

THE METAPHYSICS OF PANDISPOSITIONALISM

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Abstract: In this paper I focus on the metaphysical view of natural properties known as pandispositionalism. After distinguishing two versions of pandispositionalism (dispositional monism and the two-sided view), I argue that if one is a pandispositionalist, then one has special reasons for viewing properties as universals as opposed to (sets of) tropes. More precisely, properties should be seen as universals which are, at least in part, relationally constituted. I argue for this on the grounds that with universals in play, the pandispositionalists can successfully provide an account of the directedness of dispositions whilst at the same time respecting the fact that disposition instances are often intrinsic to their possessors and may exist even if they are never manifested. In contrast, it is less clear that 'trope' pandispositionalists can simultaneously account for these facts in a satisfactory way. I conclude the paper by focusing in more detail on the 'universals' version of pandispositionalism and consider the nature of the relations that, on this picture, hold between property universals. I suggest that these second-order relations must be internal, but that the sense in which they are internal will vary depending on which version of pandispositionalism is adopted.

1) Pandispositionalism

In this paper I will focus on the metaphysical view about natural properties known as pandispositionalism. My aim is to address some important metaphysical questions about the pandispositionalist picture, so that we may begin to understand how pandispositionalism is best understood. Before introducing these questions I must briefly outline the central claims of the pandispositionalism.

During recent years, several philosophers, such as Ellis (2001), Martin (1993) and Molnar (2003), have advocated a metaphysical view which sees at least some natural, sparse properties as being irreducibly dispositional (or 'powerful') in nature. According to this view, the nature of many (if not all) properties is determined, at least in part, by the causal abilities that they bestow upon their possessors. Such a view sets itself against the previously dominant categoricist views about properties according to which properties are essentially inert qualities whose natures are independent of facts about causality. According to categoricist views, such as those of Armstrong (1997) and Lewis (2009), properties bestow causal roles merely contingently.

Now, it is a striking feature of dispositions that their natures are determined by what they are dispositions *for*, i.e., by the manifestation property towards which they are directed. For example, to understand the nature of charge, which is a paradigmatically dispositional property, one must know how charged particles behave in certain circumstances (e.g., they accelerate when placed in a force-field). Pandispositionalism is the strongest form of dispositionalism, for on this view *all* natural properties (and relations) are irreducibly dispositional in nature. The pandispositionalist is thereby committed to a holistic metaphysics in which all properties 'form an interconnected web' (Mumford, 2004:182). It is holistic in the sense that the nature of a given property will be determined, at least in part, by its directedness towards a further property, but given that

this further property will be irreducibly dispositional in nature, its identity will also be fixed by the manifestation property towards which it is directed (and so on).

Before introducing the questions that I want to address with respect to pandispositionalism, it should be pointed out that pandispositionalism comes in slightly different forms. This is a point that is often not acknowledged. Pandispositionalism is often closely associated with dispositional monism, but these two views are not equivalent. According to dispositional monism, the nature of each and every property is *exhausted* by its dispositional characteristics (see, for example, Bird (2007a) and Mumford (2004)). Whilst dispositional monism clearly entails pandispositionalism, pandispositionalism does not entail dispositional monism. One could consistently maintain that each and every property has an irreducible dispositional nature, and thereby sign up to pandispositionalism, without claiming that *all* there is to a property is its dispositional characteristics. Such a position seems to have been occupied by C.B. Martin, when putting forward his ‘two-sided’ view (1993). According to the two-sided view, all properties have a categorical (or ‘qualitative’) aspect to them, but at the same time they also have an irreducible dispositional nature. Such a view is therefore pandispositionalist in spirit, and so falls under the scope of this paper, along with dispositional monism.

2) The aims of this paper

During this paper I will assume the pandispositionalist picture and begin by addressing the question whether properties are best understood as universals or (sets of) tropes. After briefly introducing the distinction between tropes and universals, I will approach the tropes versus universals debate by considering whether and how each of these views about properties are able to accommodate and explain certain salient features of irreducible dispositionality. More precisely, I will claim that any satisfactory version of pandispositionalism must provide an account of the *directedness* of dispositions, whilst accommodating the fact that many (if not all) dispositions are *intrinsic* to their possessors and also the related fact that a disposition instance may exist unmanifested.

