Contingent Grounding

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Some facts are grounded in others. Here are some examples:

(1) According to the divine command theory, the fact that Sally's act is right is grounded in the fact that every god commanded it.
(2) What made the event a party was that it contained balloons, beverages, and talking persons...
(3) The symphony is repetitive because the main theme occurs 11 times only ever separated by brief appearances of the other themes...
(4) The napkin is square in virtue of being rectangular and equilateral.
(5) I have reason to lend my friend a book if she asks for it because I promised to do so.

The simplest way of understanding such cases is to treat grounding as a relation between facts.[1] Let "[p]" abbreviate "the fact that p". Then (4) is understood as:

> (4') [The napkin is square] is grounded in [the napkin is rectangular] together with [the napkin is equilateral].

Distinguish <u>partial</u> from <u>full</u> grounding. In (4), [the napkin is rectangular] and [the napkin is equilateral] together fully ground [the napkin is square]; they are each partial grounds. A partial ground is a part of a full ground.[2] Full grounding is undefined.

Full grounding is variably polyadic on the left: several facts together ground one. (Often, I will pretend that it is a set of facts that fully grounds another fact. I'll also say that multiple facts <u>together</u> fully ground another; to indicate this I'll use a "+": "A + B ground C".) A full ground of some fact B needn't contain <u>all</u> of B's partial grounds; there can be multiple full grounds. In (5), I have reason to lend my friend the book because I promised to. But

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[1] What facts are is unimportant, so long as they're fine-grained enough. In particular, modally equivalent facts should not be identified. Facts might be parts of the world, or true Russellian propositions. Alternatively, we could understand grounding as a sentential connective (Fine 2012).

[2] Following Foster (1982, pg. 5), Rosen (2010), and Fine (2012). Foster uses the term "logical sustainment", but it is clear that he is talking about grounding. See Balcarras ms for discussion.

suppose the book contains medical information crucial to saving her life; then I also have reason to lend it because it would save her life.

The five examples of grounding are diverse. (1) is a case of "rightmaking"; (4) defines squareness. Some philosophers have wondered whether grounding is unified. Are (1) - (5) really examples of the same phenomenon? To answer this, philosophers have tried to find features common to all cases of grounding.

First, full grounding is supposed to be an "explanatory" relation.[3] In (5), [I promised to lend my friend the book] explains why I have reason to lend it to her. Second, full and partial grounding are often taken to be reflexive, symmetric, and transitive, though this is controversial.

Third, full grounding is often thought to be necessary. Distinguish two theses:

Necessitation: grounds always necessitate what they ground.
> More precisely: given some set of facts X, if it's possible that X fully grounds B, then necessarily, if everything in X obtains, then B obtains.

Internality: grounding is never contingent.
> More precisely: if it is possible that X fully grounds B, then necessarily, if B obtains and everything in X obtains, then X fully grounds B.

Both theses are popular, though controversial. Many philosophers endorse both, including Bennett (2011), Rosen (2010), Audi (2012), and Bernstein (2016).[4]

I think Necessitation is most likely true. In Section I, I explain why I think so. Internality, by contrast, is false, and its falsity is significant. Section II introduces Internality, and in Section III I provide a counterexample. The remaining sections explore the consequences of rejecting Internality. In Section VI, I give a new theory of what grounds grounding.

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[3] Some say grounding is a kind of explanation (Fine 2012); others, (Schaffer 2016) say it backs explanations.
[4] Trogdon (2013), Foster (1982), and Fine (2012) endorse Necessitation.

I. Do Grounds Necessitate?

Several philosophers have given putative counterexamples to Necessitation.[5] In this section, I explain how I think necessitarians should respond to them, and why I still accept Necessitation. I won't try to show that the counterexamples definitely fail. They deserve a treatment more in-depth than mine. My treatment aims not to rebut them, but to contrast their force with that of my counterexamples to Internality. I want to show how defending Internality is harder than defending Necessitation.

The Book (again)

Consider (5). I have reason to lend my friend a book because I promised to. But my promising doesn't necessitate that I have reason to lend it to her. Perhaps I promised only because I was forced to at gunpoint. Or perhaps I was hypnotized into promising, or I mistook her for someone else. Then it's only because I wasn't under duress, hypnosis, etc., that my promise gives me reason to lend the book.

Here's another example. Alexander Skiles (2015) argues that the grounds of restricted quantificational facts don't necessitate them. For instance:

Roger's Students

Roger's students are Kevin, Ginger, and Nicole, and each is wise. [Roger's students are all wise] is grounded in [Kevin is wise] + [Ginger is wise] + [Nicole is wise].[6] More generally [all Fs are G] is grounded in [a is G] + [b is G] + ... where a, b... are exactly the Fs.

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[5] See Leuenberger (2014), Skiles (2015), and Chudnoff (ms). The promising example is inspired by Dancy (2004, pg. 39-40).

