



Should explanation be a guide to ground?

Alexander Skiles¹ · Kelly Trogdon²

Accepted: 26 March 2021

© This is a U.S. government work and not under copyright protection in the U.S.; foreign copyright protection may apply 2021

Abstract Grounding and explanation are said to be intimately connected. Some even maintain that grounding just is a form of explanation. But grounding and explanation also seem importantly different—on the face of it, the former is ‘worldly’ or ‘objective’ while the latter isn’t. In this paper, we develop and respond to an argument to the effect that there is no way to fruitfully address this tension that retains orthodox views about grounding and explanation but doesn’t undermine a central piece of methodology, namely that explanation is a guide to ground.

Keywords Grounding · Explanation · Objectivity · Realism

1 Introduction

There is a tension in theorizing about grounding (Bliss, 2018; Kovacs, 2019; Raven, 2015). One way to cast the tension is in terms of *conflation*. Grounding theorists typically maintain that there is an intimate link between grounding and explanation. Some even claim that grounding just is a form of explanation. But in tying grounding so closely to explanation, they run the risk of jumbling together issues that should be kept separate, specifically metaphysical issues regarding how reality is ‘in itself’ with issues that more properly belong to other subject matters such as epistemology and the philosophy of mind and language. An alternative, but closely

✉ Kelly Trogdon
trogdon@vt.edu

Alexander Skiles
alexander.skiles@rutgers.edu

¹ Rutgers University, 106 Somerset St., 5th Floor, New Brunswick, NJ 08901, USA

² Virginia Tech, 223 Major Williams Hall, Blacksburg, VA 24061, USA

related, way to cast the tension is in terms of *coherence*. Many conceive of grounding as a ‘worldly’ or ‘objective’ phenomenon, while explanation is thought to at least partially involve how subjects represent the world. Yet, if so, how could grounding and explanation be bound together in the way that grounding theorists maintain?

At the same time, explanatory language plays a prevalent role in theorizing about grounding. It has at least two uses: to communicate what grounds what and to motivate principles about how grounding behaves. For an example of the first use, Dasgupta (2014, p. 1) writes that what explains why a conference is taking place are certain facts about the intentional attitudes and activities of its participants; these ground the fact that the conference is taking place. Others similarly communicate what grounds what with the aid of this and other explanation-indicating idioms like “because”, “in virtue of”, “accounts for”, and so on (Audi, 2012; Litland, 2015; Schaffer, 2009). For an example of the second use, Raven (2013, p. 193) writes that since a fact is explained by the facts that ground it, and since a fact cannot explain itself, no fact can ground itself. Others offer essentially the same arguments for the claims that grounding is asymmetric, non-monotonic, and hyperintensional (Rosen, 2010; Schaffer, 2009; Trogdon, 2013).¹

Before proceeding, let’s think a bit more carefully about the role that explanation is playing here. Consider the following schemas:

EXPLANATION: Explanation has such-and-such features.

INFERENCE: If explanation has such-and-such features, then we have on this basis (defeasible) reason to think that grounding has those features.

Let INHERITANCE be the conjunction of EXPLANATION and INFERENCE. It’s clear that INHERITANCE or something like it underlies the second use that grounding theorists have put explanation to that we described above. We read Raven in particular as proposing instances of EXPLANATION and INFERENCE, specifically

Explanation is irreflexive.

If explanation is irreflexive, then we have on this basis reason to think that grounding is irreflexive.

and concludes on this basis that grounding is irreflexive. What is perhaps less obvious is that INHERITANCE underlies the first use as well. We read Dasgupta in particular as proposing instances of special cases of EXPLANATION and INFERENCE, roughly

The link between thus-and-so facts about the participants and the conference taking place is an instance of constitutive explanation.

If this link is an instance of constitutive explanation, then we have on this basis reason to think that it’s an instance of grounding.

¹ For ease of presentation, we speak of grounding as a relation between facts. The discussion could be recast, however, in a less committal fashion where grounding instead is treated as an operation.

and concludes on this basis that thus-and-so facts about the participants ground the fact that there is a conference taking place.²

Let's understand the claim that explanation is a guide to ground as the claim that there are instances of INHERITANCE that are both substantive (like the two proposed above) and true. We inherit the inheritance terminology from Maurin (2019) who offers a similar take on the role that explanation plays in cases like those described above. What Maurin calls "Inheritance" is the principle that "...explanation [having] whatever properties it does gives us reason—it justifies—our thinking that grounding does too" (p. 1577). So talk of inheritance in this context targets in the first instance epistemic considerations rather than, say, something like a metaphysical relation of property inheritance.³

2 A challenge

These two threads can be drawn together, the tension described above and the thought that explanation is a guide to ground. There is an interesting argument that can be fashioned out of aspects of recent discussions of grounding to the effect that there is no way to address this tension that retains orthodox views about grounding and explanation but doesn't undermine the idea that INHERITANCE has substantive and true instances. Two competing frameworks about how to understand the interface between grounding and explanation, what Raven (2015, p. 326) dubs "unionism" and "separatism", provide scaffolding for the argument.

As we understand unionism, proponents of this view stipulate that grounding, rather than being a form of determination, is a form of non-causal or constitutive explanation, what we will call *explanation_G* (Dasgupta, 2017; Litland, 2015; Rosen, 2010). For them, to say that the bowl's brittleness is grounded in the ionic bonds of its constituent atoms is in the first instance to say that the bowl is brittle 'because' these bonds are ionic, that it's brittle 'in virtue of' the ionic bonding, or that the brittleness is 'accounted for' by the bonding.