I will begin by considering how the ‘universals’ version of pandispositionalism is able to accommodate these important facts, before examining ‘trope’ versions of pandispositionalism. My conclusion will be that a theory of universals is able to provide a more coherent and transparent account of these central features of irreducibly dispositional properties. This does not, of course, mean that the ‘universals’ pandispositionalist is entitled to declare an immediate victory, since as is well known, the tropes versus universals debate may be contested on a variety of grounds. What I will argue, however, is that if one signs up to pandispositionalism, then one has special reasons for favouring a universals account, reasons that, at the very least, put the onus of proof on those seeking to establish a trope version of pandispositionalism. Whether these reasons can be trumped on other grounds is a question I leave open.

The ‘universals’ version of pandispositionalism to be recommended is one that sees universals as being, at least in part, *relationally constituted*. On this view, disposition universals are internally related, and it is in virtue of such relations that a disposition’s directedness is what it is. Such relations are what Bird calls ‘second-order manifestation relations’ (2007b). I will conclude this paper by briefly considering the nature of such relations.

Before beginning the argument, it should be pointed out that although I am framing the tropes versus universals debate in terms of pandispositionalism, the reasons put forward in favour of a universals account should appeal equally to those who, whilst allowing a place in their ontology for irreducible dispositionalism, do not claim that *all* properties (and relations) are irreducibly dispositional. Ellis (2001) and Molnar (2003) are two such philosophers.

Finally, it should also be noted that whilst I will be recommending a universals account of dispositionalism, I will not address here the question whether disposition universals are best understood in the Aristotelian ‘immanent’ sense, or the Platonic ‘transcendent’ sense.¹ Unfortunately, that question must be reserved for another day.

3) The tropes versus universals debate

Those who hold there to be a distinct ontological category of natural properties (and relations) typically view those properties (and relations) as either universals or as (sets of) tropes. An initial way of capturing the difference between universals and tropes is to say that universals can exist in many places at the same time, whereas tropes cannot. Thus, if properties are universals, then all objects that exemplify, say, a particular determinate shade of red may be said to share an *identical* property; the very *same* property is exemplified by all of those objects. On this view, a property is an entity that can spread itself across many concrete particulars. In contrast, according to the trope theory, each instance of a property is *distinct*, which is to say that properties are nonrepeatables. On this view, each property instance is itself a particular, although since property instances cannot exist apart from their possessors, they are classed as abstract particulars. On the trope view, then, the claim that a group of distinct objects share the same determinate property should, strictly speaking, be understood as the claim that those objects each possess distinct property instances which resemble exactly.

Which view of properties should the pandispositionalist favour? As suggested earlier, one way of choosing between these alternatives is to consider which of these views offers the best resources for accommodating certain salient facts about irreducible dispositions. The facts about dispositions I will focus on concern the *directedness* of dispositions, the *intrinsicity* of many (if not all) dispositions, and the related fact that an instance of a disposition may *exist unmanifested*. At first glance, these facts appear to be at odds with each other, but with universals in play, one can, I argue, accommodate these facts in a coherent and transparent way. In contrast, it is less clear that a trope pandispositionalist can simultaneously accommodate these facts in a satisfactory way.

4) Three facts about irreducible dispositionality

Directedness

Firstly, as mentioned already, it is a fact about dispositions that they are in some sense connected with, or ‘directed towards’, that which they are dispositions for, i.e., their manifestation property. This is a key fact, for as we saw earlier, it is in virtue of such

¹ According to the immanent view, universals wholly exist in the space-time realm, in each of the particulars which instantiate them (they exist *in rebus*). In contrast, according to the transcendent view, universals (or ‘Platonic forms’) exist in a realm of being outside of space and time (they exist *ante rem*).

directedness that the identity of a disposition is fixed. To know the nature of charge, for example, is to know what outcomes being charged is orientated towards.

Intrinsicity

The second important fact about dispositions is that disposition instances may be intrinsic to their possessors. Defining the term 'intrinsic' in a precise way is no easy matter (see, for example, Langton and Lewis (1998)). However, a rough-and-ready definition capturing our main intuition about intrinsicness is all we need for our purposes. Our main intuition seems to be that a property *P* is an intrinsic property of *x* if and only if *x*'s having *P* is independent of the existence of distinct entities and *x*'s relation to them. Do any dispositional properties satisfy this definition? It seems that they do. The negative charge possessed by, say, an electron is surely a feature that it has independently of the situation external to the electron. If a particle is negatively charged, it would remain charged even if put in very different circumstances (unless, of course, the particle itself was to be changed in some way).

