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# Manifestations as Effects

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## Introduction

According to a standard characterization of dispositions, when a disposition is activated by a stimulus, a manifestation of that disposition typically occurs. For example, when flammable gasoline encounters a spark in an oxygen-rich environment, the manifestation of flammability—combustion—occurs. In the dispositions/powers literature, it is common to assume that a manifestation is *an effect* of a disposition being activated. (I use “disposition” and “power” interchangeably). I address two questions in this chapter: Could all manifestations be effects that involve things acquiring only dispositional properties? And, is thinking of manifestations as *contributions* to effects preferable to thinking of them as effects? I defend negative responses to both questions.

If all properties are dispositional, as the pandispositionalists claim, then any time the activation of a disposition results in something acquiring a new property, it results in something acquiring another disposition. Some worry that a vicious regress ensues (Swinburne, 1980; Bird, 2007a, 2007b: 132–46). While I believe that regress arguments can be addressed, my worry is that, on the pandispositionalist view, manifestations become unobservable.

Thinking of manifestations as effects is problematic in cases where what actually occurs is not the kind of effect that the power is a power *for*, but rather a complex interaction of various powers. Because of this, some prefer to think of manifestations as contributions to effects (Molnar, 2003: 194–8; Mumford, 2009). I argue against this proposal on the ground that it introduces mysterious new entities into our ontology. In the end, the most plausible view is that a single kind of power can have different kinds of effects, some of which involve the instantiation of non-dispositional properties.

I proceed as follows. In the first section of this chapter, I show that the philosophical concept of a manifestation is the concept of an effect. In the second section, I argue against the claim that all manifestations involve instantiations of only dispositional properties. In the third section, I argue against the view that manifestations are contributions rather than effects.

## Manifestations

Examples of manifestations in the philosophical dispositions/powers literature include events such as “breaking, dissolving, stretching” (Crane 1996: 1). A manifestation is sometimes characterized as a change (Crane, 1996: 1), “behavior,” or an “outcome” (Molnar, 2003: 57). More often than not, manifestations are said to *occur* (Crane, 1996: 38). So, the philosophical concept of a manifestation is, minimally, that of an event—either an event-type, or a particular event which occurs at a particular place and time.

Sometimes philosophers say that a disposed object *exhibits* or *displays* its manifestation (Hüttemann, 1998: 129). This is in accordance with ordinary English, according to which the term “manifestation” refers to an outward or perceptible indication, a public demonstration, an exhibition, display, or revelation. While colloquial usage and the term “manifestation” itself suggest something that is “manifest”-obvious or at least observable, philosophical use of the term does not adhere to this restriction (Molnar, 2003: 60). Though I argue that some manifestations must be directly observable, not all manifestations are. For example, manifestations of charge in subatomic particles is not observable in any obvious or direct way.

Manifestations are said to be caused, brought about, produced, or triggered (Molnar, 2003: 86; Mumford, 2009: 102). This suggests that they are effects. What it means to say that manifestations are effects depends in part on what one means by “effect.” I think it is sufficient for my purposes to say an effect is an event that has a cause, and that an effect involves something instantiating properties, typically acquiring new properties. The assumption that manifestations are effects lies behind the debates over whether dispositions are causally relevant to their manifestations (McKittrick 2005; Block 1990; Kim 1988; Prior, Pargetter, and Jackson 1982). While some argue that dispositions cause their manifestations and others argue that it is the causal bases of those dispositions that cause their manifestations, all parties to these debates implicitly agree that manifestations are events that are caused by something or other.

Often, when an object manifests a disposition, a new property or properties are acquired, either by the disposed object, some other object(s), or both. For examples of each: the elastic band takes on a new shape; the provocative cape changes the bull’s mood; and the water-soluble tablet dissolves and the surrounding liquid approaches saturation. Perhaps an object can manifest a disposition without any change occurring. Suppose, for example, a structure is stable since its creation. Stability seems dispositional since calling something “stable” speaks to what it would do in certain circumstances. In the face of various forces, a structure manifests its stability by remaining upright and intact. While circumstances may change, the manifestation of stability does not seem to involve anything acquiring a new property. However, that is not

to say the manifestation is not an event in this case. On some views, an event just is a particular instantiating a property at a time (Kim 1976).

