is why it is called the

² Dispositional finks and mimickers, which are distinct from dispositional maskers, have been brought forward as counterexamples to the conditional analysis of dispositions (Smith 1977; Martin 1994; Lewis 1997; Choi 2005b). Although this paper is devoted to the notion of masker, it will throw an important light on the notions of fink and mimicker.

³ For a detailed discussion of Lewis's two-step approach, see (Lewis 1997) and (Choi 2003).

problem of maskers.

Manley and Wasserman, however, do not think that, faced with the problem of maskers, the adherents of SCA have nothing to say in defence. They take into deep consideration what they call the strategy of getting specific, which is briefly alluded to by Lewis. The core idea, as Manley and Wasserman see it, is that, whilst it appears that the sentence 'The glass is disposed to break when dropped' attributes a simple disposition whose stimulating circumstance is one where the glass is dropped and its manifestation is the event of breaking, it actually attributes a more specific disposition whose stimulating circumstance is one where the glass is dropped in the absence of the officious sorcerer and its manifestation is the event of breaking. But the counterfactual conditional corresponding to the second disposition is that the glass would break if dropped in the absence of the officious sorcerer. And this counterfactual conditional is true, which goes along with the intuition that the glass is disposed to break when dropped in the absence of the officious sorcerer. MW's case of masking thus seems to pose no threat to the simple conditional analysis of the second disposition. More generally, the strategy of getting specific tells that, in ordinary talk of dispositions, we normally refer to very specific dispositions by dispositional predicates; and that when we restrict our attention to very specific dispositions, we can see that their ascriptions are equivalent to counterfactual conditionals. From this observation, Manley and Wasserman (2008, 63) hint that it is *prima facie* plausible to say that SCA can be salvaged from the problem of maskers by the strategy of getting specific. In addition, they point out that the strategy of getting specific might be thought to be sensible from the viewpoint of our practice in quotidian conversation.

Despite this initial indication that the strategy of getting specific holds some promise, however, they later criticize it, reaching the conclusion that it is no great comfort to the defenders of SCA. Their criticism of the strategy of getting specific, though, is not the concern of this paper. It is Manley and Wasserman's understanding of the problem of maskers and the strategy of getting specific that is the concern of this paper. I will claim below that their discussion bewrays a fundamentally flawed understanding of the problem of maskers and the strategy of getting specific. As a matter of fact, however, the problem of maskers and the strategy of getting specific are at the heart of their critique of the conditional analysis of dispositions. My claim will therefore go some way to bringing down Manley and Wasserman's critique of the conditional analysis of dispositions.

With the aim of carrying out an in-depth discussion of the strategy of getting specific, Manley and Wasserman put forward the following paraphrase of 'x is disposed to break when dropped':

SD. x is disposed to break when dropped on Earth from one metre up onto a solid surface with a Shore durometre measurement of 90A, through a substance with a density of 1.2 kg/m³ – For simplicity, let's call the corresponding dispositional property D+.

D+, which is attributed by SD, is intended to be a precise disposition, meaning that its stimulating circumstance and manifestation are specified in full. In this sense, SD implements the strategy of getting specific that is introduced to tackle the problem of maskers. How does SD dodge the problem of maskers? Manley and Wasserman say: 'The extra specificity in this ascription [SD] makes many maskers irrelevant. Drop a fragile from a millimetre off of the ground (or over a mattress, or over a column of honey). Suppose that it does not break. This tells us nothing about whether the glass has the highly specific disposition at issue, since it would not be a case in which it is dropped in the right stimulus conditions.' From this, Manley and Wasserman claim that the simple conditional analysis of SD seems to be free from the problem of maskers.

The strategy of getting specific, as Manley and Wasserman see it, tells further that by ordinary explicit dispositional predicates like 'is disposed to break when dropped' and 'is disposed to dissolve when submerged in water' we normally attribute precise dispositions, which is why our use of ordinary explicit dispositional predicates is unsusceptible to the problem of maskers. For instance, it advises that the sentence 'x is disposed to break when dropped' should be paraphrased by SD which attributes the precise disposition D+, not an imprecise disposition whose stimulating circumstance is one where x is dropped and its manifestation is the event of breaking – for short, call this imprecise disposition Ds. Here note that, according to the strategy of getting specific, the dispositional predicate 'is disposed to break when dropped' is no longer explicit about the disposition it expresses. For, it expresses a precise disposition, D+ but it does not contain an explicit specificity corresponding to the stimulating circumstance of D+. In general, according to the strategy of getting specific, ordinary explicit dispositional predicates express precise dispositions despite the fact that they do not always appear to express precise dispositions, which is to say that they are not always explicit about the dispositions they express.

The strategy of getting specific also says that, just like ordinary explicit dispositional predicates, conventional dispositional predicates like 'is poisonous' and 'is fragile' express precise dispositions. The predicate 'is fragile' expresses a precise disposition whose stimulating circumstance is very specific. Manley and Wasserman insinuate that this ensures that the simple conditional analysis of 'x is fragile' is not afflicted with the problem of maskers.

It is remarkable that the thought that, in ordinary contexts of ascription, dispositional predicates express precise dispositions brings up the question of what is the semantic mechanism by which a dispositional predicate expresses the precise disposition it does. We have seen before, for instance, that, according to the strategy of getting specific, the dispositional predicate 'is disposed to break when dropped' expresses $D+$. But it is not a trivial task at all to give a semantic account of how this can be done. Likewise, we need a semantic account of how the predicate 'is fragile' expresses the precise disposition it does. As we will see, it takes a careful analysis of the context-dependence of dispositional ascriptions to construct such a semantic account.

The next claim I wish to make with regard to the strategy of getting specific is that, even if successful, it will not completely clear the way for SCA. I find agreeable the thought that, in ordinary talk of dispositions, we are concerned with precise dispositions of things. But this is not to say that all dispositions are precise dispositions. It is hard to deny that there are imprecise dispositions like D_s as well as precise dispositions like $D+$. I think, though, this observation raises the doubt that the strategy of getting specific does not disentangle all the problems for SCA in connection with MW's case of masking.

To see this, keep in mind that the strategy of getting specific, which is to recast ordinary dispositional ascriptions as involving precise dispositions, rests on the claim that SCA gives a correct analysis of precise dispositions. Therefore, its success merely means that the simple conditional analysis of precise dispositions is not threatened by MW's case of masking. SCA, however, is intended to furnish a conceptual analysis of every dispositional ascription, precise or imprecise. Here it might be thought that MW's case of masking poses a problem for the simple conditional analysis of imprecise dispositions. Recall that, in MW's case of masking, a fragile glass is dropped but it does not break because a sorcerer changes the solid floor below into fluffy mattresses. The thought is that, whilst this glass would not break if dropped, the glass has D_s , i.e., an imprecise disposition whose circumstance is one where x

is dropped and its manifestation is the event of breaking. This necessitates the falsehood of the simple conditional analysis of D_s which says that x has D_s iff it would break if dropped. I maintain that this thought cannot be easily dismissed. What is more, it is evident that the strategy of getting specific is of no help, for the dispositional ascription at issue explicitly involves an imprecise disposition D_s , blocking the possibility of construing it as implicitly involving a precise disposition. In short, even if the strategy of getting specific is successful, we cannot rule out the possibility that the simple conditional analysis of D_s is still in trouble with MW's case of masking. That said, the validity of the strategy of getting specific does not guarantee that SCA has no trouble at all with MW's case of masking. It takes more than the strategy of getting specific to get SCA out of troubles with MW's case of masking.⁴

It is important to realize, though, that this consideration does not at all diminish the philosophical value of bringing the strategy of getting specific under scrutiny and determining whether it is valid or not on its own merit, which Manley and Wasserman concentrate on in their paper. Keeping this in mind, I will put the issue of imprecise dispositions to one side and bring into focus their discussion of the strategy of getting specific in what follows.