It should be pointed out that some philosophers have argued that there are dispositions which are not *intrinsic*, but *extrinsic*. McKittrick (2003), for example, cites weight as one such example. If a person is moved from one planet to another, their weight may change, even if the person remains qualitatively identical. This suggests that the dispositional property of having a certain weight is an extrinsic one. It seems clear enough, however, that not all dispositional properties are of this kind. When we come to *explain* why a person's weight would be different if they lived on a different planet, we inevitably appeal to properties that do seem to be intrinsic. To understand weight, for example, is to understand that it is a function of the person's mass and of the magnitude of the gravitational field generated by the planet's mass. In contrast to weight, mass is plausibly an intrinsic dispositional property, because no matter where a massive object is located, it will have the same set of gravitational abilities. It seems, therefore, that intrinsic dispositions cannot be eliminated. As Molnar puts it, '[S]uch is the resilience of the intrinsic' (2003: 107).

Given that weight can be explained by the mass of a person along with the gravitational field in which they find themselves, one may suspect that having a certain weight is really no addition of being, and that such a 'property' can be explained away. This is Molnar's suspicion (2003: 108-110), although McKittrick has a number of responses to this line of argument (2003). This debate need not concern us here, however. The important point is that at least some dispositions are wholly intrinsic to their possessors.

Existence unmanifested.

The third fact about irreducible dispositionality to be considered, which is related to the intrinsicity fact, is that an instance of a disposition may exist even if it is never manifested. Acceptance of this fact is central to the realist view about dispositions. According to the realist view, dispositions are properties in their own right and so exist even if they are not being displayed. Whilst the manifestation of a disposition is potential only, the disposition itself is *actual*. Given that this is so, the fragility of a particular vase, for example, would be ascribable to it even if the vase never comes to be broken.

5) The challenge of accommodating the three facts

There is, I suggest, a *prima facie* tension between these three facts. Specifically, there is tension between the first fact, about directedness, and both the second and third facts, which concern intrinsicity and existence unmanifested. This tension is revealed as soon as we consider how one might go about accounting for the directedness of irreducible dispositions.

U.T. Place once remarked that when characterizing the directedness of a disposition ‘... we are characterizing it in terms of its ‘relation’ to something...’ (1999: 226). This quote suggests an obvious way of accounting for the connection between a disposition and its manifestation. Such an account would ground the directedness of a disposition towards its manifestation in a genuine relation. This does seem the obvious way to go. When we say, for example, that the thigh bone is connected to the knee bone, what we ultimately mean is that the thigh bone bears a certain relation to the knee bone.

The first problem with this idea, however, is that since the nature of irreducible dispositionality consists in *nothing more* than directedness, disposition instances would become purely relational features of the world. This result is at odds with our second fact, that many disposition instances are intrinsic (i.e. monadic). If we take dispositions to be purely relational entities, it seems, at first glance, that the intrinsicity fact is compromised. If, on the other hand, the relational account of directedness is rejected, so that the intrinsicity fact may be preserved, we are left in the dark with regard to what dispositional directedness consists in.

The second problem is that the relational view of directedness also seems at odds with the third fact, that a disposition may exist unmanifested. This is a worry that Place is well aware of. It is noticeable in the quote above that Place uses inverted commas when speaking of there being a ‘relation’ between a disposition and that which it is a disposition for. This suggests he holds some scepticism about the idea, and the reason is that it seems to compromise our third fact, that a disposition instance may exist even though its manifestation never occurs. This is because, intuitively, in order for a relation to exist, its relata must also exist. But in the case of an unmanifested disposition, one of the relata in question is missing, since the manifestation towards which the disposition is orientated never occurs. This is what some have called the Meinongian problem (see, for example, Armstrong, 1997: 79)². If fact three is upheld, the relational account of directedness is in trouble, unless one is prepared to take the radical step of accepting relations which lack relata. Alternatively, one could simply reject the relational view of directedness, but then we are once again left in the dark with regard to what dispositional directedness consists in.

In sum, then, the challenge the pandispositionalist faces is that of providing a theory about dispositions which can account for directedness in an intelligible way whilst at the same time preserving the fact many dispositions may be instantiated intrinsically and may also exist unmanifested. I will now argue that if the pandispositionalist views properties as universals, this challenge can be met straightforwardly.

² This objection is so-called because, famously, in a debate with Russell about reference, Meinong appeared to advocate the reification of non-existent entities.

