



The meta-grounding theory of powerful qualities

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Abstract

A recent, seemingly appealing version of the powerful qualities view defines properties' qualitativity via an essentialist claim and their powerfulness via a grounding claim. Roughly, this approach holds that properties are qualities because they have qualitative essences, while they are powerful because their instances or essences ground causal-modal facts. I argue that this theory should be replaced with one that defines the powerfulness of qualities in terms of both a grounding claim and a 'meta-grounding' claim. Specifically, I formulate and defend a view on which qualities are powerful just if instances of those qualities *at least partially* ground dispositions *in virtue of the essences of those qualities*.

Keywords Powerful qualities · Powers · Qualities · Dispositions · Grounding · Meta-grounding

1 Introduction

In contrast to both 'pure' powers and 'pure' qualities theories, the powerful qualities view claims that properties¹ are in some sense *both* qualities *and* powers, or at least *powerful*.² Recently, a number of authors have proposed a ground-theoretic version of the powerful qualities view (Yates, 2018; Azzano, 2021; Coates, 2021;

¹ As is standard, I understand the discussion over qualities and powers to concern sparse rather than abundant properties. So, throughout this paper, by 'properties' I mean sparse properties.

² In contemporary metaphysics, this view traces back to the 'identity theory' of Martin and Heil (Martin & Heil, 1999; Heil, 2003; Martin, 2008).

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Kimpton-Nye, 2021; Tugby, 2021).³ Although these authors' views differ in important respects, they share a core idea about how to define the qualitativity and powerfulness of properties. The shared idea is that properties are qualities because they have purely qualitative essences, while they are powerful because their essences or instances metaphysically ground⁴ certain causal-modal facts. I refer to this view here as the grounding theory of powerful qualities (GPQ).

At this point, the literature on GPQ is in its infancy and substantial work remains to be done in determining how best to develop the view. My goal here is to take on a significant part of this work by considering how the ground-theoretic account of a property's powerfulness ought to be developed. I identify two approaches to this issue in the existing literature. On the first, qualities are powerful just if their instances *fully* ground dispositions of the objects that have them (Azzano, 2021: 2967; Kimpton-Nye 2021: 3428; Tugby 2021: 11,195), while on the second a quality is powerful just if its essence grounds its dispositional or nomic role (Smith, 2016; Yates, 2018: 4534; Coates 2021: 8357).

I argue, though, that a third approach has significant advantages over both of these views. On this approach, qualities are powerful just if instances of those qualities *at least partially* ground dispositions *in virtue of the essences of those qualities*. I call this theory the *meta-grounding theory of powerful qualities*, because, unlike either of the alternatives, it builds a meta-grounding claim into its account of powerfulness.

I argue that this theory provides a particularly compelling account of the powerfulness of qualities, while avoiding controversial commitments of its rivals. I also argue that it both provides a compelling account of paradigmatic higher-level powerful qualities and explains the difference in 'transparency' between these properties and low-level properties, such as charge. The result, I claim, is an especially promising ground-theoretic account of powerful qualities.

This theory, though, comes bundled with significant general commitments concerning meta-grounding. So, if my argument successfully shows that the theory is particularly compelling, then it also provides novel motivation for these commitments. Consequently, my argument has important general ground-theoretic implications in addition to its implications for the metaphysics of properties. It also demonstrates that there is an important but previously unrecognised connection between these two topics.⁵

³ Yates (2018), Coates (2021) and Azzano (2021) develop versions of this view that they explicitly identify as versions of the powerful qualities view. While Tugby (2021) and Kimpton-Nye (2021) also develop versions of this position, they do not identify the view as a version of the powerful qualities view. Tugby (2021: 11,207), however, does recommend that powerful qualities theorists adopt a version of his position. This recent work builds on earlier work by Jacobs (2011) and Tugby (2012).

⁴ While there is substantial controversy over how exactly grounding ought to be understood, I set aside most controversies about the nature of grounding, or distinctions between kinds of grounding. For ease of exposition, though, I will adopt an entity-grounding approach (Schaffer, 2009), on which entities of different ontological categories can enter into the grounding relation, rather than a fact-grounding approach (Rosen, 2010; Fine, 2012) on which grounding only involves facts.

⁵ This is not to say that meta-grounding has been entirely ignored in discussions of GPQ. Tugby (2021: 11,200) briefly suggests conjoining GPQ with what Litland (2017) calls the 'straightforward approach' to meta-grounding and Azzano (2021: 2970–2971) includes a brief section on the topic. However, the

The major takeaway from this paper, then, is a novel, promising ground-theoretic account of powerful qualities that also has important general ground-theoretic implications. It should be noted, though, that I do not attempt here to give an all-things-considered evaluation or defence of this theory. I do not, for instance, consider in any detail how the view compares with rivals to the powerful qualities view, or how it compares to versions of the powerful qualities view that do not invoke grounding. Instead, my primary goal is to clarify how best to develop a ground-theoretic account of powerful qualities and to demonstrate that the approach developed here is sufficiently plausible and interesting to deserve substantial further attention.

In Sects. 2, 3 and 4, I argue that attempts to define powerfulness in GPQ in terms of the idea that quality instances fully ground dispositions run into significant difficulties. In Sect. 5, I argue that the alternative Smith-Yates-Coates essentialist view comes with problematic commitments and costs. In Sect. 6, I introduce the meta-grounding theory and argue that it gets around the difficulties with the other views and provides an appealing account of paradigmatic higher-level powerful qualities. In Sect. 7, I explain how the meta-grounding theory accounts for the difference in transparency between higher and lower-level powerful qualities, and I clarify some of the theory's ground-theoretic implications.