The next and more important claim I wish to make is that, despite Manley and Wasserman's suggestion that the problem of maskers might be tackled by means of SD, it is not clear at all how it deals with MW's case of masking. Note that, if dropped on Earth from one metre up onto a solid surface with a Shore durometre measurement of 90A, through a substance with a density of 1.2 kg/m³, the glass would still not break since the sorcerer would immediately step in and change the solid surface into fleecy mattresses. If so, at least apparently, the glass does not have the complex disposition D_+ according to SCA. That is, SCA tells that SD is false when 'x' refers to the glass, which is counterintuitive by Manley and Wasserman's light. Surely, Manley and Wasserman will be happy to acknowledge this point as they say 'Of course, not even this disposition [D_+] is immune to all maskers'. Still, however, given that MW's case of masking is one of Manley and Wasserman's main reasons to explore the strategy of getting specific, it is disappointing that SD cannot give a correct analysis of it.

⁴ For extensive discussions regarding the simple conditional analysis of imprecise dispositions, see (Choi 2008b; 2009)

To deal with MW's case of masking properly, I think, we need to take account of a more specific disposition than D+, the one that includes the absence of the sorcerer in the specification of its stimulating circumstance. That is, we need to substitute the following SD* for SD.

SD*. x is disposed to break when dropped *without maskers like the sorcerer* on Earth from one metre up onto a solid surface with a Shore durometre measurement of 90A, through a substance with a density of 1.2 kg/m³ – For simplicity, let's call the corresponding dispositional property D*.

The counterfactual conditional associated with SD* by SCA is that x would break if dropped *without maskers like the sorcerer* on Earth from one metre up and so on. It is clear that the glass would break if dropped *without the sorcerer* on Earth from one metre up and so on. This is in keeping with our intuition that the glass has D*. Therefore, MW's case of masking does not spell trouble for the simple conditional analysis of SD*. I maintain this is the correct application of Lewis's strategy of getting specific to MW's case of masking.

This observation makes us wonder in what sense SD averts the problem of maskers by incorporating the strategy of getting specific at all. As stated above, Manley and Wasserman say SD makes many maskers irrelevant and, for example, it has no difficulty in dealing with the case where a fragile glass is dropped from a millimetre off of the ground and it does not break – for convenience, let us call this case *the case of one millimetre up*. Despite Manley and Wasserman's indication, however, I doubt that this case is a case of masking, to begin with.

What is a masker? In this beginning of this paper, I quoted Manley and Wasserman's characterization of masker, which I think quite common among philosophers: 'A disposition can be 'masked' in such a way that it is not manifested even when the appropriate stimulus conditions are present and the causal basis remains intact'. In other words, a masker is supposed to prevent the manifestation of a disposition on the condition that the appropriate stimulus conditions obtain. This means that masking does not happen in all cases where the disposition is not manifested: no masking happens in cases where the disposition is not manifested because the appropriate stimulus conditions are not present. I will argue below, though, that Manley and Wasserman fail to see a crucial difference between cases where the disposition is not manifested because the appropriate stimulus

conditions are not present, on the one hand, and cases where the disposition is not manifested because, despite the presence of the appropriate stimulus conditions, a masker interrupts the process from the stimulus to the manifestation.

Examples will help illustrate what I mean by this difference. The nail-polish is disposed to dissolve when submerged in acetone but is not disposed to dissolve when submerged in water. Suppose now that the nail-polish is put into water and it does not dissolve. Is it the case that the nail-polish does not dissolve due to the operation of a masker? No. It is simply because the appropriate stimulus conditions for the disposition to dissolve when submerged in acetone are not present that it does not dissolve. This case ought to be contrasted with the following case. A sorcerer detects when the nail-polish is put into acetone and reacts by turning acetone into water. The nail-polish, even if put into acetone, would not dissolve by the sorcerer's interference. In this case, the appropriate stimulus conditions for the disposition to dissolve when submerged in acetone are present but the nail-polish does not dissolve because the sorcerer acts as a masker, impeding the process from the stimulus to the manifestation.

We can say the same thing about Manley and Wasserman's own case of one millimetre up. There is no doubt that the glass in this case has D^* . But it is dropped not from one metre up but from one millimetre up, which is why it does not manifest D^* . Is this a case of masking? Manley and Wasserman think it is. But there is a strong inclination to go against their thought: the glass does not break not because a masker hampers the process from the stimulus to the manifestation but simply because the appropriate stimulus conditions for D^* are not present. This is in resemblance with the case where the nail-polish, which is acetone-soluble but not water-soluble, does not dissolve when it is put into water. In both cases, no masking takes place.

The case of one millimetre up is to be contrasted with the following case. A sorcerer is eager to protect the glass. The glass is dropped from one metre up onto a hard floor and so on; but the sorcerer instantly lift the floor to the point that is just one millimetre down from the glass; and so the glass does not break – call it *the case of one metre up*. In this case, I take it, the appropriate stimulus conditions for D^* obtain; but the glass does not break owing to the operation of a masker, the sorcerer. Masking indeed takes place. In this respect, this case is in resemblance with the case where the nail-polish is put into acetone but it does not dissolve because of the sorcerer's intervention.

I take it that Manley and Wasserman fail to recognize the difference between the case of one metre up and the case of one millimetre up. It is very important to do so, though, especially in connection with the outlook of the conditional analysis of dispositions. The case of one metre up is generally thought of as a real counterexample to the simple conditional analysis of dispositions, shedding an interesting light on the link between dispositional ascriptions and counterfactual conditionals. Conversely, however, the case of one millimetre up is not deemed as a real threat to the simple conditional analysis of dispositions, merely demanding an articulation of the stimulus condition of the ascribed disposition. As I will argue in detail, in fact, Manley and Wasserman's failure to distinguish these two cases taints one central objection to the conditional analysis of dispositions they subsequently advance.

It is one thing to intuit the difference between the case of one metre up and the case of one millimetre up, but it is quite another to put it on a firm theoretical footing. Indeed, one might argue that the difference is a mere illusion on the ground that no theoretical support is available for it. With this in mind, in what follows, I will attempt to provide a theoretical basis on which the distinction between the cases is required.

2. The 'no maskers' view and 'more maskers' view

As already stated, philosophers including Manley and Wasserman characterize a masker as a factor that, should the appropriate stimulus conditions be present, would thwart the process from the stimulus to the manifestation without removing the disposition. The central question in an effort to clarify the notion of masker is, therefore, how to understand the appropriate stimulus conditions for a disposition. With the aim of addressing this question, I will first develop two views of masking on which there is no distinction between the case of one metre up and the case of one millimetre up. They will help us realize what it takes to draw such a distinction and therefore pave the way for a full-scale defence of it.

Recall that the specification of the stimulating circumstance of D^* that is meant to implement the strategy of getting specific includes the phrase 'without maskers like the sorcerer'. As such, the sorcerer would not be operative in the stimulating circumstance of D^* . This being said, assuming that the appropriate stimulus conditions for a disposition are

identical to its stimulating circumstance, there is no relevant difference between the case of one millimetre up and the case of one metre up with respect to whether masking happens or not. In the case of one millimetre up, the glass is dropped from one millimetre up, which means that the stimulating circumstance of D^* is not present. This explains why the glass does not break. But it would break should the stimulating circumstance of D^* where it is dropped from one metre up obtain. As noted earlier, a masker is defined to be a factor that would prevent the manifestation should the appropriate stimulus conditions be present. This entails that, assuming that the appropriate stimulus conditions for a disposition are identical to its stimulating circumstance, no maskers are operative in the case of one millimetre up. But exactly the same thing can be said about the case of one metre up. In this case, the glass is guarded by the sorcerer, which prevents the glass from breaking. This means that the stimulating circumstance of D^* , which includes the absence of the sorcerer, does not obtain. But the glass would break should the stimulating circumstance of D^* where it is dropped without maskers like the sorcerer obtain. Once again, hence, we are licensed to say that, assuming that the appropriate stimulus conditions for a disposition are identical to its stimulating circumstance, no maskers are operative in the case of one metre up. Thus on the assumption that the appropriate stimulus conditions for a disposition are identical to its stimulating circumstance, the case of one millimetre up and the case of one metre up both involve no maskers.