As we understand separatism, proponents of this view stipulate that grounding, rather than being a form of explanation, is a form of determination, which we will call *determination_G*, that backs explanation (Audi, 2012; Schaffer, 2016a; Trogdon, 2013). For them, to say that the bowl's brittleness is grounded in the ionic bonds of its constituent atoms is in the first instance to say that these bonds non-causally 'generate', 'produce', or 'bring about' the bowl's brittleness.⁴

² An auxiliary assumption in these arguments as we reconstructed them is that there are no strong countervailing considerations suggesting that grounding doesn't have the feature in question (e.g., being irreflexive).

³ While we focus on INHERITANCE, there are further ways in which reflection on explanation might usefully guide theorizing about grounding. Some claim, for example, that it's necessary that if some facts ground another fact, then the former explain the latter. If this principle is correct, then from what doesn't explain what we can infer what doesn't ground what.

⁴ The 'determination_G' and 'explanation_G' terminology is due to Skiles and Trogdon (2019).

It would seem that the choice between unionism and separatism so characterized isn't a merely terminological decision, *pace* Dasgupta, 2017, fn. 8 and Kovacs, 2020 (cf. Maurin, 2019, fn. 9). Unionists are committed to there being instances of a distinctive form of explanation and providing an account of what it's like. They don't have a corresponding commitment regarding any form of determination. For separatists, things go in the reverse.

Note that merely adopting unionism or separatism doesn't on its own resolve the tension described above. As for unionism, adopting this thesis (and leaving it at that) has the effect of *deepening* the tension. If the intimate connection between grounding and (the relevant form of) explanation is one of *identity*, then the tension apparently involves an outright contradiction, as in this case we seem to be ascribing incompatible features to grounding. We don't encounter the same problem with separatism. But if the relevant notion of backing is left uncharacterized (as it in fact normally is), we're left with a proposal about the interface between grounding and explanation that lacks any real content. While in this case we might not be attributing incompatible properties to grounding, we've nevertheless failed to grapple with the nature (specifically, the *intimate* nature) of the connection between grounding and explanation.

What is most important for our purposes is that, not only does adopting either unionism or separatism on its own fail to resolve the tension described above, but apparently doing so has the effect of *undermining rather than undergirding* appeals to INHERITANCE, given orthodox views about grounding and explanation. It's this idea that is the main focus of the paper. It will be helpful to settle on some further terminology before proceeding.

The term "fully objective" and related terms are used in a variety of ways in philosophy. And their usage is largely stipulative, as it is here. For our purposes, to say that something is *fully objective* means that it isn't by its nature subject involving. We will have more to say about the "by its nature" part of this conception of objectivity later; for now, let's focus on the "subject involving" part.

While we don't have a definition of subject involvement to offer, the notion is fairly intuitive and we can identify various sufficient conditions. For example, grounding is by its nature subject involving if it's essential to grounding that some facts Δ ground some fact A only if certain *epistemic* conditions (e.g., subject x is in a position to understand certain propositions concerning Δ and A) obtain. The same goes for *psychological* conditions (e.g., x possesses concepts that express properties constitutive of A and facts among Δ), *pragmatic* conditions (e.g., x is interested in the subject matter of thus-and-so propositions in thus-and-so context), and *linguistic* conditions (e.g., thus-and-so is the circumstance of evaluation for " Δ grounds A"). Plausibly, electrons aren't by their nature subject involving in the relevant sense—it's not part of what it is to be an electron that if x is an electron, then x satisfies such a condition. Knowledge, by contrast, isn't fully objective—clearly part of what it is for x to know $\langle p \rangle$ is that certain epistemic conditions are satisfied.⁵

⁵ For a contrasting take on objectivity, one according to which knowledge may count as being fully objective, see Rosen (1994).

Stronger and weaker varieties of subject involvement emerge depending on what type of subject the variable x is supposed to range over. For example, a relatively strong type of subject involvement would take x to range over every actual, presently existing person (of some specified type), while a relatively weak type of subject involvement would take x to range over merely possible idealized agents (of some specified type). Since nothing will turn on what strength of subject involvement one attributes to grounding, we will continue to speak loosely.

Let *minimal grounding realism* be the thesis that some facts ground other facts. According to *strong grounding realism*, some facts ground other facts (minimal grounding realism) and grounding is fully objective. According to *weak grounding realism*, some facts ground other facts, yet grounding isn't fully objective. There are corresponding theses about explanation as well. Let *minimal explanatory realism* be the thesis that facts to the effect that this explains that obtain. According to *strong explanatory realism*, minimal explanatory realism is true and explanation is fully objective. According to *weak explanatory realism*, minimal explanatory realism is true yet explanation isn't fully objective.⁶

For various putative conditions on grounding or explanation, whether they should count as epistemic, psychological, pragmatic, or linguistic conditions in the relevant sense (i.e., whether their figuring into the nature of grounding or explanation would render them subject involving) depends in part on one's views about the features the conditions concern. Consider, for example, the following two familiar claims: for any explanation, its explanans *logically entails* its explanandum; and, for any explanation, its explanans *raises the probability* of its explanandum. The idea that these conditions should count as, say, epistemic conditions in the relevant sense is perhaps most plausible on certain intuitionist accounts of logical consequence and subjective interpretations of probability. For our purposes, we can remain neutral on these substantive issues.