2 The full-grounding theory

As I indicated above, one way to develop GPQ is via the idea that properties have purely qualitative essences but, nonetheless, are powerful because their instances ground dispositions. In itself, though, this formulation does not distinguish GPQ from orthodox categoricism. Categoricists generally accept that dispositions are grounded in property instances in conjunction with the laws of nature. For example, a particular's disposition to repel negatively charged objects is grounded in the conjunction of its being negatively charged and the obtaining of Coulomb's law. Categoricists also accept that properties have purely qualitative essences. Orthodox categoricism, then, entails both that properties have purely qualitative essences and that instances of those properties *partially* ground the dispositions of their bearers.

This point suggests that, to be distinct from categoricism, the proposed formulation of GPQ needs to be modified to specify that quality instances *fully* ground dispositions. Azzano (2021: 2967) develops GPQ in this way, as he claims that a property is powerful just if a particular's having that property fully grounds its having a disposition. This proposal leads to the following formulation of GPQ:

The full-grounding theory (FGT) For any property, F, F is a powerful quality iff_{def} (i) F has a purely qualitative essence and (ii) anything's being F fully grounds its having some disposition.

meta-grounding claim that I defend here has not previously been discussed. Nor has anyone previously argued that a meta-grounding claim ought to be built into a ground-theoretic account of powerfulness.

FGT's account of powerful qualities is clearly distinct from the orthodox conception of categorical properties, on which properties only partially ground dispositions.

It also seems to capture the guiding power-theoretic idea. At the heart of categoricism is the idea that all properties are categorical in the sense that they are, in themselves and by their natures, causally and modally inert. For the categoricist, properties and their instances have causal or modal significance just in as far as it is imposed on them by distinct entities, such as laws of nature. The key power-theoretic idea, on the other hand, is that at least some properties, in themselves or by their natures, have non-trivial causal or modal implications. By entailing that instances of powerful qualities constitute *sufficient* metaphysical grounds for dispositions, FGT seems to capture this power-theoretic idea.

As Azzano (2020: 2967) notes, though, it seems generally implausible that dispositions of non-fundamental objects are grounded in individual properties of those objects. Azzano (Ibid.), for instance, points out that no single property of an object is responsible for the object's being fragile. In a similar context, Tugby (2021: 11,197) notes that 'a needle's power to pierce linen...is arguably grounded in the needle's rigidity as well as its shape'.

A further, often-discussed example is the disposition of a ball, such as a billiard ball, to roll down an inclined plane. While this disposition is plausibly partially grounded in the ball's *being spherical*, it is not *fully* grounded in the ball's being spherical, as some spheres, such as spherical soap bubbles, lack the disposition.⁶ Instead, the ball's being spherical grounds its disposition to roll only in conjunction with its being heavy and rigid.

Azzano's response to these sorts of cases is to restrict FGT to the fundamental level. While there is nothing in principle wrong with developing a version of GPQ that applies only to fundamental properties, I think that such a version would be importantly impoverished.

The higher-level cases that I just mentioned – the shapes of the billiard ball and needle – are instances of geometric or structural properties, which provide probably the most common and intuitive examples of powerful qualities.⁷ So, if FGT cannot accommodate these cases, then it cannot accommodate probably the most immediately plausible examples of powerful qualities.

This result is particularly disappointing because GPQ initially seems well-suited to make good sense of these examples. A natural way to express the intuition that *being spherical* is powerful is to claim that spheres are disposed to roll *in virtue of* being spherical. Similarly, a natural way to express the intuition that *being spherical* is qualitative is by claiming that its essence is given by its non-dispositional, geometrical definition.⁸

Moreover, in promising to make sense of structural properties in this way, GPQ not only promises to make sense of some of the clearest potential examples of powerful qualities but also to produce a potentially fruitful account of these properties.

⁶ Ingthorsson (2013: 69) discusses the case of a spherical soap bubble.

⁷ Heil (2003: 86 and 124), Martin (2008: 44–45), Ingthorsson (2013: 69–70) and Lowe (2010: 20–21) all give structural properties as examples of powerful qualities.

⁸ Yates (2018), Tugby (2021: 11,200) and Coates (2021: 8358) all apply GPQ to these kinds of cases.

Yates (2016), for instance, employs a version of GPQ to produce a novel, emergentist account of structural properties in the special sciences. FGT's restriction to the fundamental level, though, means that it cannot make good on GPQ's initial promise to provide an attractive account of structural properties as powerful qualities.

A similar result follows in another important case. While not invoked as frequently as structural properties, phenomenal properties are also sometimes appealed to as intuitive examples of powerful qualities and especially of GPQ (Tugby, 2012: 730; Coates 2021: 8358). The idea is that, for instance, while *being in pain* has a purely qualitative phenomenal essence, people appear to have certain behavioural or volitional dispositions in virtue of *being in pain*. Various authors have also argued that the view that phenomenal properties are powerful qualities has significant implications in the philosophy of mind (Heil, 2003; Carruth, 2016; Taylor, 2018). Recently, Hedda Hassel Mørch (2018; 2020) has specifically argued that an account of phenomenal properties that is closely related to GPQ does important theoretical work.⁹

At least on standard views, though, phenomenal properties are non-fundamental, higher-level properties. So, the restriction of FGT to fundamental properties again makes it incapable of accommodating both intuitive examples of powerful qualities and potentially fruitful applications of the powerful qualities view, and GPQ in particular.

These sorts of considerations provide significant motivation for developing a version of GPQ that can apply to higher-level properties. So, if it is right that FGT only applies at the fundamental level, we have reason to look elsewhere for such a view. The defender of FGT, though, may still have ways of arguing that FGT can apply to higher-level properties.

Mumford (2021: 1300), for instance, argues that a spherical soap bubble *does* have the disposition to roll down an inclined plane. The disposition does not manifest, just because it is masked by other of the bubble's properties such as its stickiness. Adopting this line of thought, the defender of FGT could claim that individual higher-level properties do, in general, fully ground dispositions of their bearers, but those dispositions are often masked by other of their bearers' properties. Alternatively, the defender of FGT could take from Vetter (2015) the idea that certain dispositions have conditional manifestations and claim that individual higher-level qualities generally fully ground dispositions with conditional manifestations. So, a soap bubble's being spherical might ground its having a disposition to roll, if rigid, heavy and so on.