In general, once the strategy of getting specific has been taken on board, what we might consider as maskers are ruled out from the stimulating circumstance of a disposition. Therefore, there would be no factors standing in the way of the manifestation of a disposition should its stimulating circumstance obtain. If so, when the appropriate stimulus conditions for a disposition are taken to be the same as its stimulating circumstance, Manley and Wasserman's characterization of masker implies that, strictly speaking, masking never takes place. In what might be described as cases of masking, x does not undergo the appropriate stimulus conditions, which is why it does not manifest the disposition. The phenomenon of masking is merely one of many ways in which the appropriate stimulus conditions fail to be satisfied. Further, there is no principled way to distinguish masking from other manners in which the appropriate stimulus conditions are not present. In the case of one millimetre up which I claim not to involve a masker, the condition that x is dropped *from one metre up* is not satisfied. This is one way in which the appropriate stimulus conditions are not satisfied. Meanwhile, in the case of one metre up which I claim to involve a masker,

the condition that x is dropped *without maskers like the sorcerer* is not satisfied. This is another way in which the appropriate stimulus conditions are not satisfied.

Then is the assumption that the appropriate stimulus conditions for a disposition are identical to its stimulating circumstance acceptable? It seems so. After all, in a context where the glass is protected by the sorcerer, what we mean by saying that the glass is disposed to break when dropped is that it is disposed to break when dropped *without maskers like the sorcerer* on Earth from one metre up onto a solid surface and so on. If so, it might be thought that the appropriate stimulus conditions for this dispositional ascription are that the glass is dropped *without maskers like the sorcerer* on Earth from one metre up onto a solid surface and so on. That is, just like the specific stimulating circumstance, the appropriate stimulus conditions include the absence of a masker. Indeed, given that we mean that the glass is disposed to break when dropped *without maskers like the sorcerer* on Earth from one metre up onto a solid surface and so on, there seems to be no non-arbitrary reason to add such phrases as 'on Earth' and 'from one metre up' but not to add the phrase 'without maskers like the sorcerer' to the specification of the appropriate stimulus conditions for the dispositional ascription at issue. That being said, it sounds sensible to suggest that the appropriate stimulus conditions for a disposition are to be identified with its stimulating circumstance. For later reference, let me call the view developed here the 'no maskers' view. The rationale for this nomenclature is evident as can be seen from the fact that, on the no maskers view, masking never happens.⁵

⁵ It will be instructive to see what the no maskers view says about the predicate 'is disposed to dissolve when submerged'. Suppose that 'The nail-polish is disposed to dissolve when submerged' is uttered in an acetone context. Under the strategy of getting specific, the stimulating circumstance of this dispositional ascription is one where x is submerged in acetone without maskers and so on. On the no maskers view that the appropriate stimulus conditions for a disposition are identical to its stimulating circumstance, therefore, the case where the nail-polish is submerged in water and does not dissolve is a case where the appropriate stimulus conditions are not present. By the same token, the no maskers view tells that the case where the nail-polish is put into acetone but does not dissolve by the interference of the sorcerer who turns acetone into water is a case where the appropriate stimulus conditions are not present. On the no maskers view, hence, the two cases both involve no maskers. But this is at odds with our common-sensical opinion that the first case does not but the second case does involve a masker.

The case of one millimetre up is not a genuine counterexample to the conditional analysis of dispositions. Instead, it may be plausibly deemed as a mere call for the articulation of the detail of the appropriate stimulus conditions. It can be thus circumvented by saying that the appropriate stimulus conditions for D* include that x is dropped *from one metre up*. Similarly, on the no maskers view, the case of one metre up can be thought of as posing no real threat to the conditional analysis of dispositions. We can deal with it by saying that the appropriate stimulus conditions for D* include that x is dropped *without maskers like the sorcerer*. The two cases, thus, have exactly the same bearing on the outlook of the conditional analysis of dispositions. On the no maskers view, therefore, strictly speaking, the conditional analysis of dispositions is not beset with what are known as the problem of maskers: we can easily fend off the problem of maskers by specifying the appropriate stimulus conditions in more detail in much the same way as we fend off the case of one millimetre up. This makes us wonder why cases of masking have captured much more attention among philosophers than other garden-variety cases where the appropriate stimulus conditions do not occur. They tend to maintain that there is a clear line between the two types of cases and think of the first cases but not the second cases as damning counterexamples to the conditional analysis of dispositions. The defenders of the no maskers view are thus pressed to say that most philosophers of dispositions are wrong to pay special attention to the problem of maskers.

Thus far I have worked out what I called the no maskers view. I will now turn to what may be called the 'more maskers' view, which is diametrically opposite to the no maskers view. As I said earlier, by saying that x is disposed to break when dropped we normally attribute D* to x. Nonetheless, however, to a first and rough approximation, we associate the dispositional ascription with the simple event of being dropped without worrying about the detail of the stimulating circumstance of D*. For convenience, let us call it the first-approximation stimulus of D*.⁶ Similarly, by saying that x is disposed to dissolve when

⁶ It might be thought that there is a certain degree of arbitrariness with regard to the notion of first-approximation stimulus of a precise disposition. The first-approximation stimulus of a precise disposition is introduced as a simple event that approximates its stimulating circumstance. But it is not entirely clear how simple the simple event ought to be. For instance, it might be claimed that there is no theoretically solid ground for renouncing the idea that the first-approximation stimulus of D* is not the event of being dropped but, say, the event of being dropped from one metre up. But I do not think that it is impossible for proponents of the more maskers view to render the problem of arbitrariness harmless, if not eliminate it, by clarifying the notion of first-approximation stimulus

submerged, we normally mean to attribute a precise disposition D^\dagger to x : x is disposed to dissolve when submerged in a certain solvent at a certain temperature and pressure without maskers and so on. But the first-approximation stimulus of D^\dagger , which we roughly associate with the dispositional ascription in question, is the simple event of being submerged. The more maskers view emerges when we characterize the appropriate stimulus conditions for a disposition as its first-approximation stimulus.

The conventional characterization of masker, as I said before, is that should the appropriate stimulus conditions be satisfied a masker would prevent the manifestation without removing the disposition. Unsurprisingly, on the more maskers view, the case of one metre up involves a masker, the sorcerer who prevents the glass from breaking when it is dropped. For, the glass is dropped, and therefore, the appropriate stimulus conditions for D^* , which are to be identified with its first-approximation stimulus, are satisfied in this case. The case of one millimetre up, however, also involves a masker, the height of one millimetre which (in a sense) prevents the glass from breaking when it is dropped. For, given that the glass is dropped albeit from one millimetre up, the appropriate stimulus conditions for D^* are present. On the more maskers view, thus, we have another basis for not distinguishing the two cases with respect to the phenomenon of masking. They both involve maskers.

More generally, the more maskers view tells us that maskers are involved in many cases that intuitively we view as not involving maskers. The nail-polish is put into water and so does not dissolve. This is generally thought of as not involving a masker. According to the more maskers view, however, masking happens even in this case. Given that the nail-polish is submerged albeit in water, the first-approximation stimulus of D^\dagger , which is the simple event of being submerged, does occur; yet the dissolving of the nail-polish is prevented by the solvent's being water, which can be seen as a masker to D^\dagger . In short, the more maskers view tells that more cases involve maskers than commonly thought. It should be cautioned, though, that the more maskers view does not tell that all cases where the disposition is not manifested involve maskers. When the nail-polish is not even put into any solvent at all, the first-approximation of D^\dagger does not occur. Therefore, it is not a case of masking. On the more maskers view, thus, not all cases where D^\dagger is not manifested involve maskers.

further. For the sake of discussion, however, I will set this issue aside since it is not particularly relevant to my subsequent discussion.

I hold that it is the more maskers view that Manley and Wasserman have in mind when they put forward the case of one millimetre up as a case of masking. For, on the more maskers view, masking takes place not only in the case of one metre up but also in the case of one millimetre up. Then the question comes up as to why there is a broad inclination to take the case of one millimetre up as involving no maskers. Indeed, we are tempted to think that there is a significant difference between the case of one millimetre up and the case of one metre up with respect to the phenomenon of masking, which makes it the case that the first poses no real threat at all to the conditional analysis of dispositions whilst the second potentially does. Manley and Wasserman thus have the burden of explaining away this temptation, which I do not think easy at all.