So far, I haven't provided an argument for the claim that states manifestations are effects as much as I've tried to be convincing in that that is what we've been assuming all along, and that its part of our concept. Incidentally, in claiming that manifestations are effects, I'm not claiming the converse, that all effects are manifestations of dispositions. That might be true, given a dispositional account of causation. But perhaps random or improbable events are effects, but not manifestations of dispositions. If it is ever the case that something does something it is not disposed to do, perhaps that behavior is not the manifestation of a disposition, but that is not to say that it is an uncaused event.

### Manifestations as Acquisitions of Dispositional Properties

If a manifestation involves a particular acquiring a property, could that property be a disposition? Certainly. Something can be disposed to acquire a disposition. For example, metals are magnetizable, that is, they are disposed to become magnetic.<sup>1</sup> English doesn't have many words for such dispositions, but the basic idea can be generalized. Many things that are not fragile could be said to be "fragilizable"—disposed to become fragile when dried or frozen, for example.

But could *all* manifestations consist of acquisitions of *nothing but* dispositions (as the pandispositionalist must maintain, given our understanding of manifestations)? Many philosophers worry that this would lead to a vicious regress, giving them reason to resist pandispositionalism. According to Molnar and Armstrong:

"Pan-dispositionalism combined with the plausible view that all manifestations are changes in the properties of objects, evidently gives rise to a regress" (Molnar, 2003: 172).

"Given a purely Dispostionalist account of properties, particulars would seem to be always re-packing their bags as they change their properties, yet never taking a journey from potency to act" (Armstrong, 1997: 80).

But is this regress vicious? One might think a disposition to produce a disposition to produce a disposition is no worse than a cause which produces an effect which is itself a cause for a further effect. This sounds less like regress and more like progress. If there's anything to the objection, there must be an important difference between the regress and a causal chain. So, what is supposed to be problematic about this regress?

It is sometimes argued that, if all properties were dispositions, nothing would occupy space, nothing would happen, or nothing would be actual. I think that adequate replies to such arguments have been made: There's no good reason to think that objects that instantiate only dispositional properties cannot occupy space; There's no good reason to think that an object acquiring a disposition is not an event, or "something happening"; And finally, there's no good reason to think that nothing would be actual, since dispositions are actual, even when their manifestations aren't (Martin, 1994: 1; Molnar, 2003: 173-7). Furthermore, these explanations are puzzling qua explanations of the viciousness of the regress. According to the claims previously stated, at any instant of a pandispositionalist world, nothing occupies space, nothing happens, and nothing is actual. If this were problematic, it would be so independently of the idea that dispositions beget further dispositions.

A more plausible interpretation of the regress worry involves an understanding of disposition claims in terms of counterfactuals. On this view, to have a power is just to have a certain counterfactual true of you, and which counterfactuals are true depends on similarities among possible worlds. If all properties are powers, what is true at a world depends on what is true at nearby possible worlds, and what is true at those worlds depends on what is true at other worlds, and so on (Blackburn, 1990: 64). However, this version of the regress worry is no stronger than a counterfactual analysis of dispositions. Indeed, it may be weaker, if as Holton suggests, certain arrangements of worlds could support all the needed counterfactuals and, consequently, disposition claims (Holton, 1999).

I suspect that there is something problematic about the regress, and I suspect that it has something to do with the fact that dispositions can fail to manifest, or be latent. One way to formulate a regress argument in a way that exploits this feature of dispositions proceeds as follows:

1. Manifestations involve particulars instantiating properties.
2. If all properties are dispositions, then manifestations involve particulars instantiating dispositions (1).
3. A disposition is either manifest or latent.
4. If all properties are dispositions, then every manifestation involves either
  - a. a particular instantiating a latent disposition, or
  - b. a particular instantiating a disposition that manifests by giving something a latent disposition, or
  - c. a particular instantiating a disposition that manifests by giving something a disposition, which manifests by giving something a latent disposition, or
  - ...
  - d. a particular instantiating a disposition that gives something a disposition, which gives something a disposition, and so on infinitely (2, 3).