Both proposals, though, involve highly controversial commitments about the natures of dispositions. Mumford's proposal requires accepting that dispositions can have 'intrinsic masks'. That is, it requires accepting the highly controversial claim that an object's disposition can be masked by intrinsic characteristics of the object and not only by extrinsic characteristics of the environment.¹⁰ The claim that some dispositions have conditional manifestations is similarly controversial.¹¹ Moreover,

⁹ Mørch argues, in particular, that the account gives both a compelling account of why states like pain and pleasure evolved with their particular phenomenal natures and a compelling response to the 'meta-problem of consciousness'.

¹⁰ See Handfield and Bird (2008: 291) for the standard argument against intrinsic masks.

¹¹ For recent criticism, see Bird (2020).

to make FGT compatible with higher-level properties in general, the defender of FGT would have to claim that higher-level dispositions, *in general*, have conditional manifestations and that they are conditional on, sometimes highly complex, intrinsic characteristics of their bearers. This sort of commitment, I take it, looks especially controversial.

The upshot is that the defender of FGT must either take on a controversial, and seemingly ad hoc, commitment concerning the nature of dispositions or give up on seemingly appealing higher-level applications of GPQ. I do not claim that this result provides a knockdown objection against FGT, but I think it does provide initial motivation for considering whether an alternative full-grounding formulation of GPQ can avoid the limitations of FGT.

3 Alternative full-grounding views

In formulating his ‘grounding theory of powers’, Tugby (2021: 11,195) indicates a way to try to produce this sort of formulation. The core idea behind Tugby’s view is that qualities fully ground dispositions of their bearers *either* individually *or* in conjunction with other qualities of their bearers. This idea can be used to formulate the following version of GPQ:

(FGT*) For any property, F, F is a powerful quality iff_{def} (i) F has a purely qualitative essence and (ii) F is part of some set of qualities of a particular that fully ground some disposition of that particular.

Unlike FGT, FGT* allows that a particular instance of a powerful quality only *partially* grounds a disposition of its bearer, as it only fully grounds the disposition in conjunction with other qualities of its bearer. This difference allows FGT* to accommodate the cases discussed in the previous section. In the first place, it seems plausible that, while a needle’s shape and rigidity *individually* only partially ground its disposition to pierce linen, they *jointly* fully ground the disposition. Similarly, FGT* fits with the idea that a billiard ball’s disposition to roll is fully grounded in its being spherical, rigid and heavy, but only partially grounded in its having each of those properties.

However, a different set of cases still raises difficulties for FGT*. Tugby (11,197) himself points out that extrinsic dispositions ‘provide a stock of examples of dispositions that do not depend on a single property instantiation’. More importantly in the context of FGT*, though, they also provide examples of dispositions that do not depend just on properties of their bearers. Take the disposition of a particular billiard ball, *a*, to roll down a particular tilted wooden plank, *b*. *a*’s disposition to roll down *b* is an apparently extrinsic disposition of *a*, because changes in *b* are sufficient for *a* to lose the disposition. For instance, if *b* were placed on a flat surface, *a* would no longer be disposed to roll down *b*. As a result, though, this disposition cannot be grounded just in properties of *a*. Instead, it seems to be partially grounded in properties of *b*.

In itself, this result is consistent with FGT*. FGT* does not rule out the possibility that some dispositions are grounded in properties of more than one particular, but

only the possibility that a quality is powerful because it features in the grounds of such a disposition. So, what FGT* is inconsistent with is the idea that *being spherical* is powerful because *a*'s being spherical partially grounds *a*'s disposition to roll down *b*. This result, though, still looks potentially problematic for FGT*, because, as I indicated above, *being spherical* looks like an archetypal example of a powerful quality – and of GPQ in particular – precisely because of these sorts of grounding facts.

Defenders of FGT* might say various things in response to this case. One option would be to say that the disposition in question should really be understood as an intrinsic disposition of the complex consisting of the billiard ball and the plank. If the disposition is understood as the plank-ball complex's intrinsic disposition for the ball to roll down the plank, then it seems as though, in line with FGT*, it could be fully grounded in qualities of its bearer, the plank-ball complex. Another option is to say that the disposition should really be understood as the ball's disposition to roll down inclined planes of a certain kind. One could then claim, in line with FGT*, that this disposition is intrinsic to the ball and grounded just in the ball's qualities.

I am not going to argue here for a particular account of the disposition in question. Instead, the point I want to make is that this case shows that FGT* makes the powerfulness of *being spherical* depend on irrelevant considerations. FGT* implies that the disposition's being grounded in *a*'s being spherical is sufficient for *being spherical* to be powerful, if the disposition is a disposition of the ball-plank complex but not if it is a disposition of the ball. This difference, however, seems entirely irrelevant to the powerfulness of *being spherical*.

Recall that the core power-theoretic idea is that certain properties, in themselves or by their natures, have non-trivial causal-modal implications. So, the key question in determining whether *being spherical* is powerful is whether it makes this sort of causal-modal contribution. However, whether a ball's being spherical grounds, on the one hand, the ball's disposition to roll down a plank or, on the other hand, the ball-plank complex's disposition for the ball to roll down the plank looks entirely irrelevant to this question. There is no clear sense in which the ball's being spherical makes its own distinctive contribution to the grounding of the latter disposition but not the former. Indeed, the ball's being spherical appears to contribute in just the same way to the grounding of both dispositions.

The underlying difficulty is that FGT* draws the distinction between categorical and powerful qualities in terms that have no clear bearing on this distinction. Whether a quality, *F*, of a particular, *a*, fully grounds a disposition of *a* only in conjunction with other qualities of *a* or also in conjunction with a property of another object has no clear bearing on whether *F* makes its own distinctive contribution to the causal-modal facts. Indeed, it has no apparent bearing at all on the sort of contribution that *F* makes to *a*'s disposition. FGT*, then, fails to provide a plausible account of the difference between categorical and powerful qualities.