In short, both the no maskers view and more maskers view do not differentiate between the case of one metre up and the case of one millimetre up with respect to the phenomenon of masking, and thereby they have the burden of explaining away the intuitive difference between the case of one metre up and the case of one millimetre up. What would such an explanation be like? One might attempt to give such an explanation by invoking the psychology of the ascriber, which goes like this. When one ascribes D^* to x , she is already aware of the case of one millimetre up since it is not bizarre to drop the glass from one millimetre up, and tends to explicitly rule it out from the appropriate stimulus conditions for D^* . This is why she takes it that the case of one millimetre up does not defeat the conditional analysis of dispositions. Meanwhile, she is not aware of the case of one metre up since the sorcerer's intervention is bizarre, and tends to fail to explicitly rule it out from the appropriate stimulus conditions for D^* . This explains why she holds that the case of one metre up is a potential counterexample to the conditional analysis of dispositions. It is clear that her opinion about the case of one millimetre up is validated by the no maskers view but invalidated by the more maskers view; and that her opinion about the case of one metre up is validated by the more maskers view but invalidated by the no maskers view. On each of the two views, thus, this psychological explanation is an effort to seek a middle way between two extremes with some of her opinions preserved and some others dumped.⁷

But this explanation does not take us far. There is an ineluctable ambiguity in the question of whether something is bizarre or not. Whilst someone might find the sorcerer's prevention

⁷ This explanation has been called to my attention by David Manely through personal communication.

of the glass's breaking bizarre, someone else might find it more bizarre to drop the glass from one millimetre up. According to the explanation presented in the last paragraph, this is to say that it is a matter of ambiguity whether masking happens in a given case. But it could not be further from the truth. There is no such ambiguity at all about the intuitive difference between the case of one metre up and the case of one millimetre up with respect to the phenomenon of masking. The intuition unequivocally tells that masking takes place in the case of one metre up but not in the case of one millimetre up.

What is more, there are numerous scenarios which the ascriber might be completely unaware of and, at the same time, wish to rule out from the appropriate stimulus conditions, whatever notion of bizarreness may be at work here. I think this point is well illustrated by an example Manley and Wasserman (2008, 69) themselves present, what they call 'reverse Achilles' heels'. They invite us to imagine a delicate crystal glass that would break if dropped in all but one of the precise circumstances: 'If you tap this glass with your finger it will shatter. If you blow on it directly, it will crack. But the glass has a reverse Achilles' heel: it can withstand a surprisingly strong force, provided that the force is applied at exactly the right angle and at exactly the right point.' I concur with Manley and Wasserman who insist that in this example the glass is disposed to break when dropped. And, it is clear and will become clearer in the following sections that this example is more similar to the case of one millimetre up than to the case of one metre up. This being the case, the reverse Achilles' heel must be ruled out from the appropriate stimulus conditions for the disposition in question.

It is to be noted that it is reasonable to suppose further that the ascriber is completely in the dark about the reverse Achilles' heel. On this supposition, however, Manley and Wasserman's example of the reverse Achilles' heel is a scenario that the ascriber wishes to rule out from the appropriate stimulus conditions and yet she is totally unaware of at the time of ascription, which is in conflict with the thought that we can explain why the ascriber does not rule out the case of one metre up from the appropriate stimulus conditions by citing the fact that she typically has not thought of it. From this I come to the conclusion that the explanation under discussion is undermined by the example Manley and Wasserman themselves advance.

In short, one attempt by the proponents of the no maskers view or more maskers view to explain away the intuitive difference between the case of one metre up and the case of one

millimetre up is unsuccessful. I presume, in fact, that the prospect of such an explanation is not very promising. That said, we are advised to leave behind the no maskers view and more maskers view and explore a third view that has the potential to provide theoretical ground for the intuitive difference between the case of one metre up and the case of one millimetre up. This requires us to distinguish what Manley and Wasserman mean by the 'appropriate stimulus conditions' for a disposition from either of its stimulating circumstance and first-approximation stimulus.

How can we go about characterizing the appropriate stimulus conditions for a disposition this way? The condition that makes up the stimulating circumstance of D^* is that x is dropped without maskers on Earth from one metre up onto a solid surface and so on. The core idea I will elaborate in the sections to come is that there is a critical difference between the condition of x 's being dropped on Earth from one metre up onto a solid surface and so on, on the one hand, and the condition of the absence of maskers, on the other. Here the first condition only is what Manley and Wasserman mean by the appropriate stimulus conditions. That is, the condition of the absence of maskers, which is part of the stimulating circumstance of D^* , does not belong to the appropriate stimulus conditions. It is obvious, further, that the first condition is not the same as the condition that has been considered as the first-approximation stimulus of D^* , that is, the condition of x 's being dropped. With this idea, accordingly, we can steer clear of the no maskers view and more masker view, paving the way for a non-vacuous interpretation of the conventional definition of masker. This will permit the conclusion that there is a crucial distinction between cases of masking and other cases where the disposition does not manifest because the appropriate stimulus conditions do not occur. This conclusion is in keeping with the general recognition among philosophers that the first cases are potentially powerful counterexamples to the conditional analysis of dispositions but the second cases are not.

What is important here is how to provide a solid theoretical basis for driving a wedge between the two parts of the stimulating circumstance of a disposition I described earlier, which is the main task for the rest of this paper. To address this question, we need to grapple with the context-dependence of dispositional ascriptions and the incompleteness of dispositional predicates, which I will do in the next section.

3. The incompleteness of dispositional predicates and their characteristic stimuli

Let me first say some words about the context-dependence of dispositional ascriptions. It is generally acknowledged that the semantic value of a dispositional ascription is at least partly determined by the context in which the ascription is made. When a homemaker utters that a television set is not disposed to break when struck, she envisages its being struck with a soft blow, in which case it does not break. We can make explicit the contextually determined semantic value of her utterance by saying that what she really means is that the television set is not disposed to break when struck with a soft blow. Conversely, when a construction worker utters that a television set is disposed to break when struck, he envisions its being struck with a very hard blow, in which case it does break. Once again, the contextually determined semantic value of his utterance can be expressed by means of the sentence that the television set is disposed to break when struck with a very hard blow.

Reflections on the context-dependence of dispositional ascriptions have led Elizabeth Prior (1985, Chapter 1) to suggest that dispositional predicates like 'is disposed to break when struck' and 'is disposed to dissolve when submerged' are incomplete. For instance, the predicate 'is disposed to break when struck' appears to have only one argument place such that 'The glass is disposed to break when struck' takes a definite truth value. Prior denies, though, that this is the case. She holds that, contrary to appearance, 'is disposed to break when struck' has many hidden argument places, one of which is to be filled with the strength of a striking force. As a result of this, 'x is disposed to break when struck' takes no definite truth value. In this sense, 'is disposed to break when struck' is an incomplete predicate.⁸

Choi (2008a, 170-171) cogently points out that we can give an account of the context-dependence of dispositional ascriptions in terms of the incompleteness of dispositional predicates. The core idea is that the context-dependence of dispositional ascriptions is due to the fact that the values for the hidden argument places of a dispositional predicate are in

⁸ Prior herself does not explicitly state the incompleteness of dispositional predicates in terms of hidden argument places. But Choi (2008a, 158) suggests that what Prior means by the incompleteness of dispositional ascriptions can be best understood in terms of hidden argument places, and rightly so.

most cases fixed by the context of ascription. For instance, the difference in the semantic value of the dispositional ascription 'x is disposed to break when struck' between the homemaker and construction worker lies in the fact that the hidden argument place of the predicate 'is disposed to break when struck' mentioned before has different values depending on whether the dispositional ascription is made in the mouth of the homemaker or in the mouth of the construction worker.

According to the strategy of getting specific, in most ordinary contexts of ascription, dispositional predicates express precise dispositions. As I said before, this raises the question of what the semantic mechanism is by means of which dispositional predicates express precise dispositions. When I simply utter that the glass is disposed to break when struck, how is it possible to determine the precise disposition attributed by this utterance? Precise dispositions are dispositions whose stimulating circumstances are specified in full. If so, the task for us is to clarify how a fully specified stimulating circumstance can be naturally derived from a given dispositional ascription. Once this is done, it is easy to fix the precise disposition corresponding to the fully specified stimulating circumstance, which is the precise disposition attributed by the given dispositional ascription.