[6] I distinguish the restrictedly quantified fact [Roger's students are all wise] from the unrestrictedly quantified fact [everything is such that if it is one of Roger's students, then it is wise]. The latter is partially grounded in its instances, such as [if Kevin is Roger's student, then he is wise]. The former is not; it is grounded only in its instances (and then in their grounds), such as [Kevin is wise]. Skiles and others appear to focus on $[\forall x(Fx \supset Gx)]$ (although they sometimes refer to it using the name "[all Fs are G]"). I focus on restrictedly quantified facts; this will be important later.

But imagine a possible world where Roger has another student, Tony, who is not wise. Then not all of Roger's students are wise. In the actual world, it's only because <u>Roger has no students besides Kevin, Ginger, and Nicole</u> that the wisdom of the three of them makes it the case that Roger's students are all wise. So, as Skiles points out, this view of the grounds of restricted generalizations entails that Necessitation is false.

In both <u>The Book</u> and <u>Roger's Students</u>, a set of facts X appears to fully ground B without necessitating B. But if X grounds B in one world, but fails to ground B in another world, then there must be some reason for this difference. In both examples, there is a "difference-maker". (I have indicated these facts by underlining.) In <u>The Book</u>, my telling my friend I'll lend her the book gives me reason to do so only because I wasn't under duress, etc. Call such a difference-maker an "enabler". [Roger's students are all wise] is grounded in [Kevin is wise] + [Ginger is wise] + [Nicole is wise], <u>enabled by</u> [Roger has no students other than Kevin, Ginger, and Nicole]. The following is true of enablers:

> <u>Necessitation*</u>: If X grounds B, enabled by some set of facts E, then necessarily, if all the facts in X and E obtain, then B also obtains.[7]

But then why not just add the enablers to the ground? Why not think that [Roger has no students other than Kevin, Ginger, and Nicole] is part of the ground? Why not think that [I

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[7] Higher-order enabling might be a counterexample to Necessitation*. A second-order enabler, for instance, would explain why E enabled X to ground B, without enabling X to ground B. Then perhaps B is not necessitated by X + E. But B <u>is</u> necessitated by X + enablers of all orders. We could define grounding+ by including grounds and enablers of all orders; grounds+ (so defined) necessitate what they ground+.

Call someone a <u>radical</u> antinecessitarian if they deny even <u>this</u>—if they think that grounds + enablers of all orders don't always necessitate. Then my move of defining up a new relation of grounding+ will not work. Ryan Wasserman (2017) defends the coherence of radical antinecessitarianism. Not many philosophers clearly commit themselves to radical antinecessitarianism. One who does is Nina Emery (forthcoming). She claims that chancy laws fully ground their instances. For instance, A = [it is a law that an event of type T has a 75% chance of occurring] could ground B = [an event of type T occurred], even though A doesn't necessitate B, and there are no facts that plausibly could be treated as enablers (of any orders) that could, together with A, necessitate B. Karen Bennett (2017, pg, 54) argues, roughly, that the debate between necessitarians and <u>nonradical</u> antinecessitarians is not a deep one. She rejects radical antinecessitarianism.

wasn't under duress] + [I wasn't under hypnosis] etc. is part of the ground of [I have reason to lend my friend the book]?

More generally, the necessitarian can define a new relation "grounding+" that includes both grounds and enablers. Say that a set of facts, X, is a <u>full ground+</u> of B iff X has subsets X_1 and X_2, such that $X_1 \cup X_2 = X$, and X_1 fully grounds B, enabled by X_2. (These sets could be empty.) Necessitation* entails that if X grounds+ B, then X necessitates B. So even if grounds don't necessitate, grounds+ do. Then the necessitarian can use grounding+, ignoring what the antinecessitarian calls "grounding".

This shows that both sides must agree that necessitarianism is true of <u>some relation</u> that may deserve the name "grounding". But it doesn't end the debate, or show that it is merely verbal. For the antinecessitarian will maintain that there is an important divide between "genuine" partial grounds and enablers, while the necessitarian will deny this. The necessitarian will view the antinecessitarian as simply honoring some more notable or salient partial grounds with the name "genuine ground". There is also another possible disagreement: the antinecessitarian will deny that grounding+ is an interesting or joint-carving relation, and may refuse to call it "grounding".

Here it becomes harder to make progress. It is an open question whether the distinction between enablers and grounds is deep, and to answer it, I would need to consider Skiles' and Leuenberger's arguments in detail. But one thing I can say is that the grounds/enablers distinction probably cannot be drawn in independent terms. If we could find some <u>differentia</u>, already thought to carve at reality's joints, that divides grounds+ into genuine grounds and enablers, then we could conclude that the distinction is itself joint-carving. But I doubt there is any such differentia.

Consider a parallel debate about causation. Suppose I'm in a normal room full of air. I strike a match, causing it to light. The match's lighting counterfactually depends on the presence of oxygen, and also on the striking: if I hadn't struck the match, it wouldn't have lit, and if there hadn't been oxygen in the room, it wouldn't have lit either. Despite this counterfactual symmetry, it is plausible that the presence of oxygen isn't a cause. Instead, it is a mere background condition that helps my striking the match to cause it to light. In general, causes in some broader sense ("causes+") seem to divide into genuine causes and background conditions.