Somewhat different considerations indicate that *any* full-grounding alternative to FGT runs into a similar difficulty. There is no immediate reason to think that applying GPQ to archetypal higher-level powerful qualities, such as structural properties, requires extending it to low-level properties. Indeed, Yates (2018) has developed and defended a view on which GPQ applies to higher-level structural properties but not to low-level properties. While Yates combines GPQ at higher levels with dispositional

essentialism for low-level properties, nothing in principle rules out an approach that combines GPQ at higher levels with categoricalism about low-level properties. On such a view, one could apply GPQ to properties like *being spherical*, while holding that properties like *charge* and *mass* are categorical.

Combining this sort of view with the idea that a billiard ball's disposition to roll down an inclined plane is grounded in multiple properties of the ball – such as its sphericity, rigidity and mass – yields the result that the disposition is grounded in both a higher-level powerful quality and a low-level categorical property. Categorical properties, though, ground dispositions only in conjunction with laws. The result is that the ball's being spherical grounds its disposition to roll not only in conjunction with other properties of the ball, such as its mass, but also in conjunction with a law that determines the causal-modal contribution of mass.

The key idea behind full-grounding views, though, is that a quality can be powerful only in virtue of being part of some set of qualities that fully ground a disposition. Full-grounding views, then, are inconsistent with a quality being powerful in virtue of having an instance that grounds a disposition in conjunction with a law. So, any full-grounding view entails that the scenario just sketched is inconsistent with *being spherical* being powerful in virtue of the contribution it makes to a billiard ball's disposition to roll.

The result is that full-grounding alternatives to FGT face a dilemma. Either the ball's mass is not part of the grounds for its disposition to roll or *being spherical* is powerful in virtue of its contribution to the grounds of this disposition only if *mass* is not categorical. Taking the first horn of this dilemma is a non-starter, as alternatives to FGT are intended precisely to capture the idea that dispositions, like the ball's disposition to roll, are grounded in multiple properties, such as the ball's sphericity, rigidity and mass. So, any full-grounding alternative to FGT would have to accept the latter horn.

As in the case of FGT* and extrinsic dispositions, though, this result makes the powerfulness of *being spherical* depend on something irrelevant. In the case just outlined, the fact that mass is a categorical property makes no difference to how *being spherical* contributes to the grounding of the ball's disposition. That *mass* has its dispositional role imposed on it does not affect whether *being spherical* makes a contribution in its own right to the grounding of the disposition. So, whether mass is categorical or powerful has no clear bearing on whether *being spherical* is powerful.

The argument can now be stated in general terms. The powerfulness of a quality depends on how *that quality* contributes to the grounding of a disposition. However, the manner in which a quality contributes to the grounding of a disposition does not depend on whether some other part of the grounds for the disposition is a powerful property or a categorical property plus a law. So, contra full-grounding alternatives to FGT, the powerfulness of a quality does not depend on whether it grounds some disposition only in conjunction with other powerful properties.

The problem here parallels the problem that I raised above for FGT*. FGT* entails that a quality can be powerful only in virtue of grounding a disposition together with other qualities of the same object. This result, though, goes wrong by making the powerfulness of a quality depend on considerations outside of how *that quality* contributes to the grounding of the disposition. Any full-grounding alternative to FGT,

though, will entail that a quality is powerful only if it grounds a disposition together with other powerful properties. However, this result again goes wrong by making the powerfulness of a quality depend on considerations that have no bearing on that quality's contribution to the causal-modal facts. Consequently, no full-grounding alternative to FGT can provide an adequate account of the distinction between powerful and categorical qualities.

4 Full grounding and metaphysical laws

This result indicates that, despite its drawbacks, FGT is actually the most promising version of the full-grounding approach. While I argued in Sect. 2 that FGT comes with highly controversial commitments concerning dispositions, I also pointed out that this is not a knockdown objection to the view. However, I am now going to raise another problem with the way full-grounding approaches distinguish between categorical and powerful properties that applies also to FGT. While this difficulty arises for any full-grounding view, my discussion will focus on FGT.

On one important view, grounding facts are explained and determined by *sui generis* metaphysical laws.¹² Combining this sort of view with a fact in which a quality instance fully grounds a disposition produces the following kind of result:

[*a*'s having a quality, F, fully grounds *a*'s having a disposition, D] is metaphysically explained and determined by a metaphysical law that anything that is F is D.

Because FGT claims that a quality instance's fully grounding a disposition is sufficient for the quality to be powerful, FGT entails that F is powerful in this case. I do not think, though, that this result is in line with the central power-theoretic idea that powerful properties or their natures, in themselves, make a distinctive causal-modal contribution. The difficulty is that the above case looks closer to the guiding categoricist idea that properties have their dispositionality imposed on them by a distinct entity. It differs from orthodox categoricism just in that the relevant entity is a metaphysical law rather than a law of nature.

This point is further supported by noticing the implications that this sort of case has for the kinds of qualities that could fully ground dispositions. Proponents of GPQ have generally held that, to do their grounding work, qualities must be 'thick quiddities' rather than 'thin quiddities' (Jacobs, 2011: 90–91; Tugby 2021: 11196; Kimp-ton-Nye 2021: 3427–3428). While the nature of a thin quiddity is exhausted by its primitive self-identity, thick quiddities have substantial qualitative natures. GPQ is supposed to require thick rather than thin quiddities, because only the former natures are sufficiently substantial to allow qualities to do the requisite grounding work.