Here, I think, the contexts of dispositional ascriptions ought to come into play. Recall that the semantic value of a dispositional ascription varies from context to context. This entails that the stimulus condition of a dispositional ascription, too, varies from context to context. When the homemaker utters that x is disposed to break when struck, the stimulus condition of the dispositional ascription is approximately the event of being struck with a soft blow. But when the construction worker utters the same thing, the stimulus condition is approximately the event of being struck with a very hard blow.

Here it will be useful to introduce the notion of contextually expanded stimulus of a dispositional ascription. By taking account of the context of a dispositional ascription, we can derive its contextually expanded stimulus from the first-approximation stimulus that we intuitively associate with it. To be specific, I suggest, we can obtain the contextually expanded stimulus of a dispositional ascription by putting together its first-approximation stimulus and the values for the hidden argument places fixed by the context of ascription.

Let me give examples. As before, let us say that the first-approximation stimulus of 'x is disposed to break when struck' is the simple event of being struck. But one of its

contextually expanded stimuli in the mouth of the homemaker is the event of being struck with a soft blow. Here the phrase 'with a soft blow' represents the contextually determined value for the hidden argument place to be filled with the strength of striking force. Likewise, one of the contextually expanded stimuli of 'x is disposed to break when struck' in the mouth of the construction worker is the event of being struck with a hard blow. Once again, the phrase 'with a hard blow' represents the contextually determined value for the hidden argument place to be filled with the strength of striking force.

For further illustration, let us consider the predicate 'is disposed to dissolve when submerged'. It is an incomplete predicate that has a hidden argument place to be filled with a putative solvent. When one says that x is disposed to dissolve when submerged in a context where acetone is salient, it means that x is disposed to dissolve when submerged in acetone. But when one says the same thing in a context where water is salient, it means that x is disposed to dissolve when submerged in water. In this sense, the value for the hidden argument place in question is fixed by the context of ascription. The first-approximation stimulus of 'x is disposed to dissolve when submerged' is the event of being submerged. When it is uttered in different contexts, however, different values are given to the hidden argument place at issue, and accordingly different contextually expanded stimuli are associated with it. In the water-context, the value for the hidden argument place at issue can be expressed by the phrase 'in water'. When this is put together with the first-approximation stimulus of 'x is disposed to dissolve when submerged', we acquire one of its contextually expanded stimuli, which is the event of being submerged in water. In the acetone-context, however, one of the contextually expanded stimuli of 'x is disposed to dissolve when submerged' is the event of being submerged in acetone, where the phrase 'in acetone' expresses the value for the hidden argument place at issue.

When we take full consideration of the context of a given dispositional ascription, we will acquire its contextually expanded stimulus that is maximally specific in the context of ascription. Let us call this maximally specific stimulus 'the characteristic stimulus of the dispositional ascription'. We thus obtain the characteristic stimulus of 'x is disposed to break when struck' when we fix the values for as many hidden argument places of 'is disposed to break when struck' as we can fill by means of the context of ascription. Thus characterized, the characteristic stimulus of the dispositional ascription at issue is the event of being struck with a certain contextually determined strength of striking force at a certain contextually

determined angle and so on.

The procedure for getting the characteristic stimulus of a given dispositional ascription is well illustrated by Manley and Wasserman's (2008, 65) imaginary conversation. It will be useful to quote the relevant passage in its entirety for later purpose.

Suppose you say, 'My glass is disposed to break when dropped, so it would break if dropped'. Your friend points out that the glass is currently being held over a soft bed, so that it would not break if dropped. You are tempted to reply that what you *meant* is that the glass is disposed to break when dropped onto a hard *surface*, and that it would break if dropped on such a surface. Your obstinate friend then holds the glass over a hard surface, but only a millimetre above. When you add the requirement that it be dropped from at least a metre up, your friend holds it high, but slides a column of honey between the glass and the ground. Again, these were not the circumstances you had in mind, so you continue to get more specific.

This conversation, I take it, can be best described as an episode where one after another hidden argument place of 'is disposed to break when dropped' is saturated by the context of ascription. In each step of the conversation, your friend imagines the glass's being subject to a stimulus that involves a different value for one of the hidden argument places of 'is disposed to break when dropped' than its characteristic stimulus. In response, you make explicit the value for the hidden argument place in question that is fixed by the context of ascription. At one stage, for instance, your friend envisages the glass's being dropped onto a soft surface, where the phrase 'onto a soft surface' gives a value to the hidden argument place of 'is disposed to break when dropped' that is to be filled with the hardness of the surface. But this value is different from the contextually determined value of the hidden argument place, which can be represented by the phrase 'onto a hard surface'. You respond, therefore, that your friend has misunderstood you; and that what you mean is that the glass is disposed to break when dropped onto a hard surface.

By fixing the values for more of the hidden argument places of 'is disposed to break when dropped' by means of the context of ascription, we acquire an increasingly specific stimulus, the event of being dropped on earth from one metre up onto a hard surface and so on. Repeat this procedure and we will eventually get to the point where the context of ascription has filled as many of the hidden argument places of 'is disposed to break when

dropped' as possible, in which case we have acquired its characteristic stimulus.

It is of major importance to realize that there is no guarantee that the characteristic stimulus of a dispositional ascription so characterized is identical to the stimulating circumstance of the precise disposition that is claimed to be attributed by it. As already stated, according to the strategy of getting specific, when we simply say that *x* is disposed to break when dropped, we intend to attribute to *x* the precise disposition *D**. The stimulating circumstance of *D** is one where *x* is dropped without maskers like the sorcerer on Earth from one metre up onto a solid surface and so on. There is no a priori reason to think, however, that we can obtain the stimulating circumstance of *D** from the first-approximation stimulus of 'is disposed to break when dropped' solely by saturating its hidden argument places by the context of ascription. That is, we cannot rule out the possibility that, to acquire the stimulating circumstance of *D**, we have to use a different method from the one of fixing the values for the hidden argument places by means of the context of ascription. In fact, I will argue below that the characteristic stimulus of a dispositional ascription is distinct from the stimulating circumstance of the precise disposition attributed by it. And I will go further to argue that we are best advised to identify the characteristic stimulus of a dispositional ascription with what Manley and Wasserman call the 'appropriate stimulus conditions'.

4. What is a dispositional masker?

We have seen in Section 3 that most ordinary dispositional predicates are incomplete in the sense that they have more than one argument place. Then what is the main ground for believing that a dispositional predicate is incomplete? The ground that Prior (1985) offers for claiming that 'is fragile' is an incomplete dispositional predicate is partly that, for some object *x*, *x* is fragile for a hard blow and, at the same time, is not fragile for a soft blow. From this, she derives that 'is fragile' has a hidden argument place that must be filled with the strength of a striking force. By the same token, from the fact that, for some object *x*, *x* is not soluble in water but, at the same time, is soluble in acetone, Prior proposes that the dispositional predicate 'is soluble' has a hidden argument place that must be filled with a solvent, and so it is an incomplete predicate.

Choi (2008a) points out, however, that it is not quite correct to derive that 'is fragile' is an incomplete predicate immediately from the fact that x is fragile for a hard blow but is not fragile for a soft blow. We need one more premise, which is that the two sentences, 'x is fragile for a hard blow' and 'x is fragile for a soft blow', attribute the same relational property, fragility to x. Fortunately, this premise is true, which warrants Prior's reasoning leading to the conclusion that 'is fragile' is an incomplete predicate. Similarly, we cannot infer that 'is soluble' is an incomplete predicate immediately from the fact that x is soluble in acetone but not in water. The inference goes through, though, thanks to the truth of the following premise: both the sentence 'x is soluble in water' and the sentence 'x is soluble in acetone' ascribe the same property, i.e., solubility to x.

Not all cases are easy to handle, though. There are sticky cases. Prior proposes that it follows from the fact that a piece of steel is fragile at a low enough temperature but not at an ordinary temperature, that 'is fragile' is an incomplete predicate. It is indeed true that a piece of steel is fragile at a low enough temperature but not at an ordinary temperature. I agree with Choi, however, that the two sentences, 'x is fragile at a low enough temperature' and 'x is fragile at an ordinary temperature', do not attribute to x the same property, let alone the property of fragility. This observation lends itself to the conclusion that 'is fragile' has no hidden argument place to be filled with x's temperature.