Strong grounding realism is a standard assumption among grounding theorists, as is minimal explanatory realism. These are the orthodox assumptions about grounding and explanation alluded to above, the ones at issue in the argument we wish to consider. The argument takes the form of a dilemma: either unionism or separatism is true; unionism undermines appeals to INHERITANCE given strong grounding realism and minimal explanatory realism; separatism undermines appeals to INHERITANCE given the same assumptions; hence, either explanation isn't a guide to ground or strong grounding realism or minimal explanatory realism is false.

Let's begin with the third premise, the separatism premise. Why think that it's true? The argument for the separatism premise also proceeds by a dilemma. Given minimal explanatory realism, either strong or weak explanatory realism is true.

⁶ Dasgupta (2017, p. 89), Thompson (2018, p. 25), and others use "realism" about grounding and explanation for views similar to what we call "strong realism". And note that, while we're assuming that grounding is a relation between facts (see note 1), the theses above can be recast so that they don't directly appeal to facts. Focusing on nominal quantification, we can understand minimal grounding and explanatory realism as (roughly) the views that there are true grounding and explanation claims, respectively. As for objectivity, we can say, for example, that grounding is subject involving if it's necessary that a grounding claiming is true only if subjects are in a position to understand the content of that claim.

Suppose that strong explanatory realism is true. Given separatism and strong grounding realism, in this case grounding and explanation are different but similar in a key respect—each is fully objective. But strong explanatory realism vitiates EXPLANATION—if explanation is fully objective, then any (non-trivial) instance of EXPLANATION is unmotivated. According to Thompson, on fully objective conceptions of explanation, “...we lose our grasp on what metaphysical explanation actually is” (2016, p. 397). Maurin agrees, claiming that in this case, “what properties [explanation] has becomes somewhat of a mystery” (2019, p. 1579). Explanations so conceived are “radically different” from explanations as we normally conceive of them, and “ideas we have about the nature of explanation are based on experiences we have with ‘normal’ explanation” (p. 1581). Returning to the instances of EXPLANATION that Raven and Dasgupta propose, in this case we lack reason to believe that explanation is irreflexive and that thus-and-so facts concerning the participants constitutively explain the occurrence of the conference.

Turning to the second horn, suppose instead that weak explanatory realism is true. Given separatism and strong grounding realism, in this case grounding and explanation are importantly different—the former is fully objective, while the latter isn’t. And this vitiates INFERENCE. As grounding and explanation aren’t analogous in this case, any (non-trivial) inference conforming to INFERENCE is unlicensed. According to Maurin if explanation is “mind-involving”, “pragmatic”, or “epistemic” while grounding instead is a “mind independently obtaining worldly relation”, then it’s not the case that “explanation having the properties it does... justifies our thinking that those are properties had by... grounding” (2019, pp. 1578–9). Returning to the instances of INFERENCE that Raven and Dasgupta propose, in this case explanation being irreflexive doesn’t give us reason to believe that grounding is irreflexive, and thus-and-so facts about the participants constitutively explaining the occurrence of the conference doesn’t give us reason to think that this is an instance of grounding.

So much for the rationale for the separatism premise. What is the rationale for the unionism premise? Grounding is fully objective (strong grounding realism). And, since grounding is explanation_G (unionism), it follows that explanation_G (the sense of explanation relevant to EXPLANATION) is fully objective as well: “...if grounding is a worldly relation which obtaining or not is an entirely mind-independent affair, and if grounding *is* (metaphysical) explanation, metaphysical explanation is a worldly and mind-independently obtaining relation as well (Maurin, 2019, 1579). But fully objective conceptions of explanation render explanation obscure to the point that (non-trivial) instances of EXPLANATION are unmotivated, as noted above.⁷

⁷ Provided that explanation in general is fully objective if explanation_G is fully objective, strong explanatory realism follows from explanation_G being fully objective. And if strong explanatory realism is true, then so too is minimal explanatory realism. In this case one of the starting assumptions (minimal explanatory realism) is entailed by the other (strong grounding realism) together with unionism.

3 A response to the challenge

How should we respond to the overall argument? If the unionism and separatism premises are true, then there are various combinations of views you might hold. One is to reject INHERITANCE and endorse strong grounding realism, weak explanatory realism, and either unionism or separatism (Maurin, 2019). Another is to reject strong grounding realism and endorse weak grounding and explanatory realism, INHERITANCE, and separatism or unionism (Dasgupta, 2017; Thompson, 2018). Still another is to reject minimal grounding realism and endorse minimal explanatory realism (Wilson, 2018).⁸ We, however, are going to pursue a different response.

3.1 Separatism and strong explanatory realism

Our focus is the separatism premise, and our view is that the first horn in the argument for this premise (strong explanatory realism is true) can be safely embraced. Here's our strategy: we first outline a version of weak explanatory realism that doesn't render instances of EXPLANATION unmotivated; then we outline a very similar approach to explanation that conforms to strong explanatory realism. The thought is that, if the former doesn't vitiate EXPLANATION, neither does the latter.

As will become clear below, our proposal appeals to the distinction between explanation per se and *good* or *successful* explanation.⁹ The version of strong explanatory realism we consider targets the former, and the overall idea is that the latter rather than the former is essentially subject involving. We should note that Thompson anticipates a response along these lines, claiming that good or successful explanation, but not explanation per se, is "apparent to us"—it's features of good or successful explanations, rather than features of explanations per se, that we're "aware of", so "...any useful connection between grounding and metaphysical explanation is a connection between grounding and an agent-relative notion of explanation" (2016, p. 398). The discussion below can be viewed as an attempt to show that Thompson is wrong on this score.