Given *sui generis* metaphysical laws, though, the grounding of dispositions in quality instances is ultimately metaphysically explained by lawlike connections

¹² Schaffer (2017; 2018) defends such laws, while Wilsch (2020) provides a survey of issues related to them.

between the qualities and dispositions. A metaphysical law, however, could impose a lawlike connection on a thin quiddity just as easily as on a thick quiddity. So, given such laws, the fact that Fa fully grounds a disposition of a provides no reason to regard F as a thick rather than a thin quiddity.

Given *sui generis* metaphysical laws, then, the full grounding of a disposition in a quality instance is consistent with that quality's nature being as thin as you like, because the ultimate metaphysical source of its causal-modal implications is a certain sort of law. Consequently, a view on which properties fully ground dispositions because of metaphysical laws is one on which *what properties are* does not matter to their dispositionality, because that dispositionality is fixed just by laws of a certain sort. Such a view, though, is surely categoricist rather than power-theoretic in spirit.¹³

I think, then, that FGT does not successfully distinguish genuinely powerful qualities from categorical qualities. The core problem is that FGT allows that the dispositionality of a powerful quality is imposed on it by an external law rather than being a consequence of the property's own nature. However, this violates the core power-theoretic idea that properties or their natures suffice for their dispositionality.¹⁴

Over the previous couple of sections, I argued that FGT comes with highly controversial commitments, while full-grounding alternatives to FGT fail to provide a plausible account of the distinction between categorical and powerful properties. I have now argued that FGT also does not successfully distinguish powerful qualities from categorical qualities. The overall result is that full-grounding theories run into significant difficulties.

5 The Smith-Yates-Coates view

Smith (2016), Yates (2018: 4534) and Coates (2021: 8357) all indicate an alternative to full-grounding formulations of GPQ. The key idea behind this approach is that a quality is powerful just if its essence grounds its dispositional or nomic role. On this approach, the powerfulness of qualities is defined not in terms of the *instances* of a quality grounding the dispositions of *objects*, but rather in terms of the *essence* of a quality grounding the *nomic role* of the property itself.

As Yates (2018: 4534) develops this idea, the nomic role of a property consists in the type-level causal relations that the property stands in with other properties. Concrete dispositions, in turn, must be explained by these type-level relations. Consequently, this version of GPQ constitutes a version of the well-known view that

¹³ It has been pointed out to me that this result could be avoided by adopting a descriptive conception of laws of metaphysics. This point, though, is consistent with my argument in this section. The key idea behind that argument is that full-grounding is not *sufficient* to produce genuinely powerful qualities, because conjoining full-grounding with certain approaches to explaining grounding facts produces a categoricist view. This argument holds even if there are possible ways of thinking about metaphysical laws that do not generate a categoricist position.

¹⁴ Vetter (2020: fn. 12) has recently made a similar point. She says, in effect, that whether the grounding view is genuinely power-theoretic depends on whether 'a property grounds its causal/modal profile...in virtue of the property's own nature'.

concrete goings-on are determined and explained by second-order causal-modal relations between properties. Other versions of this position are the Dretske-Tooley-Armstrong view of the laws of nature (Armstrong, 1983; Dretske 1977; Tooley 1977) and the view that the essences of properties consist in second-order causal-modal relations with other properties (Bird, 2007: 47). What distinguishes the GPQ version of the position from these views is the claim that the second-order relations are grounded in the qualitative essences of properties.

This approach does appear to provide a plausible alternative to full-grounding accounts of the powerfulness of powerful qualities. On the proposed view, properties have their causal-modal roles *in virtue of their essences*. This claim, though, looks inconsistent with the key categoricalist idea that properties are, by their natures, causally and modally inert and have causal-modal implications exclusively in virtue of something external, such as a law of nature. Instead, it entails the distinctively power-theoretic idea that the natures of at least some properties are involved in determining the causal-modal facts.

However, in tying GPQ to the idea that concrete goings-on are determined and explained by second-order relations between properties, the approach saddles GPQ with the highly controversial idea that second-order relations can explain concrete events and regularities. While Lewis (1983: 366) and van Fraassen (1989) famously raised this issue in response to the DTA account of laws, I focus here on Barker and Smart's (2012) well-known discussion of the issue for Bird-style dispositional essentialism.

As mentioned above, this sort of dispositional essentialism holds that properties essentially stand in second-order causal-modal relations with other properties. Barker and Smart follow Bird in taking this relation to be a 'stimulus response' relation, SR, that connects a dispositional property with a stimulus-property and a manifestation-property. So, where D is a dispositional property, M is its manifestation and S is the stimulus, D will essentially stand in SR with S and M. The result is that there exists a second-order fact, SR[(D, S), M].

Now, SR[(D, S), M] is supposed to necessitate the fact that everything that is both D and S is also M. The key question behind the inference problem in general, and behind the specific objection pressed by Barker and Smart, is why this necessitation relation holds. Why is it *impossible* to have SR[(D, S), M] without also having the fact that everything that is both D and S is also M?

Barker and Smart point out that it won't do to appeal to a relation, SR*, that connects SR[(D, S), M] with the first-order regularity. This move would lead to the question why a necessitation relation holds between any two facts that are connected by SR*. In replying to this question, we would have to appeal to another relation, SR**, setting us off on an infinite regress.

Another option would be to claim that it is a brute fact that a necessitation relation holds between SR and the first-order regularity. As Kimpton-Nye (2021: 3434) points out, though, this move seems inimical to the key power-theoretic thought that regularities ought to be explained by powerful properties. In this regard, he quotes Tugby (2012: 726): "One of the main intuitions behind dispositionalism is that the properties of things are not inert: they pack a powerful punch; they give a causal 'biff' to their possessors." This thought, though, looks to be seriously undermined, if

the distribution of property instances is determined by brute necessary connections between second-order facts and first-order regularities.

Moreover, part of Kimpton-Nye's (2021) argument for GPQ over dispositional essentialism is that GPQ appears to provide an appealing way for powers theorists to get around the inference problem. Because GPQ grounds the behaviour of objects in their qualitative properties, there is no need to derive that behaviour and the associated regularities from second-order facts. Consequently, the difficulties in doing so are neatly sidestepped.