5. It is not plausible that every manifestation consists of either a, b, c, or ...  
n.
6. Therefore, not all properties are dispositions (4, 5).

The strength of this argument depends on premise (5). Intuitively, the consequent of (4) is not attractive, but what's wrong with it? It is hard to say without repeating the objections we've already replied to, that nothing happens, nothing is actual, and so on. However, this argument has done nothing to make those objections more powerful.

Maybe what's wrong with the scenario described in the consequent of premise (4) is that, if all manifestations are acquisitions of latent dispositions, or chains of acquisitions of dispositions on into the future, it is not clear that any manifestation is ever really *displayed*. It is not clear that we could ever *observe* a manifestation. For example, it is hard to tell when magnetizability is manifest, because it is hard to tell that something is magnetic, unless we observe a manifestation of magnetism, such as the movement of a metal pin towards the magnet. If the manifestation of being magnetic were a matter of something acquiring yet another disposition, it is not clear how we could observe the manifestation of magnetism. So, perhaps the problem with the pan-dispositionalist world is not that nothing happens or is actual, but as Swinburne suggests, that nothing is observable (1980).

Granted, we sometimes observe *that* an object has a disposition. But how do we do that? Sometimes, we observe that something has a disposition by observing it manifesting that disposition. When I see the rubber band stretch I judge that it is elastic. But what if the object is not manifesting that disposition? We can still justifiably judge that it has the disposition if it has manifested the disposition in the past, and it doesn't seem to have changed. When I stop stretching the rubber band and it resumes its former shape, I reasonably believe that it is still elastic. Or, sometimes we judge that something has a disposition because it seems to be just like something else that is displaying or has displayed the manifestation. So, while I haven't seen all of the rubber bands in the box get stretched, they appear to be indistinguishable, and I reasonably believe they are all elastic like the first one was. These thoughts inspire the following argument that I will call the Observability argument:

1. The only chance that one has of observing that an object has a disposition is to observe that object displaying a manifestation of that disposition, or by observing other properties of the object (such as properties similar to those of other objects which display or have displayed the manifestation).
2. To observe that an object has some property by observing that it has some other property is to *indirectly* observe the first property.
3. Therefore, dispositions are, at best, indirectly observable (1,2).

4. Therefore, if all properties are dispositions, no properties are directly observable (3).
5. In order to *indirectly* observe any property, one must *directly* observe some other property.
6. Therefore, if all properties are dispositions, all properties are unobservable (4, 5).
7. Some properties are observable.
8. Therefore, not all properties are dispositions (6, 7).

The extent to which the Observability argument still counts as a “regress” argument is unclear, but how one characterizes it is perhaps less important than how the pandispositionalist responds.

One possible pandispositionalist reply to the Observability argument is to deny premise (1) and instead claim that some dispositions are directly observable. For example, it seems that you observe power when you walk in a strong windstorm, try to push two magnets together (with like poles facing), or stand dangerously close to a large explosion.

Such a reply provokes the following question: If a disposition is directly observable, does that mean that the disposition is observable when it is not manifesting? That sounds incoherent. While being observable may not be necessary for a disposition to be manifest, it does seem sufficient; if a disposition is observable, it’s manifest. And arguably, what one observes is not the power itself, but the manifestation, just as premise (1) claims. In the case of the powers of wind, magnets, and bombs, one observes the movement, pressure, resistance, heat, and light. Of course, the pandispositionalist must say that moving, pressing, resisting, etc., are themselves powers. But even if that were true, it would not serve to explain how the magnetism, the explosiveness, or any other power, is observed. Hume may be *persona non grata* in this discussion, but perhaps he is right to suggest that, while one observes causes and effects, one never directly observes the power of a cause to cause its effect (1888: 77).