Then the next question is how to decide that the sentences, 'x is fragile for a hard blow' and 'x is fragile for a soft blow', attribute fragility to x; but that the sentences, 'x is fragile at a low enough temperature' and 'x is fragile at an ordinary temperature', do not. With the help of Lewis's theory of events, Choi (2008a) strives to address this question rigorously, the detail of which should not detain us here. The central idea is this: suppose that x is struck with a hard blow and then breaks through the normal process of a fragile thing, from which we can infer that x is fragile for a hard blow. In this case, the hard striking is a kind of striking. Then we are entitled to say that x is struck and then breaks through the normal process of a fragile thing, which permits us to say that x is fragile. This licenses us to suggest that fragility is attributed by 'x is fragile for a hard blow'. The same goes for 'x is fragile for a soft blow'. From the fact that one of them is true but the other is false, therefore, it follows that 'is fragile' has a hidden argument place to be filled with the strength of striking force.

But a similar reasoning cannot be performed for the sentence 'x is fragile at a very low temperature'. Suppose that an object x, which has been at a room temperature, is cooled

down to a very low temperature, is struck and then breaks through the normal process of a fragile thing, which permits us to say that it is fragile at a very low temperature. In this case, however, the-cooling-and-striking is not itself a kind of striking. When we say that a glass is fragile, we do not merely mean that it is disposed to shatter if we strike it. What we mean is that all we have to do to shatter it is to strike it. A glass is fragile insofar as, in order to shatter it, we do not need to do anything but to strike it. On the supposition at issue, however, this is not the case for the object x. For, it breaks not simply because it is struck but because it is cooled down and then struck. This being the case, we are not licensed to claim that x is fragile. This is conducive to the idea that fragility is not attributed by 'x is fragile at a very low temperature'. The same goes for 'x is fragile at a room temperature'.

With the tightened grip on the incompleteness of dispositional predicates, let us now take a look at the dispositional predicate 'is disposed to break when dropped'. This predicate has a hidden argument place that is to be filled with the height from which x is dropped. Why? First, 'The glass is disposed to break when dropped from one metre up' is true but 'The glass is disposed to break when dropped from one millimetre up' is false. Further, the two sentences both attribute to the glass the same property, namely, the disposition whose stimulating circumstance is x's being dropped and its manifestation is the event of breaking – as before, call it Ds. For, suppose that the glass is dropped from one metre up and then breaks. But the dropping-from-one-metre-up is a kind of dropping. Then we are entitled to say that, in this case, the glass is dropped and then breaks, which permits the conclusion that the glass indeed has Ds. Then it is reasonable to suggest that 'The glass is disposed to break when dropped from one metre up' attributes Ds to the glass. The same conclusion can be reached as to 'The glass is disposed to break when dropped from one millimetre up', that it attributes Ds to the glass. From the fact that one of the two sentences is true but the other is false, therefore, it follows that the dispositional predicate 'is disposed to break when dropped' has a hidden argument place to be filled with the height from which x is dropped.

With different values of this argument place fixed by different contexts of dispositional ascriptions, we have different contextually expanded stimuli of 'x is disposed to break when dropped'. One of its contextually expanded stimuli is the event of being dropped from one metre up; and another is the event of being dropped from many metres up. But we can add more details by taking other hidden argument places on board. For example, the dispositional predicate 'is disposed to break when dropped' also has a hidden argument

place that is to be filled with the gravitational field in which x is dropped. Accordingly, one of the contextually expanded stimuli of 'x is disposed to break when dropped' is the event of being dropped on Earth from one metre up; and another is the event of being dropped on Moon from one metre up.

My major claim is that this procedure does not yield the stimulating circumstance of D*, the precise disposition attributed by uttering 'x is disposed to break when dropped' under an ordinary context. More specifically, the characteristic stimulus of the dispositional ascription in question, which is maximally specific among its contextually expanded stimuli, does not include the condition that there are no maskers. The reason is that the dispositional predicate 'is disposed to break when dropped' does not have a hidden argument place that is to be filled with the presence or absence of a masker. In general, I hold, there is no semantic element saturated by the context of ascription that explicitly rules out maskers.

To see this, imagine a glass that is one metre off of a solid floor and is guarded by a wizard who, should it be dropped, would instantly lift the floor to the point that is just one millimetre down from it. In this case, 'The glass is disposed to break when dropped in the absence of the wizard' is true but 'The glass is disposed to break when dropped in the presence of the wizard' is false. But it does not immediately follow from this that the dispositional predicate 'is disposed to break when dropped' has a hidden argument place to be filled with the presence or absence of the wizard. We need the additional premise that the two dispositional ascriptions, 'x is disposed to break when dropped in the absence of the wizard' and 'x is disposed to break when dropped in the presence of the wizard', both attribute Ds to the glass. But I think this is not true.

I said earlier that the glass is actually guarded by a wizard who would act as a masker. Suppose now that the glass were put in a circumstance where it is not guarded by such a wizard and then dropped. In this case, it would break, which gives us a good reason for thinking that the glass is disposed to break when dropped in the absence of the wizard. Note that the putting-in-such-a-circumstance-and-then-dropping is not itself a kind of dropping. In fact, from the fact that the glass breaks when put in such a circumstance and then dropped, it does not follow that the glass breaks when dropped. Quite oppositely, the glass does not break by the intervention of the wizard when dropped. On the supposition at issue, therefore, we are not permitted to say that the glass has Ds. This hints that 'The glass is disposed to break when dropped in the absence of the wizard' does not attribute Ds to the

glass. We can readily get the same result for 'The glass is disposed to break when dropped in the presence of the wizard': it does not attribute Ds to the glass.

In short, neither of the two sentences, 'The glass is disposed to break when dropped in the absence of the wizard' and 'The glass is disposed to break when dropped in the presence of the wizard' attributes Ds to the glass. The conclusion that this brings us to is that the dispositional predicate 'is disposed to break when dropped' does not have a hidden argument place to be filled with the presence or absence of the wizard. If so, the event of being dropped *without maskers like the wizard* is not one of the contextually expanded stimuli of 'x is disposed to break when dropped'. For, the qualifying clause 'without maskers like the wizard' does not correspond to one of its hidden argument places. By getting the hidden argument places of 'is disposed to break when dropped' saturated by the context of dispositional ascription, thus, we never reach the point where one of its contextually expanded stimuli is the event of being dropped *without maskers* on Earth from one metre up onto a solid surface and so on. But it is this event that occurs in the stimulating circumstance of D*, the precise disposition attributed by 'x is disposed to break when dropped'. This leads to the conclusion that the characteristic stimulus of 'x is disposed to break when dropped' is not identical to the stimulating circumstance of D*.

I do believe, as I said earlier, that when I say 'x is disposed to break when dropped', I normally mean that x is disposed to break when dropped *without maskers* on Earth from one metre up onto a solid surface and so on. This provides ground for thinking that the stimulating circumstance of D* is one where x is dropped *without maskers* on Earth from one metre up onto a solid surface and so on. It has emerged that the condition of x's being dropped on Earth from one metre up onto a solid surface and so on stems from the fact that the hidden argument places of the dispositional predicate 'is disposed to break when dropped' are saturated by the context of dispositional ascription. But the qualifying phrase 'without maskers' is added for a different reason. As we have seen, there is no hidden argument place to be filled with the presence or absence of a masker. We cannot therefore understand the condition of the absence of a masker with reference to the context of dispositional ascription.

If so, where does the condition of the absence of a masker flow from? Note that, for every object x, it is never the case that x is disposed to break when dropped in the presence of a masker. Indeed I take it that the predicate 'is disposed to break when dropped in the

presence of a masker' is of no use in classifying things in most contexts of dispositional ascription. This is why, when I simply say that x is disposed to M, I typically mean that x is disposed to M when no maskers are operative, regardless of the context of dispositional ascription. Once this is realized, it is reasonable to suppose that the rationale for the condition of the absence of a masker has to do with the context-independent nature of dispositionality. Insofar as my intention is to attribute a dispositional property to x, I implicitly or explicitly put in place the condition that no maskers operate, no matter what the context of ascription may be.