It will be helpful to begin with some general comments about how separatists might conceive of explanation. As we noted above, separatists claim that determination_G backs explanation. We also noted that it's desirable in this context to have a substantive characterization of the relevant notion of backing. A sensible way of understanding backing is in terms of *representation*—to back involves being represented.

⁸ If INHERITANCE is out, then an important question concerns what other general principles might guide our theorizing about grounding. Given separatism, one possibility is to appeal to principles corresponding to EXPLANATION and INFERENCE formulated in terms of determination rather than explanation. Audi (2012), for example, claims that, since determination (considered as a genus with determination_G as a species) is non-monotonic, so too is grounding. Relatedly, Audi appeals to something like the converse of INFERENCE: "Given that determination is... irreflexive and asymmetrical, it will be no surprise that explanation has these features if one job of explanations is to report underlying relations of determination" (2015, p. 211).

⁹ Skiles and Trogon (2019) float a similar proposal but don't develop it in any detail.

While there are perhaps different ways of proceeding here, we focus on a proposal according to which explanation is *doubly* representational. First, explanation is representational in the sense that the relata of explanation are propositions, where propositions themselves are understood to be representations. Second, explanation is representational in that at least part of what it is for $\langle p \rangle$ to explain $\langle q \rangle$ is for there to be an *explanatory model* whose representational content can be characterized in terms of set of propositions with $\langle p \rangle$ and $\langle q \rangle$ as elements that satisfies various conditions. These include conditions on what the content of the model might be (more on this below).¹⁰ Suppose that there is an explanatory model relative to which $\langle p \rangle$ explains $\langle q \rangle$, where each of these propositions represent facts. One way for this model (i.e., the explanation of $\langle q \rangle$ in terms of $\langle p \rangle$) to be backed by determination_G is for part of the model's content to be that one of these facts determines_G the other.¹¹

The version of weak explanatory realism that we will frame our discussion in terms of is what Kim (2010, p. 149) calls “explanatory realism”. While Kim doesn't explicitly talk about models, it's sensible to understand his proposal as saying that part of what it is to be an explanation is to be a model that meets at least two conditions. First, part of the content of the model is that particular *ontic relations* are instantiated. On one proposal, these relations include causal, nomic, and statistical relevance relations (Craver, 2019). Provided that determination_G is an ontic relation, this condition in effect bakes the tracking of grounding into the nature of explanation, given separatism. Second, when $\langle p \rangle$ explains $\langle q \rangle$ relative to a model, we (or perhaps idealized versions of ourselves) must stand in certain relations to the content of the model. One proposal is that the model's content must be *epistemically available* in that it can be “recognized, surveyed, or appreciated” (Woodward, 2003, p. 23). Call these the *ontic condition* and *subject condition*, respectively.

It's the subject condition that makes explanation so conceived not fully objective in the relevant sense of ‘fully objective’. Importantly, representations figuring into the nature of explanation is compatible with explanation being fully objective. To see why, note that representation plausibly figures into the nature of alethic properties like *being true*. Part of what it is to be this property is that such-and-such way of representing the world is true just in case the world is in fact how that representation depicts it. Alethic properties, however, are paradigmatic examples of fully objective phenomena in the relevant sense. The moral is that, while explanation essentially involving representation doesn't make it not fully objective, it being such that it essentially involves representations *that satisfy epistemic, psychological, pragmatic, or linguistic conditions* does.¹²

¹⁰ For discussions of models in the context of mechanistic explanation in the sciences, see Bechtel and Abrahamsen (2005) and Kaplan and Bechtel (2011).

¹¹ A proposition being part of the content of an explanatory model doesn't automatically require that the proposition itself be an element of that model. Hence, it may be that a model represents an instance of determination_G yet no proposition to the effect that this determines_G that is an element of the model.

¹² This isn't to say, however, that truth isn't importantly related to phenomena that aren't fully objective in our sense. As we noted earlier, knowledge is by its nature subject involving, as clearly part of what it is

Maurin points to Kim's version of weak explanatory realism as an approach that doesn't vitiate EXPLANATION—it's clear in this case "what saying of something that it is 'an explanation' is supposed to signal" (2019, p. 580). The thought is that separatists who endorse something like Kim's approach to explanation (e.g., Audi, 2012; Schaffer, 2016a; Trogdon, 2018) are in a position to make substantive and well-motivated claims about what explanation is like.¹³

Now we turn to the similar approach to explanation that instead is a version of strong explanatory realism. Our point of departure is the thought that we ought to distinguish between giving a theory of the *epistemology* of explanation and an *epistemic theory* of explanation, and that we might embrace the former project while rejecting the latter (Kitcher & Salmon, 1987). The following proposal conforms to this idea: while the ontic condition figures into the nature of *explanation*, the subject condition (which covers epistemic factors) doesn't; instead, this condition, along with the ontic condition, figures into the nature of *good* or *successful* explanation. While Kim's view is just about the nature of explanation, this view is about the nature of explanation *and* the nature of good or successful explanation. And it counts as a version of strong explanatory realism, for in this case explanation itself is thought to be fully objective.¹⁴

Illari (2013, p. 241) is particularly clear in distinguishing the project of providing a theory of explanation from that of providing a theory of good or successful explanation. Regarding explanation in the sciences, the later project concerns "the standards that we hold scientific explanations to, to make them good explanations", and the former the "norms or any other criteria [that] make something an explanation at all." While silent on the issue of what it is to be a scientific explanation, Illari does develop an account of what it is to be a good or successful scientific explanation. And the proposal has the same structure as the proposal we just set out: with respect to mechanistic explanation in the sciences in particular, to be a good or successful explanation is to be a model whose content is that particular causal mechanisms behave in certain ways (the ontic condition), where this model puts us in a position to understand, manipulate, and communicate how certain entities, activities, and their organization produce phenomena (the subject condition).