Another possible pandispositionalist reply is to say that some things have dispositions to cause observation-experiences, such as visual or tactile experiences, and therefore, those dispositions are observable. For example, we observe that something has a disposition to cause a warm sensation because we experience feeling that sensation. But it seems that, while we do experience warm sensations, in doing so we are observing the sensation, not the disposition to cause that sensation. Could the warm sensation itself be disposition? Perhaps one might think so, if one thought that the nature of mental properties is exhausted by their causal powers, or functional role. However, if one has a view of mental properties according to which some of them have an intrinsic, occurrent, qualitative character, then the manifestations of dispositions to cause such experiences cannot consist solely of acquisitions of further dispositions.

A similar pandispositionalist response appears in Bird's reply to Swinburne's epistemic regress argument (1980: 134). Bird's argues that what stops Swinburne's epistemic regress is the fact that some manifestations of dispositions involve agents acquiring epistemic properties, such as being aware that something in one's environment has a certain property. These epistemic properties would themselves be dispositional, but their instantiations count as observations or knowledge of the dispositions that they are manifestations of. For example, suppose a red thing in the environment causes, by some chain of events, an observer in the appropriate circumstances to have a certain mental property—an awareness of redness. According to the pandispositionalist, the redness is a disposition, as is the awareness. But regardless, the redness is observed. Since one can observe without observing that one is observing, having the observation stops the regress. As a response to my Observability argument, Bird's reply would amount to a rejection of premise (1), which says:

“The only chance one has of observing that an object has a disposition is to observe that object displaying a manifestation of that disposition, or by observing other properties of the object”.

Bird's response to Swinburne suggests that he would say that sometimes we observe that an object has a disposition, not by observing a manifestation, but by the manifestation *being* an observation.

To respond, consider what powers we could observe, according to this view. Suppose that a power causes an observation and is thereby observable. The observation that one has is presumably an observation of that power. So the observable power is a power to cause an observation of itself. If the essence of any power is to be a power for a particular manifestation, then all of the observable powers are just powers to cause observations of themselves. Consequently, if all properties are powers, the only properties we observe are powers to cause observations of themselves. Note that this would exhaust the content of the observation; it would not include any awareness of any qualitative aspect of the property, nor any other manifestation it may have. The content of the epistemic state would be nothing more than “something has the power to cause my awareness of it”. But surely, our vast and varied range of observations has more content than that. It is not clear how we would even distinguish different properties, on this view. In fact, it is not clear that there would even be distinct observable properties on this view.

In light of Bird's response to Swinburne, perhaps the Observability argument needs to be dialed back a bit. It is not that pandispositionalism entails that no properties are observable. Rather, it entails that, at most, one property is observable, and that property is the power to cause awareness of itself. This still strikes me as a *reductio* of the view.



## Manifestations as Contributions

Even if, contrary to the arguments of the previous section, all manifestations were acquisitions of dispositional properties, manifestations would still be effects. Notable detractors of this view include Mumford and Molnar, who say:

“we must sharply distinguish between *effects* and *manifestations*”  
(Molnar, 2003: 195);

“[P]owers manifests themselves in contributions to events, rather than straightforwardly in events themselves” (Mumford, 2009: 104).

On Molnar’s view, a power’s characteristic manifestation makes it the power that it is. A power always has the same manifestation. However, an exercise of a power does not always have the same *effect*. That’s because powers don’t act in isolation. An effect is an occurrence that is the result of the interaction of several powers. One power can contribute to different effects, but it always makes the same contribution. On this view, a manifestation is a contribution to an effect, and an effect is a combination of contributory manifestations.<sup>2</sup> A favorite example of this phenomenon is the case of the horses pulling the barge down the canal (Molnar, 2003: 195). While one horse exerts a south-westerly force and the other exerts a southeasterly force, the effect is not a manifestation of either of those forces, but a southward movement that is the result of their combination.