Of course, this point does not hold for the Smith-Yates-Coates view. This view differs from Bird-style dispositional essentialism by holding that the second-order facts are grounded in properties' essences rather than being constitutive of them. Nonetheless, like Bird-style dispositional essentialism, it holds that worldly goings-on are directly determined and explained by these second-order facts. So, this version of GPQ runs head on into the difficulties that the inference problem raises for Bird's sort of dispositional essentialism. The consequence is not only that this kind of GPQ comes with a set of difficulties that are widely thought to be very serious, but also that the potential source of support for GPQ that Kimpton-Nye indicates is undermined.

By turning GPQ into a version of the view that second-order relations explain first-order regularities, this approach also entails that GPQ comes with a commitment to the idea that properties are universals. As a consequence, powerful qualities theorists who are also trope theorists are barred from adopting GPQ. This result also undermines a potential source of support for GPQ, as I (Coates 2022) have argued elsewhere that GPQ is of particular benefit to trope dispositionalists in allowing them to accommodate unmanifested powers.

The basic difficulty with unmanifested powers is that they seem to stand in a relation with non-existent manifestations (Armstrong, 1997: 79). The result appears to be that powers theory comes with a Meinongian ontology, on which these manifestations are real, because they stand in an actual relation, despite not existing. Probably the most influential response to this problem is to claim that powers are directed at manifestation-types and not at manifestation-tokens (Mumford, 2004: 194–195; Handfield 2008: 119; Tugby 2013). Putting this idea together with the idea that manifestation-types are universals, the powers theorist can claim that the manifestations exist irrespective of whether any particular power manifests. Tugby (2013) has argued that the success of this approach provides compelling grounds for dispositionalists to accept universals rather than tropes.

I have argued, though, that, given GPQ, properties and their instances can have 'self-enclosed' natures that do not stand in any connection with their manifestations. The disposition grounded by the property instance can, in turn, be treated as a purely modal fact that is grounded in the purely qualitative property instance. Such a disposition, though, need come only with a benign commitment to the possibility of its manifestation and not with the Meinongian commitment to the manifestation's reality.

So, in barring trope theorists from adopting GPQ, the Smith-Yates-Coates view undermines a potential source of motivation for the view. It also saddles GPQ with the same problems with the inference problem as Bird-style dispositional essentialism and, in so doing, undermines another important potential source of motivation

for GPQ. So, despite having previously supported the view, I think the Smith-Yates-Coates view leaves GPQ with some significant commitments and costs that it would be better off without. I think, then, that it is worth considering whether an alternative approach could free GPQ of these commitments.

6 The meta-grounding theory

I am now going to propose and develop such an alternative. The view that I am going to propose takes from the Smith-Yates-Coates view the idea that qualities are powerful because their essences make a distinctive causal-modal contribution but does not develop this idea via the claim that essences ground second-order relations. Instead, it develops the idea via a *meta-grounding claim*, on which quality instances ground dispositions *in virtue of the essences of those qualities*. More precisely, my proposal is:

Meta-grounding theory (MGT) For any property, F, and for some object, x, F is a powerful quality iff_{def} (a) F has a purely qualitative essence, (b) Fx at least partially grounds x's having a disposition, D, and (c) [It is essential to F that it has its particular qualitative nature] partially grounds [Fx grounds Dx].¹⁵

(a) and (b) together provide the kind of partial-grounding formulation of GPQ that I rejected at the beginning of Sect. 2 for failing to produce a genuinely power-theoretic account of qualities. MGT, though, is based on the idea that conjoining (b) with the meta-grounding claim in (c) renders qualities genuinely powerful. Given (c), a quality instance's grounding a disposition is, itself, *partially grounded in the essence of that quality*. The key idea is that this meta-grounding claim entails the distinctively power-theoretic idea that properties, by their natures, play a distinctive role in determining the causal-modal facts.

To consider this idea further, we can begin with an orthodox categoricist account of the grounding of dispositions:

Orthodox categoricism (OC) *a*'s having a disposition for manifestation, M, is grounded in Law((G, S), M) and *a*'s having the categorical property G.

Here Law((G, S), M) is a law that everything that is both G and S is also M. In line with orthodox categoricism, the idea is that this law together with *Ga* grounds *a*'s having a disposition to M. The key question, then, is whether the additional claim that the essence of G partially grounds (OC) is consistent with G being a categorical property.

The only metaphysical role played by the essence of a categorical quality is to fix the identity of that quality. So, the essence of G could enter the grounds of (OC) only by playing this individuating role. One might argue that this could happen in the following way. *Ga* and Law((G, S), M) only jointly ground *a*'s disposition to M,

¹⁵ I'm grateful to a referee for pointing out that, while the focus is different, MGT has some similarities to the position developed in Yates (2013).

because the same property, *G*, features in both of them. However, the essence of *G*, by playing its individuating role, is involved in determining that the same property is involved in both cases. Consequently, the essence of *G* does partially determine and explain (OC), which might be thought sufficient for the essence of *G* to partially ground (OC).

I think, though, that this line of argument runs into serious problems. To see this, consider the well-known case:

Soc [Socrates exists] *grounds* [{Socrates} exists].

It is generally thought that, if (Soc) is grounded in the essences of certain of its constituents, then it is grounded in the essence of {Socrates} and not the essence of Socrates. The essence of Socrates says nothing about {Socrates} or sets in general, while having Socrates as member is plausibly essential to {Socrates}. So, the essence of {Socrates}, but not the essence of Socrates, seems to explain why the existence of {Socrates} depends on the existence of Socrates.¹⁶

However, if the line of reasoning that was applied to (OC) is applied also to (Soc), this result is undermined. In (Soc), the connection between the grounding fact and the grounded fact depends on the fact that the same object, Socrates, features in both of them. This fact, though, is determined by the essence of Socrates playing its individuating role. So, the essence of Socrates partially determines and explains (Soc) in the same way that the essence of *F* partially determines and explains OC. Consequently, if the essence of *F* partially grounds OC, then the essence of Socrates partially grounds (Soc). The result is that, contra the standard view, (Soc) is grounded not only in the essence of {Socrates} but also in the essence of Socrates.