This is why these considerations are important: when we shift from Kim's take on explanation to the corresponding version of strong explanatory realism, we don't suddenly lose our footing in making judgments about the nature of explanation.

Footnote 12 continued

for someone to know $\langle p \rangle$ is that certain epistemic conditions are satisfied. Truth, itself something fully objective, is a necessary condition for knowledge, something which itself isn't fully objective.

¹³ Trogdon's (2018) discussion is framed explicitly in terms of models. Trogdon proposes that the models relevant to this form of explanation represent not only grounding relations but the more specific metaphysical relations (e.g., the determinate-determinable relation) holding between constituents of the grounded and what grounds them.

¹⁴ We assume that explanation is factive in the sense that any explanation is such that its explanans and explananda are true. Hence, good/successful explanations aren't merely true explanations, as all explanations are true. It's instead facts concerning subject involvement that determine whether an explanation is a good/successful explanation.

It's simply not credible to maintain that this version of strong explanatory realism renders explanation obscure—it doesn't turn explanation into some we-know-not-what. The claim that, say, explanation is irreflexive is apparently just as secure on this version of strong explanatory realism as it is on Kim's view. Hence, the first horn of the argument for the separatism premise seems to fail.

The strategy here is to start with Kim's approach to explanation, revise it so that the subject condition doesn't figure into the nature of explanation but rather something else near at hand, and then point out that the resulting conception of explanation doesn't render explanation obscure. It's worth noting that there are other ways of implementing this strategy as well. Following Skiles and Trogdon (2019), one appeals to the distinction between what is part of the nature of a *plurality* of things vs. what is part of the nature of any *individual* amongst this plurality.

Here is the idea. Although it's plausible to think that it's essential to Socrates and Plato *taken together* that they be distinct, it's implausible to think that it's essential to either Socrates or Plato *alone* that they be distinct, given that it's implausible to think that there are any essential truths about the one that concern the other (Fine, 1994, p. 54). Consider again the subject condition in Kim's approach to explanation. To fix ideas, let's understand the subject condition as follows: a model is an explanation only if its content potentially increases our understanding (Maurin, 2019, p. 1580). Call this version of the subject condition the *understanding condition*. Now compare the following claims: (i) the understanding condition is an essential truth about (it specifies part of the nature of) explanation; and (ii) this condition is an essential truth about explanation and understanding *taken together*. If the second claim is true while the first is false, explanation (for all we have said, anyway) is fully objective. After all, it's also an essential truth about understanding taken together with whatever fully objective phenomenon you choose—say, photosynthesis—that they are distinct. But the fact that understanding figures into an essential truth about understanding and photosynthesis taken together is obviously no reason for believing that photosynthesis isn't fully objective. Similarly, we say, in the case at hand. And the resulting conception of explanation, like last time, doesn't render explanation obscure, at least in the absence of further argument.

3.2 Separatism and weak explanatory realism

Given what we've said above, it's not necessary to show that we can also safely embrace the second horn of the argument (weak explanatory realism is true) for the separatism premise. But there are at least two reasons to question the idea that grounding (determination_G) being fully objective and explanation not being fully objective renders inferences conforming to INFERENCE unlicensed.

First, it's unclear why this difference with respect to objectivity should spoil the analogy between them. The thought, of course, can't be that *any* difference between grounding and explanation would do so, as the whole point of an argument from analogy is to provide support for the idea that qualitatively distinct phenomena are similar in some key respect.

Second, it may be that a general principle underlies the reasoning at issue with the second horn of the argument, one that would be clearly inappropriate to appeal to in this context. The principle we have in mind is a general prohibition against inferences moving from the not fully objective to the fully objective. This is clearly too blunt of an instrument, as it apparently rules out inferences from appearance to reality. Something has clearly gone wrong if our objection to the role that INHERITANCE plays in theorizing about grounding implicitly involves denying the possibility of perceptual knowledge!

We imagine that Maurin or Thompson might respond that, given weak explanatory realism and strong grounding realism, the real issue is why we should think that explanation and grounding are analogous in the first place. But if there is a demand here for a demonstrative argument, one whose premises have better epistemic credentials than its conclusion, it may be that the concern is misguided. As Cameron (2008) observes, if we're going to do metaphysics at all, we seem to have no choice but to begin with some principles for which no demonstrative arguments can be supplied. Perhaps we should treat the claim that explanation and grounding are analogous simply as a reasonable starting point for our theorizing about grounding.

Are there considerations, however, that support the claim that grounding and explanation *are* analogous, assuming that grounding is fully objective (strong grounding realism), while explanation isn't (weak explanatory realism)? We can think of two potential reasons. The first concerns the role that regimentation plays in theorizing about grounding.