6) Universals to the rescue

With universals in play, one has the option of cashing out the directedness of dispositions in a relational way, by appealing to *second order* manifestation relations holding between the disposition universal and the universal(s) corresponding to its manifestation(s)³. If one is a pandispositionalist, this relation will be seen to constitute, at least in part, the nature of the universals related. This means the second-order relation, which grounds directedness, must be internal in some sense⁴. If such a relation were not internal, but rather external, then properties would only have their dispositional characteristics contingently. This would clearly go against the tenets of pandispositionalism and would leave us with a view of dispositions closer to that of Armstrong⁵. Now, with these second-order internal ‘manifestation’ relations in play, the pandispositionalist is able to preserve the intuition, mentioned earlier, that when we speak of there being some connection between a disposition and its manifestation property, we mean that they are related in a certain way. But how, on this picture, can facts about intrinsicity and existence unmanifested be satisfactorily accommodated?

Once directedness is viewed in terms of relations amongst universals, the following moves become available. With respect to the second fact, that many disposition instances are had intrinsically, the universals theorist can assert that the internal relations which determine a disposition’s nature exist merely at the *second-order* level of universals. This kind of relation is to be distinguished from what we may call first-order relations, which hold between particulars rather than the universals themselves. By appealing to this distinction within the theory of universals, the pandispositionalist can allow that a particular may instantiate a property intrinsically, even though the property *type* is relationally constituted at the level of universals⁶. In other words, although disposition instances at the first-order level may be said to be intrinsic to their possessors, the connection between a disposition and its manifestation property is nevertheless maintained due to the relations holding between the universals themselves.

What about the third fact concerning the existence of unmanifested? Again, using distinctions within the theory of universals, one can accommodate this third fact without losing the connectedness that a disposition has its manifestation. Whilst the manifestation of a disposition *instance* possessed by a particular need never come into existence, the manifestation type can still exist at the level of universals. This allows us to say that dispositions are not directed towards *particular* manifestations which may not exist. Rather, directedness is secured by a relation to the manifestation *kind*. Ellis was arguably the first to emphasise the importance of this idea⁷. It gets around the Meinongian problem because, if like Ellis, one holds an immanent theory of universals, the generic kind towards which a dispositional property is directed will automatically exist ‘if something, somewhere, at some time, has an effect of this generic kind’ (2001: 133). And if one holds a transcendent view of universals, then the existence of the kind towards which a dispositional property is directed is automatically guaranteed, because

³ This kind of view has been suggested both by Bird (2007a) and Mumford (2004).

⁴ The sense in which such a relation may be said to be internal will be addressed in detail towards the end of this paper.

⁵ Armstrong calls the contingent second-order relations that bestow dispositional characteristics relations of nomological necessity, or ‘N’ relations (see 1997, ch. 15 & 16).

⁶ Bird (2007a: 141) also emphasises the importance of clearly distinguishing the second-order level of property universals with the first-order level of particulars.

⁷ Mumford has also explored this way of responding to the Meinongian objection (2004: 11.7)

transcendent universals are plausibly necessary existents (see Bird, 2007a: 3.2.2). On either of these alternatives, then, it is easy to avoid the conclusion that dispositional directedness involves a relation to entities which often do not exist. This is made possible, in sum, by the idea that dispositional directedness secured by a relation to the relevant manifestation universals at the second-order level.

Now that I have outlined how the ‘universals’ pandispositionalist can relieve the *prima facie* tension that arises with respect to the three facts, without giving up the obvious way of explaining the directedness of dispositions (in terms of genuine relations), we will now see whether the trope pandispositionalist can do the same. I will argue that they cannot.

7) Heil’s trope account

In contrast to pandispositionalists who adhere to a universals view, it is difficult for the trope theorists to swallow the claim that dispositions are (at least in part) relationally constituted. . This is because, unlike the universals theorists, the trope theorists are unable to draw the distinction between property universals and property instances; for the trope theorist, there are only distinct property *instances*. Therefore, on the trope view, the relational constitution claim amounts to the claim that all disposition *instances* are relationally constituted, and this seems to leave no room for ascribing dispositions to particulars which are purely intrinsic.