Indeed, because facts, in general, depend for their existence and identity on their constituents having determinate identities, any grounding fact depends for its existence and identity on the essences of its constituents playing their individuating role. So, if this sort of dependence is sufficient for an essence to enter the grounds of a grounding fact, then every grounding fact will be partially grounded in the essence of each of its constituents. As indicated by the case of (Soc), though, essentialist approaches to grounding are built on the idea that it is a substantial and metaphysically significant question whether the essence of a particular constituent of a grounding fact enters the grounds of that fact (Fine, 2012; Dasgupta, 2014).

The underlying problem, I think, is that the essentialist approach to meta-grounding is inconsistent with the idea that essences constitute grounds just by playing their individuating role. Instead, prominent proponents of the essentialist approach have interpreted the individuating function of essences as a kind of transcendental pre-

¹⁶ I don't mean here to endorse the Finean view that grounding facts are always grounded in the essences of constituents of the explanandum. As I discuss further in Sect. 7, MGT is inconsistent with this view and, so, it would clearly be inconsistent to endorse it here. I do think, though, that it is very plausible that (Soc) is grounded in the essence of {Socrates} and not in the essence of Socrates. MGT can be consistently held along with this view if one holds just that grounding facts are, in general, grounded in the essences of certain of their constituents without holding specifically that they are always grounded in constituents of the explanandum or the explanans. It is worth nothing in this regard that Fine (2012: 76) does not adopt his general view in order to make sense of cases like (Soc) but rather because it is the more 'interesting' view.

condition for the identity and existence of entities – and, so, as a precondition for the facts constituted by them – rather than as a worldly dependence relation, such as grounding (Fine, 2005; Dasgupta, 2016). This approach, unlike the meta-grounding interpretation of the identity-fixing role, accommodates the ubiquitous dependence of facts on the essences of their constituents without trivialising meta-grounding claims.

The above proposal for how the essence of G might ground (OC), then, goes wrong by trivialising meta-grounding claims in a way that is inconsistent with the background essentialist theory of meta-grounding. The result, though, is not only that the above proposal fails but also that there is *no* way for the essence of G to enter the grounds of (OC). As noted above, the *only* metaphysical role of categorical essences, like the essence of G, is to individuate categorical properties like G. However, what we have just seen is that this means that their essences are too thin to play a meta-grounding role.

This result contrasts sharply with the case of archetypal powerful qualities. *Being spherical*, for instance, has a substantial geometrical essence, and it is highly intuitive that this essence plays precisely the meta-grounding role described in (c). It seems clear not only that some spheres roll partly in virtue of being spherical but also that they do so partly *because of* the geometrical essence of *being spherical* (Lowe, 2010: 20–21; Yates 2018: 4538). A similar point holds also for phenomenal properties. The qualitative nature of *being in pain*, for example, is intuitively involved in fixing the causal-modal facts about organisms in pain. It seems not only that people have certain pain-aversive dispositions in virtue of being in pain but also that they do so, at least partly, *because of* the phenomenal essence of pain.

I think, then, that the addition of (c) to MGT draws a plausible distinction between categorical and powerful qualities. While the essences of categorical properties are too thin to play the meta-grounding role described in (c), the essences of archetypal powerful qualities intuitively play precisely this role. This distinction also provides a plausible *account* of the difference between categorical and powerful qualities. On this account, powerful qualities, by their natures, make a distinctive contribution to the causal-modal facts, just because their instances ground dispositions *in virtue of their essences*. In this way, a powerful quality's contribution to the causal-modal facts is ultimately metaphysically determined by its own essence. On the other hand, the natures of categorical properties are causally and modally inert, as they play no substantial metaphysical role in determining their instances' contributions to the causal-modal facts.

This discussion indicates that MGT avoids the problem that I raised for full-grounding theories in Sect. 4. My objection there was that full-grounding theories go wrong by allowing that powerful qualities have their dispositionality imposed on them by metaphysical laws rather than having it because of the way that they are. Given MGT, on the other hand, the key difference between categorical and powerful qualities is precisely that the dispositionality of the latter is determined and explained by their own natures.

MGT also straightforwardly avoids the difficulties raised in Sects. 2 and 3 for full-grounding theories. Because MGT allows that a powerful quality only partially grounds a disposition, cases where dispositions are grounded in multiple properties of a particular, such as the billiard ball's disposition to roll down an inclined

plane, raise no difficulties for it. MGT also has no difficulties with cases in which an instance of a powerful quality grounds a disposition in conjunction with properties of another particular or with a law governing the behaviour of another property. Given MGT, what matters for a quality to be powerful is that it has instances that at least partially ground a disposition *in virtue of* its essence. This fact, though, is not in general dependent on which other entities are involved in grounding the disposition. So, for MGT, unlike on the full-grounding alternatives to FGT, the powerfulness of a quality does not depend on irrelevant considerations about which other entities are involved in grounding dispositions.

MGT, then, provides a plausible account of the difference between powerful and categorical qualities that avoids the problems with full-grounding approaches. At the same time, MGT avoids the Smith-Yates-Coates' proposal's commitment to the problematic idea that the dispositions of concreta are determined by second-order relations between properties. Instead, as with the views discussed in Sects. 2 and 3, dispositions are directly grounded just in *objects having the relevant qualities*.