While the horse-drawn barge is a persuasive example, note that the term “manifestation” is being used in a new way. Suppose an apple falls to earth. It falls a little more slowly than it would in a vacuum, and maybe the wind is blowing, so the precise way it falls is affected by multiple forces. We would normally say that the apple’s fall is a manifestation of the gravitational attraction of the earth. But according to the Molnar/Mumford view, the apple’s fall cannot be a manifestation of the earth’s gravity. Likewise, events such as breaking, dissolving, or stretching aren’t manifestations either. That constitutes a substantial revision of the application of the term.

One might think that, in the case of the apple falling, the other interacting forces are so minor that the actual effect is very similar to what the pure manifestation would be, and that explains why it may sound odd to say that the fall is not a manifestation of gravity. However, the moon’s orbit around the earth is also an effect of the earth’s gravity. If the earth’s orbit is also very similar to a pure manifestation of the earth’s gravity, then the apple falling and the earth’s orbit must be very similar to each other. But these phenomena seem so dissimilar that the idea that they are both effects of the same power was a remarkable discovery. If a power must always have the same manifestation, then either we need a story about how the moon’s orbit and the apple’s fall count as the same manifestation, or we must deny that they are both manifestations of the earth’s gravity.

There is nothing inherently wrong with making the terminological choice not to call an effect a “manifestation”. What is more important is the reason for the choice. On the Molnar/Mumford view, an effect is not called a “manifestation” because that term is reserved for a newly postulated kind of entity-something that exists in addition to the power and the effect. Lest we multiply entities beyond necessity, we should question whether we have good reasons, empirical or otherwise, to postulate “manifestations” so understood.

Molnar talks as if manifestations are not observable, since effects never consist of the manifestations of just a single power (Molnar, 2003: 12, 15, 60). Similarly, Mumford says manifestations are observable only in rare laboratory conditions (Mumford, 2009: 104). We have already noted that one cannot directly observe an object’s powers. Anyone worried about the empirical rigor of a powers ontology should note that the “manifestations as contributions” view introduces another type of unobservable entity into the causal story.

Suppose you observe an object in the circumstances of manifestation for a certain power. You might observe an effect, which is, on this view, the combination of various manifestations of various powers. But you don’t directly observe the manifestations of those powers. Perhaps you can subtract an object from an interaction in question, and attribute any difference in effect to the loss of a manifestation of that object’s power. But suppose you had a magnet hovering over a pin that was standing on its head. When you remove the magnet, the pin falls. You observe the pin, the magnet, and their movements. It seems reasonable to infer that the magnet was exerting some sort of power over the pin. However, is there any reason to think that, in addition to the magnet, the pin on its head and the magnet’s power to attract the pin, there’s another distinct entity in this scenario—the manifestation of that power?

In addition to wondering what kind of empirical evidence we could have for manifestations on this view, it seems fair to ask: What kind of thing is a manifestation? It is called “a contribution” but if that just means something that is contributed, we are still left wondering, what kind of thing? The view is not that the manifestation is an intermediary event that occurs between the power and the effect. If it were, it would be an intermediary effect, and so not an alternative to the claim that manifestations are not effects. Furthermore, Mumford explicitly says manifestations aren’t events, and that they are simultaneous with effects. So perhaps a manifestation is part of the effect, a property of the effect, or a force. Let’s examine each of these suggestions.

The expression “contribution” to an effect might suggest a manifestation is part of an effect. But what type of part? Perhaps it is a spatiotemporal region of the effect. But it’s not clear how this suggestion would work with the paradigm examples of effects that aren’t supposed to be manifestations. Consider the barge going down the canal. According to the previous suggestion,

the manifestation of one of the horse's power would be a spatiotemporal part of this effect. What part could that be? If it is wrong to say that the manifestation is the barge moving, then it must also be wrong to say that the manifestation is some portion of the barge moving. Like the over-all effect, any part of the effect will be the way it is as a consequence of various powers. If there is reason to think that events aren't manifestations, these same reasons would seem to count against spatiotemporal parts of events being manifestations.