Heil, as a pandispositionalist trope theorist, rightly sees that the rejection of the intrinsicity fact concerning dispositions is unappealing. Aware of the danger of Meinong-type objections, Heil suggests that ‘[T]he existence of a disposition (trope) does not in any way depend on the disposition’s standing in a relation to its actual or possible manifestations ...’ (2003: 83; words in parentheses added for clarity). Later, Heil makes the same point in terms of truth-making: ‘[T]he truth-maker for ‘this key would open a lock of kind *K*’ is not the key, possible lock of kind *K*, and a relation between the key and *K*’ (2003: 124). Rather, according to Heil, the powers are ‘built in’ to the intrinsic properties themselves: ‘[I]f the key ‘points beyond’ itself to locks of a particular sort, it does so in virtue of its intrinsic features’ (2003: 124).

Given Heil’s penchant for the intrinsicity of dispositions, one might immediately think that this compromises the directedness thesis concerning dispositions. But as is clear in the latter quote, this is something that Heil certainly does not wish to do, for he rightly sees that the directedness thesis is at the heart of pandispositionalism. This is made clear, for example, when Heil claims that a powerful thing (a key, in this instance) ‘points beyond’ itself to its manifestation, and is ‘ready to go’ (2003: 124). The problem is , however, that if directedness is not cashed out in terms of relations, it is far from clear what account one can then give of dispositional directedness. What, precisely, are the ontological grounds of dispositional directedness? This question becomes especially pressing when we recall the fact that dispositions may exist unmanifested. What, precisely, does it mean to say that an object with an unmanifested disposition trope ‘points beyond’ itself? Without further elucidation, the ‘pointing beyond’ claim seems to be a mere vague metaphor.

Heil does not appear to give any further account of dispositional directedness and how such directedness is possible. Yet, such an account is needed, for it is surely a reasonable question to ask what makes a particular trope directed towards one manifestation rather than another. Simply saying that dispositional directedness is 'built in' to the intrinsic properties themselves does not shed much light on the matter, for the question at hand is how, precisely, an intrinsic physical property could indeed 'point beyond' itself to something that may not exist.

It is at this point that the universals account of dispositions is seen to have a distinct advantage over Heil's trope view, for it is able to give the 'pointing beyond' claim ontological backing in a way that Heil's does not. This deficiency is also not peculiar to Heil's version of the trope view. Martin, another trope pandispositionalist, faces the same problems. Like Heil, Martin maintains that dispositions are not relational, on the grounds that '[T]he readiness of something's disposition for all of this may fully exist although its disposition partners and mutual manifestations do not' (2008: 6). If one is a trope theorist, this does indeed seem like the sensible conclusion to draw, but then what metaphysical account can be given of the directedness of dispositions? Again, this is not a question that Martin takes seriously enough. Martin merely tries to capture dispositional directedness using an array of metaphors and gestures: he speaks of 'dispositional readiness' (2008: 23), the 'would-have-been-if' of dispositions (2008: 2), the 'what for' of dispositionality (2008: 4), the 'ready to go' (2008: 2) of dispositions, and dispositional 'selectiveness' (2008:7). The result is that the precise nature of dispositional directedness remains rather opaque.

8) Molnar's intentionality view

Unlike Martin and Heil, Molnar is one trope theorist who takes more seriously the need to provide an account of the metaphysical source of dispositional directedness⁸. Molnar accepts that disposition tropes are not relational, and, following U.T. Place (1996), uses the notion of intentionality to account for the 'directedness' of disposition tropes (Molnar, 2003: 61)⁹. Molnar identifies four main features that most contemporary philosophers take mental intentionality to have, and then argues that each of these features are ones that dispositional states, or 'powers', also have (2003: 63-66). Briefly, the four features are: i) internal reference to, or 'directedness' towards, an (intentional) object; ii) the intentional object may not exist; iii) the intentional object may be indeterminate in some respects; iv) the truth of a description of an intentional state need not be preserved under substitution of co-referring expressions.

It should be pointed out that several arguments have been provided in recent philosophical literature attempting to show that Molnar's account fails on the grounds that dispositional directedness differs in several crucial respects from mental intentionality¹⁰. I need

⁸ Note that, unlike Heil and Martin, Molnar is not strictly speaking a pandispositionalist. He comes pretty close, however, because he takes all but spatial properties to be irreducibly powerful (see Molnar, 2003).

⁹ See also Martin & Pfeifer (1986) who suggest that intentionality as traditionally conceived is not peculiar to the mental.