It seems that the choice between regimentations of grounding discourse is in part a pragmatic affair—we should, all other things being equal, adopt whatever regimentation that is most useful to our theorizing. Grounding theorists initially conceive of grounding as being closely connected to explanation. It's therefore natural for them to develop regimentations of grounding discourse that codify and elucidate this connection—doing so clearly serves their theoretical interests given their starting point. So what? Well, provided that you think that F is an important feature of explanation (e.g., irreflexivity), it's therefore no surprise that grounding by your lights has F as well, as it's precisely this view about explanation that led you to work with a regimentation according to which grounding is F in the first place. So, guided by the idea that explanation is, say, asymmetric, we can imagine adopting a linguistic policy according to which a necessary condition for using the term 'grounding' correctly is that symmetric inferences (e.g., if A grounds B, then B grounds A) are never licensed. In this case, wondering whether grounding is closely tied to explanation is like wondering whether 'Proto-Indo-European' refers to a language from which the Indo-European languages split off, where the term was explicitly introduced to refer to such a hypostasized language.¹⁵

In this case, appeals to INHERITANCE aren't so much knowledge extending as they are indirect expressions of the choices we've made or are inclined to make concerning regimentation. This proposal, if true, would explain why Raven and

¹⁵ Thanks to an anonymous referee for this example.

others baldly assert claims of the form “Grounding is F because explanation is F” rather than provide arguments for such claims. They don’t offer arguments in this case because they’re merely describing grounding in a way that signals the structuring role that explanation plays in the regimentation of grounding discourse. In this case we can still think of INHERITANCE as a guide to ground—it’s just that the principle connects with the project of regimentation in way that it isn’t obvious on first inspection.

As the choice between regimentations of grounding discourse is in part pragmatic in nature, does the proposal above not vitiate the full objectivity of grounding? This depends on your general picture of the role that regimentation plays in the enterprise of metaphysics. One view is that there are many fully objective relations “out there” and our choices concerning regimentation simply allow us to home in on one in particular that is of interest to us. This view also comes in deflationary flavors, such as Thomasson’s (2015, Ch. 3) so-called ‘easy ontology’ approach with its liberal meta-semantics that near-guarantees that our relational predicates will select some relation or other. Another view is that there are no fully objective relations, there is just the matter of systematizing the way we talk about things.

The second potential reason to think that grounding and explanation are analogous, despite their difference with respect to objectivity, concerns the relationship between the evidence for positing grounding and the evidence for positing certain axioms that specify how grounding behaves. According to Schaffer (2016b), there are cases in which the evidence that supports a fundamental posit also supports the posit axiomatized in a certain way. For Schaffer, one such case of philosophical interest involves non-Humean laws of nature. The thought is that the evidence we have for non-Humean laws—roughly, inference to the best explanation for regularities in nature—also supports non-Humean laws outfitted with an axiom according to which they entail these regularities.

Perhaps something similar can be said in the case of grounding, as Schaffer himself suggests. While Schaffer focuses on the justification for axioms specifying different grounding connections (e.g., grounding between facts with determinate and determinable properties as constituents), we focus on a different idea. Why think that there is grounding in the first place? Given the separatist conception of grounding, you might think that our evidence for this posit consists in part from inference to the best explanation of the pattern of instantiation of a certain form of non-causal or constitutive explanation (perhaps what unionists identify as grounding). The explanandum in this case: why do *these* propositions non-causally explain *those*? Proposal: the best explanation is that the former represent facts that ground facts represented by the latter.¹⁶ And you might think that this evidence also supports grounding outfitted with certain axioms, ones that mirror axioms we already accept that describe the behavior of explanation. Were the formal features of grounding very different from those of explanation, the patterns of instantiation of grounding wouldn’t align with the patterns of instantiation of the relevant form of

¹⁶ Kovacs (2020) understands talk of backing in terms of explanation—he would see the claim that grounding facts explain certain explanation facts as a consequence of the claim that grounding backs explanation. This goes beyond our representational conception of backing.

non-causal or constitutive explanation. Returning to irreflexivity, the thought is that grounding being irreflexive is part of what enables grounding to do the explanatory work that it was invoked to do in the first place.

4 Implications: unionism and further issues

Above we attempted to undermine the rationale for the separatism premise in the general argument for the claim that explanation isn't a guide to ground given standard assumptions about grounding and explanation. In this section we trace out some implications of our discussion.

4.1 Unionism and minimal explanatory realism

We have articulated two versions of strong explanatory realism that don't vitiate EXPLANATION. Importantly, these approaches to explanation are representational in nature. And we noted that being representational doesn't make you not fully objective. Hence, one option available to unionists is to say that for some propositions to explain_G some proposition is for there to be an explanatory model including these propositions that satisfies the aforementioned ontic condition. In this case, grounding, as a form of explanation, is backed by various ontic relations such as set formation, the determinate-determinable relation, material constitution, and so on. Indeed, unionists might claim that grounding tracks *determination_G*, something that in their view the separatist wrongly identifies as grounding.

On these proposals, grounding itself is representational in nature, which is something that some unionists may wish to reject. According to defenders of the so-called ontic conception of explanation, there is a type of fully objective explanation that isn't representational in nature. Craver, for example, states that a causal explanation of this type is "a portion of the causal structure of the world" rather than an explanatory text describing this aspect of the world (2007, p. 27). Unionists of this stripe in effect adopt the ontic conception of explanation. For example, they might stipulate that explanation in general, and thus explanation_G in particular, is a relation between facts (entities without semantic properties) rather than propositions (entities with semantic properties).