With this in mind, I claim that the condition that there are no maskers is required not by the context of ascription but by the context-independent meaning of a dispositional ascription that is pertinent to the nature of dispositionality. The condition of x's being dropped on Earth from one metre up onto a solid surface and so on, on the one hand, and the condition of the absence of a masker, on the other, are not brought up on the same ground. This gives a solid justification for drawing a line between the two conditions, which in turn gives foundation to what I mean by the distinction between the characteristic stimulus and stimulating circumstance of a dispositional ascription.

Until now I have worked out an account of the semantic mechanism by which dispositional predicates can be used to attribute precise dispositions in ordinary talk of dispositions. It will be instructive to give a brief and terse presentation of it. Suppose that I say 'x is disposed to break when dropped' in a context where I envision x's being dropped on Earth from one metre up onto a solid surface and so on. As I said before, the first-approximation stimulus of the disposition concerned is the event of being dropped. When we get the context of ascription to fix the values of the hidden argument places of 'is disposed to break when dropped', we obtain its contextually expanded stimuli. The characteristic stimulus of a dispositional ascription is defined as the contextually expanded stimulus that is maximally specific in a given context of ascription. Thus defined, the characteristic stimulus of the dispositional ascription at issue is the event of being dropped on Earth from one metre up onto a solid surface and so on. I claim, though, that this is not quite the same as its stimulating circumstance. To get the stimulating circumstance of D*, I hold, we need to take account of a quite different type of condition than the ones we have previously considered. They are the conditions required by the dispositional ascription independently of the context of ascription. One of them is that such interfering factors as maskers, finks, and

mimickers are absent. Combining them with the characteristic stimulus of 'x is disposed to break when dropped', I hold, yields the stimulating circumstance of D*. To put another way, it yields the conditions that, given the conditional analysis of dispositions, must be satisfied in order for a bearer of D* to bring about the manifestation of D*. This is the semantic mechanism which makes it possible for us to attribute precise dispositions by means of dispositional predicates despite the fact that most of those predicates are not explicit about the precise dispositions they express.

Armed with this distinction between the characteristic stimulus and stimulating circumstance of a dispositional ascription, we can define a masker to be a factor that would block the manifestation of a disposition without eliminating it even if *its characteristic stimulus* obtains. This definition enables us to drive a wedge between cases of masking and other cases where the disposition does not manifest because its characteristic stimulus does not occur in a way that is congenial to our intuition. Let us first look at Manley and Wasserman's case of one millimetre up. As noted earlier, the predicate 'is disposed to break when dropped' has a hidden argument place to be filled with the height from which x is dropped. In many cases, the value for this argument place is determined by the context of dispositional ascription. Given that the characteristic stimulus of 'x is disposed to break when dropped' is defined as the contextually expanded stimulus that is maximally specific in the context of ascription, its specification must include reference to the height from which the glass is dropped, say, the phrase 'from one metre up'. This is to say that it involves the condition that the glass is dropped *from one metre up*. In the case of one millimetre up, however, this condition is not satisfied, and so its characteristic stimulus does not occur. And so, it is not a case where the glass is subject to the characteristic stimulus of 'x is disposed to break when dropped' but does not break owing to the operation of a masker. On my proposal that a masker is a factor that would block the manifestation of a disposition without getting shot of it should its characteristic stimulus obtain, therefore, the case of one millimetre up is not a case of masking. It teaches us only about the context's role of filling the hidden argument places of a dispositional predicate. This tells us nothing about the nature of dispositionality, though.

Very different things are to be said about the case of one metre up. In this case, the glass is dropped on Earth from one metre up onto a hard surface and so on, which entails that the characteristic stimulus of 'x is disposed to break when dropped' occurs. Therefore, the case

of one metre up is a case where the glass is indeed subject to the characteristic stimulus of 'x is disposed to break when dropped' but does not break owing to the operation of a masker. On my definition of masker, therefore, it is a case of masking. It is clear that this case cannot be fended off by taking account of the context-dependence of dispositional ascriptions. For, the contextual contribution to the semantic value of the dispositional ascription has already been taken on board in forming its characteristic stimulus. This is why it is generally held to be a counterexample to the thought that 'x is disposed to break when dropped' is equivalent to the counterfactual conditional 'If x were subject to *its characteristic stimulus* (as opposed to the stimulating circumstance of D*) it would break'.

This instigates the need to add to the antecedent of the counterfactual conditional, the condition that there are no maskers, which results in the stimulating circumstance of D*. As I will argue below in detail, I take this move as the crux of Lewis's strategy of getting specific. As I said before, however, the rationale for this addition comes not from the contextual contribution to the semantic value of dispositional ascription but from the very nature of dispositionality, in which sense the case of one metre up sheds an important light on the question of what a disposition is. This explains why the problem of maskers has acquired much more attention from philosophers than mundane cases where the disposition does not manifest because its characteristic stimulus does not occur. Those cases shed light on the semantic role of the context of ascription but no light on the nature of dispositionality with which philosophers are most concerned. This brings to light that the case of one millimetre up and the case of one metre up have quite different repercussions on the outlook of the conditional analysis of dispositions.⁹

⁹As I said before, in addition to the phenomenon of masking, the phenomena of finking and mimicking have been alleged to engender difficulty for the conditional analysis of dispositions. It is remarkable that my view of masking can assist us in getting clear about them. A fink is commonly defined as a factor that would prevent the manifestation of a disposition by eliminating it should the appropriate stimulus conditions be present. Note that this definition of fink demands a careful articulation of the appropriate stimulus conditions of a disposition. But this demand can be easily met by my view of masking which says that the appropriate stimulus conditions of a disposition are to be identified with its characteristic stimulus. The same goes for the notion of mimicker, where a mimicker is defined as a factor that would bring about the manifestation of a disposition through an indirect and non-standard process should the appropriate stimulus conditions be present. Thus, my view of masking can be readily translated to the phenomena of finking and mimicking.

Once this is seen, we can now have a better grasp of Lewis's strategy of getting specific. The core idea of Lewis's strategy is that, when we utter that x is disposed to break when dropped, the stimulating circumstance, which makes up the antecedent of the associated counterfactual conditional, is more complex than it appears to be. SD^* , which incorporates Lewis's strategy of getting specific, tells that the stimulating circumstance is one where x is dropped without maskers on Earth from one metre up onto a hard surface and so on. We have seen, on the one hand, that the condition of x 's being dropped on Earth from one metre up onto a hard surface and so on, which yields the characteristic stimulus of ' x is disposed to break when dropped', is obtained by filling the hidden argument places of ' x is disposed to break when dropped' with their contextually determined values. On the other hand, the condition of the absence of maskers is founded on the very nature of dispositionality. Once this is seen, it will be useful to divide Lewis's strategy of getting specific into two parts: the part of filling hidden argument places with contextually determined values and the part of deriving further conditions from the nature of dispositionality. For convenience, let us call them the contextual part and non-contextual part, respectively. By bringing them together, we can get the condition of x 's being dropped without maskers on Earth from one metre up onto a hard surface and so on, which makes up the stimulating circumstance of D^* , the precise disposition that proponents of the strategy of getting specific take to be attributed by ' x is disposed to break when dropped'.

It is clear that the contextual part of Lewis's strategy does nothing to defend the conditional analysis of dispositions from the problem of maskers. For, as already discussed, the characteristic stimulus of ' x is disposed to break when dropped' occurs in a case of masking, which means that maskers are not ruled out by the contextual part of Lewis's strategy. It is the non-contextual part of Lewis's strategy that comes to terms with the problem of maskers. The condition of the absence of maskers, which is brought up by the non-contextual part of Lewis's strategy, is not satisfied in a case of masking. In such a case, moreover, it is a true counterfactual conditional that x would break if situated in the relevant stimulating circumstance, that is, if dropped in the absence of maskers. Therefore, the non-contextual part of Lewis's strategy delivers the conditional analysis of dispositions from the problem of maskers. In short, it is the non-contextual part, not the contextual part of Lewis's strategy that goes some way to deflecting the problem of maskers away from the

conditional analysis of dispositions. This is importantly relevant because Manley and Wasserman's confusion of them is responsible for the unreasonable objections they raise to the conditional analysis of dispositions, which I will discuss in the next section.