¹⁰ Bird, for example, argues that the truth of statements concerning a disposition's manifestation is always preserved under substitution of co-referring terms (2007a: 123). Furthermore, Bird questions Molnar's claim that dispositions are directed towards indeterminate manifestations, and also suggests two further features of intentionality which dispositional directedness does not share (see Bird, 2007a: 118-126). These features are the extrinsicness of intentional states, and the feature that the object of a thought is often the cause of that thought. See also Mumford (1999) for further criticisms of the intentionality account of dispositionality.

not rehearse those arguments here, however. Even if Molnar is correct, and dispositional directedness does share the main features of mental intentionality, it remains far from clear that Molnar's account of dispositional directedness is significantly more transparent than that offered by Heil or Martin. To begin with, Molnar's aim is not to provide an account of the nature of intentionality, but instead to merely point out that dispositional directedness is the same kind of directedness as that found in the mental intentional case, whatever that may be. This becomes clear when Molnar indicates that the concept of intentionality is, on his account, taken simply to be a primitive (2003: 81).

In Molnar's defence, one might think that he does go at least some way towards alleviating the apparent tension between dispositional directedness and the fact that, for example, disposition tropes may exist unmanifested. Perhaps Molnar's point is simply that we do not have any qualms about accepting directedness towards non-existent objects in the mental intentional case, and so why should we feel uneasy in the physical case? Even if, as seems to be the case, there are problems surrounding mental intentional directedness, these are problems we already have in philosophy and so viewing physical dispositional states as intentional states does not bring any new problems to the table.

In response, it has to be said that this kind of response seems to avoid the questions at hand rather than tackle them. For example, Molnar's intentionality claim does not in itself settle the important issue of whether dispositional directedness consists in a genuine relation. In one place, however, Molnar does indicate that intentional directedness should not be thought to consist in a genuine relation; he writes that 'the nexus between the intentional state and the object to which it refers is *not that of a genuine relation*' (2003:62) A 'pseudo-relation' would therefore seem to be a better label for dispositional directedness. The problem with this concession, however, is that Molnar's account of dispositional directedness becomes very similar to Heil's. The only difference is that where Heil speaks of dispositions pointing beyond themselves, Molnar speaks of dispositions being intentionally directed. On either account, we are left with a picture in which disposition tropes reach out in a rather mysterious way to their non-existent manifestations.

A route that some trope theorists might consider taking is to reject the 'pointing beyond' metaphor, and claim that the directedness of an unmanifested disposition trope is rooted in facts about how that trope resembles other tropes that *have* manifested in a certain way. This move comes with its own host of problems, however. To begin with, if facts about what a trope is a disposition *for* are not determined by the nature of the trope itself, but, rather, is inherited via resemblances to other things, it is hard to see in what sense that trope can be said to be in itself powerful. Further puzzling questions can also be raised about the resembling tropes which *have* manifested. What fixes *their* directedness, which is to say what fixes their identity as dispositions, prior to them being manifested? This strategy would create more difficulties than it solves. The directedness must, as Heil maintains, be 'built in' to the disposition tropes themselves, as difficult as that claim is to cash out.

Now I have argued that trope versions of pandispositionalism are at a significant disadvantage as compared with the universals account, I will conclude with some further comments concerning the details of the 'universals' account of irreducible dispositionality. In particular, I will focus on questions concerning the nature of the

second-order manifestation relations which, on this view, account for the directedness (and so the identity) of dispositions.

9) The nature of second-order manifestation relations

I now want to briefly explore what it means to say that a relation – a second-order one in this case – is internal. We will see that there is more than one sense in which a relation can be internal. It will then be suggested that the sense of internality appropriate to the two-sided version of pandispositionalism, mentioned earlier, may be slightly different to the sense of internality appropriate to the dispositional monist version of pandispositionalism.

Famously, the notion of an internal relation, and the extent to which the world contains such relations, was strongly debated by British philosophers during the early part of the 20th century. Bradley, an idealist, says of an internal relation that it ‘... must at both ends *affect*, and pass into, the being of its terms’ (1893: 364). Joachim makes an equally elaborate comment when he writes that internal relations ‘qualify or modify or make a difference to the terms between which they hold’ (1906: 12).

Russell tries to sum up what is common to all accounts of internal relations with the claim that internal relations (i.e. *all* relations, according to the British idealists), are ‘grounded in the natures of the related terms’ (1910: 160). This expression is itself somewhat vague, however, and Russell confesses to be uncertain about precisely how the expression ‘natures of the related terms’ is best understood in this context. In discussing this issue, Moore offers two possible interpretations: either internal relations are grounded merely in the numerical identity of the terms themselves, or, more specifically, they are grounded in the ‘qualities’ the terms have, independently of their ‘relational properties’ (1919; 62). The crucial difference seems to be that, on the second view, essential reference is made to the intrinsic, qualitative natures of the things internally related, whereas on the first interpretation, internal relations are said merely to make a numerical difference to the terms related.