Explanation on the ontic conception isn't obscure, so it doesn't render instances of INHERITANCE unlicensed. But, from the perspective of defending the usefulness of INHERITANCE, there is a drawback to working with the ontic conception in any case. To see why, let's return to causal explanation. On the ontic conception of causal explanation, causal explanation just is causation, where causation is understood to be non-representational in nature. Importantly, this just-is claim is intended to mark an asymmetry between the concepts of causal explanation and causation—the latter is prior to the former in that we're to understand causal explanation in terms of causation rather than the other way around. The general thought is that considering *causal explanation* under the guise "causation" is theoretically useful in a way that considering *causation* under the guise "causal explanation" isn't. In this case, causation is treated as a guide to explanation and not vice versa. Returning to

grounding, if unionists embrace the ontic conception of explanation_G, then they think that explanation_G just is grounding, where grounding is understood to be non-representational in nature. And this just-is statement is intended to mark a corresponding asymmetry—the concept of grounding is prior to the concept of explanation_G in that we’re to understand explanation_G in terms of grounding rather the other way around. The general thought is that considering *explanation_G* under the guise “grounding” is theoretically useful in a way that considering *grounding* under the guise “explanation_G” isn’t. In this case, grounding is treated as a guide to explanation and not vice versa.¹⁷

So it seems that unionists are better off working with a broadly representational approach to explanation. Some unionists, however, might insist that weak rather than strong explanatory realism is true, endorsing something like Kim’s view on explanation. Interestingly, it may be that unionists can coherently endorse strong grounding realism even in this case. How so? Well, we haven’t said much about the “by its nature” part of the stipulation that something isn’t fully objective when it is by its nature subject involving. Perhaps this claim is most plausible when read as targeting the intuitive, broadly Aristotelian notion of essence, what Fine calls “constitutive essence” in particular (1995, p. 281).¹⁸ Plausibly, essence so understood is itself a notion of explanation: what is part of the nature of something in some sense helps to explain what it is to be that very thing (Fine, 2015). Suppose that thought is correct. Then, as Skiles and Trogdon (2019) point out, from the fact that explanation_G is essentially subject involving, it doesn’t follow that grounding is too, *even if* grounding just is explanation_G. The reason is that explanatory language is generally agreed to be the sort that generates opaque contexts, since whether an explanation statement is true is sensitive to the way in which it represents the explanans and explanandum (Ruben 1992, p. 219). Yet the view under consideration is precisely that the “... is essentially subject involving” position in the sentence “Explanation_G is essentially subject involving” is sensitive to the sorts of factors that render explanatory contexts opaque in general. If this position in the sentence is opaque, you cannot validly infer that grounding is essentially subject involving even if explanation_G is and unionism is true. To do so would be to invalidly apply Leibniz’s Law within an opaque context.

4.2 Further issues

Let’s return to the conflation and coherence worries mentioned at the outset. As we see things, adopting the separatist framework straightforwardly addresses both concerns: there is no issue of conflation, as in this case we’re clearly distinguishing between grounding and explanation and the fully objective from the subject involving, and there is no issue of coherence either—in this case we aren’t saying,

¹⁷ A related concern posed by Wilson (2018, p. 504) is this: if the notions of grounding and explanation_G are quite close in meaning, the claim that grounding is explanation_G is uninformative, so we aren’t going to be able learn anything interesting about grounding that we didn’t already know by making the sorts of inferences that INFERENCE CONCERNS.

¹⁸ See Jenkins (2005) for related discussion.

for example, that something is both fully objective and not fully objective. And, drawing from our discussion above, we can see that unionists have various options available to them as well. One option, as we've seen, is to identify grounding with a form of explanation that is representational in nature. In this case, unionists can still coherently maintain strong grounding realism, as being representational doesn't make you not fully objective.

A final implication of our discussion concerns causal theorizing. In theorizing about causation, it's standard to assume that facts to the effect that this explains that obtain (minimal explanatory realism). It's also fairly standard to distinguish facts about what causes what from facts about how we come to know the causal facts or whether context contributes to the truth conditions of our causal judgments (strong causal realism).¹⁹ It's not unusual to appeal to principles corresponding to EXPLANATION and INFERENCE in making claims about the nature of causation. Schaffer (2012), for example, argues that, since causal explanation is contrastive in nature, so too is causation. What we've said about the interface between grounding and explanation plausibly applies to the interface between causation and explanation as well. So causal theorists who embrace strong causal realism, minimal explanatory realism, and appeal to a methodological principle corresponding to INHERITANCE don't have to worry about a corresponding argument adapted for the causal domain.²⁰

References

- Audi, P. (2012). Grounding: Toward a theory of the in-virtue-of relation. *Journal of Philosophy*, 109, 685–711.
- Audi, P. (2015). Explanation and explication. In C. Daly (Ed.), *The Palgrave Handbook of Philosophical Methods*. Palgrave Macmillan.
- Bechtel, W., & Abrahamsen, A. (2005). Explanation: A mechanist alternative. *Studies in History and Philosophy of Science Part C: Studies in History and Philosophy of Biological and Biomedical Sciences*, 36, 421–441.
- Bernstein, S. (2018). Causal idealism. In T. Goldschmidt & K. Pearce (Eds.), *Idealism: New Essays in Metaphysics*. Oxford University Press.
- Bliss, R. (2018). Grounding and reflexivity. In R. Bliss & G. Priest (Eds.), *Reality and Its Structure: Essays in Fundamentality*. Oxford University Press.
- Cameron, R. (2008). Turtles all the way down: regress, priority and fundamentality. *Philosophical Quarterly*, 58, 1–14.
- Craver, C. (2007). *Explaining the Brain*. Oxford University Press.
- Craver, C. (2019). Idealization and the ontic conception: A reply to Bokulich. *The Monist*, 102, 525–530.
- Dasgupta, S. (2014). The possibility of physicalism. *The Journal of Philosophy*, 111, 557–592.