7 Implications and conclusion

I have just argued that MGT provides a plausible account of the powerfulness of powerful qualities, while avoiding key difficulties with the extant alternatives. I also noted above that MGT provides an independently plausible account of archetypal examples of higher-level powerful qualities, such as structural and phenomenal properties, as it is strongly intuitive that these kinds of properties have distinctive causal-modal implications *in virtue of their qualitative natures*. I now want to argue that the view also does important theoretical work in accounting for the difference in 'transparency' between these higher-level cases and potential fundamental-level cases.

Both Tugby (2012: 729; 2021: 11,199) and Kimpton-Nye (2021: 3435) point out that applications of GPQ at the fundamental level involve 'opaque' grounding connections. There is, for instance, no intuitive or a priori connection between a particular's having the qualitative property *charge* and its being disposed toward certain force-exertions. In responding to this opacity, both Tugby (2021: 11,199) and Kimpton-Nye (2021: 3435–3437) invoke Schaffer's (2017; 2021) arguments that there are often good reasons to posit opaque grounding relations.

As my discussion in the previous section indicates, though, the grounding relations in higher-level paradigmatic cases of powerful qualities look transparent rather than opaque. It seems intuitively clear that billiard balls roll at least partly in virtue of *being spherical* and that people sometimes have certain dispositions at least partly in virtue of *being in pain*. Indeed, in addition to invoking Schaffer's arguments, Tugby (2021: 11,200) points out that in higher-level cases like 'the roundness of a ball or the tetrahedral structure of silane' the grounding connection *does* seem transparent.

GPQ, then, does not produce generally opaque grounding relations but rather produces transparent higher-level relations and opaque fundamental-level relations. So, even if the proponent of GPQ can fruitfully employ Schaffer's arguments that positing opaque grounding relations is often acceptable, there remains a substantial question why the fundamental and higher-level cases differ in this way.

Tugby (Ibid.) points to a possible answer to this question, when he says that for ‘the fundamental properties of physics[...] it seems less likely [than in the higher-level cases] that we have epistemic access to their qualitative natures’.¹⁷ Tugby, however, does not develop this proposal further and, in particular, he does not say why our knowledge of the qualitative natures of the relevant properties would bear on the transparency of the grounding relations. Note that if, for instance, the grounding connection were determined by a metaphysical law, the qualitative natures of the properties would have no obvious relevance to the transparency of the grounding connection.

The meta-grounding claim in MGT, though, makes perfect sense of Tugby’s proposed explanation. According to this claim, it is precisely the qualitative essence of a powerful quality that explains how instances of the quality ground dispositions. As I outlined in the previous section, this view makes good sense of the transparent higher-level cases involving structural and phenomenal properties. It is our grasp on the geometrical essence of being spherical and the phenomenal essence of being in pain that renders the grounding connections between spheres and rolling and between pain and aversive dispositions transparent.

For just this reason, MGT *predicts* that, where we lack epistemic access to the qualitative essences of properties, the grounding of dispositions in instances of those properties will be opaque. So, our lack of epistemic access to the essences of fundamental qualities straightforwardly explains the opacity of the grounding connections in these cases. MGT, then, not only provides an intuitive account of the transparent higher-level cases but also predicts and explains the opacity of the fundamental cases.

So, in addition to providing a plausible account of the powerfulness of qualities that avoids the drawbacks of extant alternatives, MGT provides an independently plausible account of important characteristics of both higher-level and fundamental powerful qualities. I think, then, that there is a strong initial case for MGT.

It is important to note, though, that MGT does come with a substantial general meta-grounding commitment, as it incorporates a commitment to the essentialist approach to meta-grounding, on which grounding facts are at least partially grounded in the essences of some of their constituents. MGT entails further that the essence of a constituent of the grounds sometimes grounds the grounding fact, which is inconsistent with the influential Finean version of the essentialist view. On the Finean view, grounding facts are grounded specifically in the essence of the explanandum, or constituents of the explanandum, in the grounding fact (Fine, 2012).

There is also an important respect in which the approach to meta-grounding in MGT differs from all extant versions of the essentialist approach to meta-grounding. Where F grounds φ , existing essentialist views generally hold that [F grounds φ] is grounded in the fact that it is essential to some constituent of [F grounds φ] that there is a connection between F and φ . According to MGT, on the other hand, while the essence of the powerful quality, P , partially grounds [Pa grounds Da], it does not do so because it involves a connection between Pa and Da . Instead, the purely qualita-

¹⁷ Yates (2018) also makes the point that grounding connections involving higher-level structural properties are transparent, while those involving fundamental qualities would be opaque due to our ignorance of their natures.

tive essence of P directly grounds [Pa grounds Da]. For instance, the essence of *being spherical* does not include a connection between spheres and the disposition to roll. Instead, the purely geometrical essence of *being spherical* immediately partially grounds [billiard balls' being spherical partially grounds their disposition to roll].

My argument in this paper, though, provides significant motivation for this meta-grounding claim. As I noted earlier, it seems perfectly clear that [billiard balls' being spherical partially grounds their disposition to roll] does obtain in virtue of the purely geometrical essence of *being spherical*. Similarly, it is strongly intuitive that [S's being in pain grounds certain aversive dispositions of S] obtains in virtue of the phenomenal essence of *being in pain*. In addition to the immediate plausibility of these cases, I have argued that they do significant theoretical work in providing a coherent and potentially fruitful account of powerful qualities.

The consequence is that the argument in this paper motivates not only a novel meta-grounding formulation of the powerful qualities view but also significant general meta-grounding claims. Firstly, it motivates a version of the essentialist approach to meta-grounding that allows, contra the Finean approach, that a grounding fact is sometimes grounded in the essence of a constituent of the explanans in that fact. Secondly, it also motivates allowing that these essences sometimes ground grounding facts just because of their qualitativity and not because they involve a connection between the grounds and the grounded.

The upshot, then, is that MGT comes as a package of mutually supporting substantial claims about meta-grounding and the natures of properties. While I have not attempted here to reach anything like an all things considered conclusion on this overall package, I hope to have shown that it is sufficiently plausible and interesting to deserve further investigation and development.

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