It is evident that the view advanced here is in much better shape than the no maskers view and more maskers view. The no maskers view tells that neither of the case of one metre up and the case of one millimetre up is a case of masking, engendering no difficulty for the conditional analysis of dispositions, whilst the more maskers view tells that both of them are a case of masking, posing real threat to it. Thus the two views both run afoul of the widely held belief that the case of one metre up is a potentially forceful counterexample to the conditional analysis of dispositions whilst the case of one millimetre up is not. In contrast, my view of masking provides theoretical ground for the intuitive difference between the case of one metre up and the case of one millimetre up, saying that the first is a case of masking, whilst the second is not. This is in line with the thought that the case of one metre up may be deemed as a genuine counterexample to the conditional analysis of dispositions but the case of one millimetre up may not. This serves as a good reason to favour my view of masking over the no maskers view and more maskers view.

To recap, not all the conditions composing the stimulating circumstance of a disposition stand on the same footing. Some of them can be legitimized by disentangling the context's role of determining the semantic value of a dispositional ascription. They make for the characteristic stimulus of the dispositional ascription, which is to be identified with its appropriate stimulus conditions. Some other conditions are called on not by the semantic contribution of the context of dispositional ascription but by the very nature of dispositionality. This clarification enables us to isolate cases of masking from other mundane cases where the characteristic stimulus of a dispositional ascription does not occur and, further, to do justice to the general recognition that the case of one metre up is a case of masking but the case of one millimetre up is not. What is more, it offers a plausible theoretical explanation of why we can learn significant lessons about the nature of dispositionality by carefully examining the problem of maskers.

5. Why is this important?

As noted earlier, I presume that Manley and Wasserman implicitly have in mind the more maskers view according to which not only the case of one metre up but also the case of one millimetre up is a case of masking. But it has emerged that there is a strong ground for turning down the more maskers view in favour of the view of masking I developed in the last section, which is why I maintain that Manley and Wasserman's view of masking is fundamentally flawed.

Manley and Wasserman's misconception of masking betrays itself in many parts of their paper. For instance, Manley and Wasserman (2008, 63) take the case of one millimetre up as a case of masking that poses a real problem for the conditional analysis of dispositions and suggest that SD, which is meant to implement Lewis's strategy of getting specific, can help defend the conditional analysis of dispositions from it. By contrasting it with the case of one metre up, however, we have seen that, strictly speaking, the case of one millimetre up is not a case of masking, to begin with. Further, by examining the characteristic stimulus of the dispositional ascription at issue, I have claimed that the case of one millimetre up merely brings into focus the context's role of determining its semantic value.

The same point can be mounted for Manley and Wasserman's (2008, 65) following passage: 'In this example, it seems plausible that you were not wrong to begin with: at each stage you are simply making more explicit what you had meant all along, and *all the apparent maskers* (my italics) will be ruled out when you fully articulate what you had expressed with the ordinary predicate.' In this passage, which is preceded by the one describing an imaginary conversation quoted in Section 3, Manley and Wasserman suggest that the conversation illustrates their thought that we can get shot of all the apparent marks by making clear what is meant by 'x is disposed to break when dropped'. As I said before, however, the conversation can be best described as an episode where, in each stage of the conversation, your friend imagines the glass's being subject to a stimulus that involves a different value for one of the hidden argument places of 'is disposed to break when dropped' than its characteristic stimulus. Indeed, in no stage of the conversation, your friend envisages the glass's being subject to the characteristic stimulus of 'x is disposed to break when dropped', which means that no maskers are involved in this conversation. Manley and Wasserman are thus wrong that the problem of maskers is illustrated by the conversation under consideration.

The next claim I wish to make is that when Manley and Wasserman (2008, 62, fn. 7) lash

out at Johnston's proposal about the problem of maskers they invoke their very misconception of masking, to which extent their criticism of Johnston is unfounded. Johnston (1992, 233) proposes that the problem of maskers arises from the interfering causal activity of an extrinsic agent. Manley and Wasserman, though, object to Johnston's proposal by referring to the case of one millimetre up. They say: 'The glass is disposed to break when dropped, but it would not break if dropped under these conditions. We do not see how one can dismiss the height from which something is dropped as being 'extrinsic' to the circumstances of its being dropped—whatever, exactly, that means. Nor do we see in this case any interfering causal activity on the part of extrinsic agents.' From this Wasserman and Manley conclude that Johnston's view of masking is misdirected. But we have seen that no masking takes place in the case of one millimetre up. This undercuts the validity of their critique of Johnston's proposal since the case of one millimetre up cannot be used to attack the thought that masking is caused by the operation of an extrinsic agent. On the contrary, I hold, Johnston's proposal is likely to be correct as I agree with Choi, Handfield, and Bird that dispositions cannot be masked by intrinsic properties (Choi 2005a; Handfield 2008; Handfield and Bird 2008).

Until now I have brought to light that Manley and Wasserman's understanding of masking is in the wrong, which invalidates some of their arguments. More importantly, however, I maintain that their misunderstanding of the phenomenon of masking wreaks havoc with their subsequent critique of the conditional analysis of dispositions. The fundamental structure of their critique of the conditional analysis of dispositions is that, whilst the problem of masking invites the strategy of getting specific, this strategy creates more problems than it solves. In the last section, however, I divided Lewis's strategy of getting specific into the contextual and non-contextual parts and claimed that it is its non-contextual part that is at work in averting the problem of masker. Meanwhile, the issues Manley and Wasserman take with the strategy of getting specific concern the question of how to articulate the context's role of filling the hidden argument places of a dispositional predicate. For instance, what they call 'Achilles' heels' is a problem for the position that a given context of ascription assigns a single exact value to each hidden argument place of the predicate 'is disposed to break when dropped'. But this issue is on the turf of the contextual part of Lewis's strategy. What Manley and Wasserman attack is thus the contextual part of Lewis's strategy, which turns out to play no role in getting the conditional analysis of dispositions out of the problem of maskers. But they have done nothing to refute the non-

contextual part of Lewis's strategy of getting specific.

The fact that emerges from this observation is that one of Manley and Wasserman's central criticisms of the conditional analysis of dispositions completely misses the target, for the non-contextual part of Lewis's strategy, which is pivotal to deflecting the problem of maskers away from the conditional analysis of dispositions, remains safe. Unfortunately, a detailed discussion of it shall be put to one side for another paper. I take it, though, that it is enough to underscore the importance and relevance of the thesis I have advanced in this paper.

References

Bird, Alexander 1998: 'Dispositions and Antidotes'. *The Philosophical Quarterly*, 48, pp. 227–34.

Bird, Alexander and Handfield, Toby 2008: 'Dispositions, Rules, and Finks'. *Philosophical Studies*, 140, pp. 285-298.

Choi, Sungho 2003: 'Improving Bird's Antidotes'. *Australasian Journal of Philosophy*, 81, pp. 573-80.

_____ 2005a: 'Do Categorical Ascriptions Entail Counterfactual Conditionals?'. *The Philosophical Quarterly*, 55, pp. 495-503.

_____ 2005b: 'Dispositions and Mimickers'. *Philosophical Studies*, 122, pp. 183–8.

_____ 2008a: 'The Incompleteness of Dispositional Predicates'. *Synthese*, 163, pp. 157-174

_____ 2008b: 'Dispositional Properties and Counterfactual Conditionals'. *Mind*, 117, pp. 795-841

_____ 2009: 'The Conditional Analysis of Dispositions and the Intrinsic Dispositions Thesis'. *Philosophy and Phenomenological Research*, 78, pp. 563-590

Handfield, Toby 2008: 'Unfinkable Dispositions'. *Synthese*, 160, pp. 297-308

Johnston, Mark 1992: 'How to Speak of the Colors'. *Philosophical Studies*, 68, pp. 221-263.

Lewis, David 1997: 'Finkish Dispositions'. *The Philosophical Quarterly*, 47, pp. 143-58.

Manley, David and Wasserman, Ryan 2008: 'On Linking Dispositions and Conditionals'. *Mind*, 117, pp. 59-84.

Martin, Charlie 1994: 'Dispositions and Conditionals', *The Philosophical Quarterly*, 44, pp. 1-8.

Elizabeth, Prior 1985: *Dispositions*, Aberdeen: Aberdeen University Press.

Smith, A. D. 1977: 'Dispositional Properties', *Mind*, 86, pp. 439-45.