¹⁹ For a notable exception to strong causal realism, see Price (2005), see also Bernstein (2018) for related discussion.

²⁰ We presented earlier versions of this paper at William and Mary (Spring 2018), University of Glasgow (Spring 2018), University of Gothenburg (Spring 2018), Umeå University (Summer 2019), Rutgers University, Newark (Summer 2019), Università della Svizzera italiana (Fall 2019), and the University of Geneva (Fall 2021). We wish to thank our audience members for their feedback. And special thanks are due to Fabrice Correia, David Kovacs, Anna-Sofia Maurin, Robin Stenwall, Elanor Taylor, Naomi Thompson, and an anonymous referee from this journal for their helpful comments.

- Dasgupta, S. (2017). Constitutive explanation. *Philosophical Issues*, 27, 74–97.
- Fine, K. (1994). Essence and modality. *Philosophical Perspectives*, 8, 1–16.
- Fine, K. (1995). Ontological dependence. *Proceedings of the Aristotelian Society*, 95, 269–290.
- Fine, K. (2015). Unified foundations for essence and ground. *Journal of the American Philosophical Association*, 1, 296–311.
- Illari, P. (2013). Mechanistic explanation: Integrating the ontic and epistemic. *Erkenntnis*, 78, 237–255.
- Jenkins, C. S. (2005). Realism and independence. *American Philosophical Quarterly*, 42, 199–209.
- Kaplan, D. M., & Bechtel, W. (2011). Dynamical models: An alternative or complement to mechanistic explanations? *Topics Cognitive Science*, 3, 438–444.
- Kim, J. (2010). Explanatory realism, causal realism, and explanatory exclusion. In *Essays in the Metaphysics of Mind*. Oxford University Press.
- Kitcher, P., & Salmon, W. (1987). Van Fraassen on explanation. *Journal of Philosophy*, 84, 315–330.
- Kovacs, D. (2020). Four questions of iterated grounding. *Philosophy and Phenomenological Research*, 101, 341–364.
- Kovacs, D. (2019). The myth of the myth of supervenience. *Philosophical Studies*, 176, 1967–1989.
- Litland, J. (2015). Grounding, explanation, and the limit of internality. *Philosophical Review*, 124, 481–532.
- Maurin, A.-S. (2019). Grounding and explanation: It's complicated. *Philosophical Studies*, 176, 1573–1594.
- Price, H. (2005). Causal perspectivalism. In H. Price & R. Corry (Eds.), *Causation, Physics and the Constitution of Reality: Russell's Republic Revisited*. Oxford University Press.
- Raven, M. (2013). Is ground a strict partial order? *American Philosophical Quarterly*, 50, 193–201.
- Raven, M. (2015). Ground. *Philosophy Compass*, 10, 322–333.
- Rosen, G. (1994). Objectivity and modern idealism: What is the question? In M. Michael & J. O'Leary-Hawthorne (Eds.), *Philosophy in Mind*. Kluwer.
- Rosen, G. (2010). Metaphysical dependence: grounding and reduction. In R. Hale & A. Hoffman (Eds.), *Modality: metaphysics, logic, and epistemology*. Oxford University Press.
- Ruben, D. (1992). *Explaining Explanation*. Routledge.
- Schaffer, J. (2009). On what grounds what. In D. Chalmers et al. (Eds.), *Metametaphysics*. Oxford University Press.
- Schaffer, J. (2012). Causal contextualism. In M. Blaauw (Ed.), *Contrastivism in Philosophy: New Perspectives*. Routledge.
- Schaffer, J. (2016a). Grounding in the image of causation. *Philosophical Studies*, 173, 49–100.
- Schaffer, J. (2016b). It is in the business of laws to govern. *Dialectica*, 70, 577–588.
- Skiles, A., & Trogdon, K. (2019). Maurin on grounding and explanation. In T. Wahlberg & R. Stenwall (Eds.), *Maurinian Truths*. Lund University.
- Thomasson, A. (2015). *Ontology Made Easy*. Oxford University Press.
- Thompson, N. (2016). Grounding and metaphysical explanation. *Proceedings of the Aristotelian Society*, 116, 395–402.
- Thompson, N. (2018). Irrealism about grounding. *Royal Institute of Philosophy Supplements*, 82, 23–44.
- Thompson, N. (2019). Questions and answers: Metaphysical explanation and the structure of reality. *Journal of the American Philosophical Association*, 5, 98–116.
- Trogdon, K. (2013). An introduction to grounding. In M. Hoeltje et al. (Eds.), *Varieties of Dependence*. Philosophia Verlag.
- Trogdon, K. (2018). Grounding-mechanical explanation. *Philosophical Studies*, 175, 1289–1309.
- Wilson, J. (2018). Grounding-based formulations of physicalism. *Topoi*, 37, 495–512.
- Woodward, J. (2003). *Making Things Happen*. Oxford University Press.

Publisher's Note Springer Nature remains neutral with regard to jurisdictional claims in published maps and institutional affiliations.