In fact, Moore thinks that, generally, those who speak of internal relations understand them in the second, stronger sense. It seems, however, that one could commit to the view that internal relations make a difference to the numerical identity of their terms, without committing to the further claim that those internal relations are grounded in the intrinsic qualities of their terms. In discussing the first, weaker formulation of internality, Moore specifies it in a precise form, using the symbolism of Russell and Whitehead’s *Principia Mathematica*. ‘The assertion with regard to a particular term A and a particular relational property ϕ , which A actually has, that ϕ is internal to A means then: $(x) \neg \phi x$ entails $x \neq A$.’ (1919: 54) In words, this states that if some object does not bear relational property ϕ , then that entity cannot be identical to A (given that ϕ is internal to A). This claim is also logically equivalent to the rather minimal claim that if x is identical to A, then x must bear relational property ϕ (given that ϕ is internal to A), i.e.: $(x) x = A$ entails ϕx (1919: 54).

The question relevant for us is as follows. Are the pandispositionalists’ second-order relations amongst universals internal in the weaker sense just described? The answer is clearly yes. It follows from Moore’s definitions that A could not exist in any possible

world without bearing relational feature ϕ (given that ϕ is internal to A). In other words, A bears relational property ϕ *necessarily*. This is, as we have seen, precisely the kind of claim that the pandispositionalists must endorse with respect to property universals. If the pandispositionalists were to deny that second-order manifestation relations amongst universals hold necessarily, thereby accepting contingency, they would ultimately be committing to the claim that properties are in and of themselves inert and categorical. On such a view, if a certain property were to bring any power at all to a world, it would do so only because a certain *contingent* relation (or relations) amongst universals happened to hold. The properties *themselves* would not be essentially or irreducibly powerful. As mentioned earlier, this would leave one with a view closer to that of Armstrong (1997), which is clearly not a pandispositionalist view.

It seems, therefore, that at the very least, the pandispositionalists must accept the internality of (second-order) manifestation relations in the weaker sense defined by Moore. Recall, however, that a stronger sense of internality was also outlined. On the stronger interpretation, a relation is said to be internal if it is grounded specifically in the 'qualities' of its terms. In other words, if A bears relational property ϕ , and ϕ is internal in this sense, then if some entity x does not bear ϕ , then not only is x not identical to A, but x must be qualitatively different to A.

An important question, then, is this: are the second-order manifestation relations posited by the pandispositionalists internal in this stronger sense? In order to answer this question, one must ask whether it makes sense for a pandispositionalist to speak of universals being *qualitative*. As was briefly indicated earlier, according to one version of pandispositionalism it does seem to make sense to speak in this way, whereas according to the other main version, it does not.

At the beginning of this paper two versions of pandispositionalism were distinguished: dispositional monism and the two-sided view. According to dispositional monism, the natures of all properties are exhausted by their dispositional characteristics, which means on the universals view under consideration that they are exhausted by their second-order manifestation relations. Thus, on this view, property universals are *wholly* relationally constituted, and so such universals can have no 'qualities' which help to ground the second-order manifestation relations¹¹. Therefore, if one advocates dispositional monism, second-order manifestations can only be internal in the weaker sense defined by Moore, which does not make reference to the qualities of the terms related.

The case is somewhat different with respect to the two-sided version of pandispositionalism. It is at this point that the main difference between the two-sided

¹¹ The coherence of the thought that an entity may be wholly relationally constituted has been questioned by, for example, Heil (see 2003: 102-105 where Heil discusses Dipert's relationalist view about particulars (1997), which is the first-order analogue of the dispositional monists' view about properties). Roughly, the objection is that if the 'relata' have no intrinsic features, then there is ultimately nothing there for the relations to relate, and so the picture collapses into nothingness. If this objection is fair, then this suggests the two-sided version of pandispositionalism is preferable to dispositional monism. It should be noted, however, that many philosophers argue, against Heil, that it is coherent to posit relata that have no features other than the relations they enter in to. In order to avoid losing the relata, there merely has to be a mutual ontological dependence between the relata and relations, which means both that relata do not exist independently of their relations and that the relations do not exist independently of their relata. This is the kind of view maintained by moderate structural realists; for further discussion of this kind of position see Esfeld and Lam (2008).