If a manifestation is not an effect, but a contribution to an effect that is simultaneous with that effect, another possibility is that the manifestation is a property of the effect. However, this suggestion faces the same difficulties as the previous one. It is not clear that there is any property of the barge going down the canal that could plausibly count as the manifestation of the southwestern horse's power. Furthermore, if acquiring or instantiating a property counts as an event, then this suggestion might not be an alternative to the view that manifestations are effects.

A third suggestion is that a manifestation is a force. On this view, when a power is triggered, it produces a force that contributes to an effect. For example, earth's gravitational power produces a manifestation that contributes to an apple moving in a certain way. The manifestation of the earth's gravitational power is not the apple falling, but rather the force of gravity that contributes to the falling. One problem with this suggestion is that forces seem very much like powers. It is not clear how to differentiate gravitational power from gravitational force. It seems like the right thing to say is not that gravitational power produces gravitational force, but that gravitational power just is gravitational force.

But suppose one wanted to distinguish the power from the force, with the force being the manifestation of the power.<sup>3</sup> Even if we make this distinction, the force seems no less power-like. It seems that we are distinguishing between two powers, with the second power being the manifestation of the first power. As we have already seen, that is acceptable in some cases. But the problem is that, if the manifestation of a power is itself a power that contributes to an effect, we have yet another entity in the process. Arguably, a latent power cannot contribute to an effect, so the power must be manifest. If the power must be manifest, then when the first power is triggered, it produces a second power which produces a manifestation which contributes to an effect.

Consider how complex the process of activating a power has become. Traditionally, the manifestation process was described in terms of a power, an activation condition, and a manifestation. On the current scenario, even in the simplest cases of a power manifesting, we have not only a power, a trigger, a manifestation, but also a second manifestation, and a then distinct effect. What's worse, whatever reason we have to call the first manifestation a force must be a reason to call the second manifestation a force, too. And if the second manifestation is also a force, and that force must also be manifest, then it

looks like we have another sort regress in the making, reminiscent of Zenon's paradox: Infinitely many manifestations/forces must exist before the triggering of a power can result in an effect.

Another possible view is that the manifestation is a force, but not distinct from the original power. This would certainly be more ontologically economical and avoid the sort of regress discussed previously. On this view, to say that the *manifestation* of gravitational power contributes to an effect is just to say that *gravitational power* contributes to that effect. In other words, the power is its own manifestation. The view that powers contribute to effects is plausible, and has been defended elsewhere (Hüttemann, forthcoming). However, if we want to call anything a "manifestation" in this scenario, it is not clear why we should say it is the power rather the effect.

Furthermore, holding that all dispositions are their own manifestations would force one to relinquish the idea that dispositions can be latent, that is, possessed without manifesting. If the proposal that a power is its own manifestation is plausible, it only works for dispositions that constantly exhibit their manifestations. Even in the case of constantly manifesting dispositions, one might want to distinguish between the power and its manifestation: being stable is one thing; remaining intact is another. More problematically, if there are any dispositions which only exhibit their manifestations when they are activated, the nature of their manifestations remains a mystery.

If manifestations aren't effects, it is not clear what they are. The preceding arguments suggest that manifestations are not spatiotemporal parts of effects, properties of effects, nor forces. Thinking of manifestations as "I know not what" is not a preferable alternative to the common view that manifestations are effects, despite some apparent difficulties of the common view.

If manifestations are effects, admittedly identifying dispositions via their manifestations is more complicated. One could retain Molnar's view that each power has a unique manifestation. However, if we say that actual, specific effects are the manifestations, we will have to suppose that each object has many more powers than we may have originally thought. For example, the earth would not have gravitational attraction *simpliciter*, but a different power for every possible object in every possible circumstance. The other possibility is to abandon Molnar's identity criterion and say that the same power can manifest in different ways. I favor the second approach, though I am not adverse to the idea that things have a multitude of specific powers as well.

## Notes

1. Example due to Broad (1933: 266-7).
2. This view should be distinguished from that of Hüttemann (forthcoming), who argues that dispositions, not their manifestations, are contributions to effects.
3. This appears to be Nancy Cartwright's view (2007, 2009).

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