view and dispositional monism can once again be seen. According to the two-sided view, all properties have both an irreducibly dispositional aspect and a categorical (or 'qualitative') aspect. According to the view advocated in this paper, the dispositional characteristics associated with properties are best understood as being rooted in second-order 'manifestation' relations amongst property universals. But unlike dispositional characteristics, the qualitative aspects that two-sided theorists speak of are not rooted in relations amongst universals, because unlike dispositionality, categorical features do not consist in directedness towards other properties.

Thus, if one is a two-sided theorist, there are indeed qualitative aspects to properties which could potentially ground the internal relations between universals in some sense. In order for there to be such grounding, it would have to be the case that if a 'two-sided' universal bears a certain internal relation (i.e. internal in the strong sense under consideration), then if another universal does not bear such a relation, it must have a different qualitative side to the universal in question. In other words, there would have to be a necessary connection between a property's 'qualitative' side and its dispositional characteristics.

It should be highlighted, however, that in one place Martin, a two-sided theorist, oddly leaves open the possibility that the dispositional aspects and categorical aspects of a property may be merely contingently related (1996: 87). If they were contingently related, then manifestation relations would clearly not be internal in the sense under consideration. Martin's allowance of contingency has been heavily criticised, however. As Mumford highlights when discussing Armstrong's dislike of the two-sided view (2007: 85), if the categorical aspects of the world and the dispositional aspects of the world really could exist apart, then the Martin-type position would look more like a version of property dualism¹², in which case it would no longer be a version of pandispositionalism. To avoid this problem, the two-sided pandispositionalist has to consider second-order manifestation relations to be internal in the stronger sense outlined by Moore, which is to say that qualitative aspects and dispositional characteristics must be seen to be necessarily related. Not only would some universal x fail to be identical to universal A by lacking a certain manifestation relation which A bears, if it did lack such a relation, then necessarily x would also bear a different qualitative aspect.

Finally, a further way of expressing the difference between the two-sided view and dispositional monism is as follows. Armstrong has often characterised internal relations as 'ontological free lunches' in the sense that once their relata, with all their qualitative features, exist, the relations are automatically there: they supervene upon their relata and so are 'no addition of being' (1997: 12). An example of an ontological free lunch in this context is the resemblance relation: given the intrinsic natures of two objects, the nature of their resemblance is automatically fixed. It can now be seen, then, that speaking of second-order manifestation relations as 'ontological free lunches' is more appropriate in the case of the two-sided view than the dispositional monist view. If, as the dispositional monist maintains, second-order manifestation relations are what *wholly* constitute the nature of property universals, it would be inappropriate to class those relations as 'ontological free lunches'. One can hardly say that such relations supervene upon the prior natures of the universals, because they simply have no prior natures¹³. On the dispositional monist picture, therefore, internal second-order manifestation relations are

¹² Place (1996) and Prior (1985) are two prominent figures who hold there to be both categorical and dispositional properties.

¹³ This point has been emphasised by Barker in a recent discussion of dispositional monism (2009).

quite different to many kinds of internal relation that philosophers speak of, such as the resemblance relation. Unlike the dispositional monists' internal manifestation relations, it would be strange to claim that the internal resemblance relations an entity bears to others *constitute* the entity in question. All of this suggests that when Armstrong speaks of internal relations as 'ontological free lunches', he has in mind those relations which satisfy the stronger definition of internality, discussed by Moore, which makes essential reference to the intrinsic qualities of the related terms.

10) Summary

In this paper I have argued that if one is a pandispositionalist, one has special reasons for viewing properties as universals. More precisely, they will be universals which are, at least in part, relationally constituted. I have argued for this on the grounds that with universals in play, the pandispositionalist can satisfactorily account for the directedness of dispositions whilst at the same time respecting the fact that disposition instances are often intrinsic to their possessors and may exist even if their particular manifestations never come about. In contrast, it is less clear that a trope pandispositionalist can simultaneously account for all of these facts in an adequate way. Finally, I briefly discussed the sense in which the pandispositionalists' second-order manifestation relations are internal on the universals view, and suggested that the internal relations to be utilised in the dispositional monist version of 'universals' pandispositionalism are slightly different to those which will figure in the 'two-sided' version.

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