But is this distinction a deep one? There is one reason to think it might be. Many philosophers recognize a deep distinction between <u>events</u> and <u>states</u>. My stroll through a park is an event, while my being in a park is a state. Is it sometimes thought that states cannot be causes; in Judith Thomson's words, "a state of affairs lies there, placidly and quietly", causing nothing.[8] Causes must be events; states can only be background conditions. This would explain why my striking the match is a genuine cause, while the presence of oxygen is not. My striking the match is an event, whereas the presence of oxygen is a state. So there is a deep distinction between causes and background conditions. They differ in ontological category: causes are events, not states.[9]

Return to grounding. There is no analogous rationale we could give for distinguishing enablers from grounds.[10] Grounds, like enablers, are facts; they do not differ in ontological category. Nor is there any other obvious differentia that separates genuine grounds from enablers. This makes me more skeptical of the grounds/enablers distinction than the causes/background conditions distinction.

Let me end this section with one last (purported) counterexample to Necessitation, from Leuenberger (2014). This example will also be relevant in the next section.

<u>Chromaplasm</u>

World A, the actual world, is a physicalist world in which I have a red experience. Suppose that physicalism entails that every ungrounded fact is physical. Then [I have a red experience] is fully grounded in some set X of ungrounded physical facts. World B is <u>physically</u>

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[8] Thomson (2003)

[9] Bradford Skow (forthcoming, chapter 2) defends this view at length. I do not actually endorse it. I worry that this way of drawing the cause/background condition distinction may not be very helpful or informative. Consider a state that, but for its status as a state, we would rightly have classified as a partial cause. Plausibly, there is some event that could take over the state's role as a partial cause. In the match example, even though the <u>presence</u> of oxygen cannot be a cause, the <u>circulation</u> of oxygen can. But if the circulation can take over as the partial cause, then there is no need to count the presence of oxygen as a background condition after all.

[10] In a particular case, there may be some deep difference between the grounds and enablers. For instance, the grounds of a particular quantificational fact might all be non-quantificational, while the enablers might all be quantificational. But there isn't any <u>general</u> difference between grounds and enablers; there's no interesting property that grounds all enjoy and enablers all lack.

exactly the same as A, but my brain is infused with "chromaplasm", a nonphysical substance which "blocks" my having a red experience, so I no longer have a red experience in world B. Then X does not necessitate [I have a red experience], since the former obtains in world B while the latter does not. But by hypothesis, X grounds [I have a red experience] in world A. So (according to Leuenberger) this is a counterexample to Necessitation.

Here the enabler is some totality fact that rules out the existence of chromaplasm in world A, guaranteeing that A is a physicalist world. I claim that the ground, X, should already include this totality fact. Then X does not obtain in world B, and so chromaplasm isn't a counterexample to Necessitation.

Leuenberger will object that this totality fact is not a physical fact, so it cannot be an ungrounded fact in world A (since A is a physicalist world). Then the totality fact does not belong to X, since eveything in X is ungrounded. I am not sure whether to count a totality fact in a physicalist world as a physical fact.[11] But if we do not count it as a physical fact, then we should take physicalism to require only that all ungrounded facts besides totality facts are physical facts. Then there is no problem with saying that a totality fact is part of X.

II. Internality

Internality is the thesis that grounding is not contingent: if A grounds B, then any world where A and B obtain is a world where A grounds B. Leuenberger (2014) and Litland (2015) have given (purported) counterexamples to Internality, and so will I in the next section. But given that they have already provided counterexamples, why am I looking for another?

First I'll present Leuenberger's (2014) example. It builds on Chromasplasm (presented in the previous section).

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[11] Plausibly it is physical, since it will say something like "every ungrounded fact is identical to F or to G or to H …" where F and G and H … are all physical facts. All its constituents—some physical facts, the property of being a ungrounded fact, a universal quantifier, identity, and disjunction—are at least arguably physical. And a fact with only physical constituents is physical too. But it is not totally clear, because someone might wonder whether the property of being a ungrounded fact is physical. By contrast, a totality fact in a nonphysicalist world is clearly nonphysical.

Antiplasm

World A is a physicalist world where I have a red experience. So in A, [I have a red experience] is grounded in some set X of ungrounded physical facts. World B is physically the same as A, but my brain is infused with "chromaplasm", blocking my red experience. The new part: world C is exactly like world B, except that there is a further nonphysical substance, "antiplasm", which negates the chromaplasm, so that I have a red experience after all. In world A, [I have a red experience] is fully grounded in X. In world C, X obtains, and [I have a red experience] is grounded in X + [my brain is infused with chromaplasm] + [my brain is infused with antiplasm]. So worlds A and C are supposed to provide a counterexample to Internality. [I have a red experience] and X all obtain in both A and C, yet X has a different ground in C.

My problem with this example is that it crucially relies on the thesis that X fully grounds [I have a red experience] without necessitating it. I suggested earlier that this is false—that X must include a totality fact that rules out the existence of antiplasm. If I'm right about that, then the example does not work. For a totality fact in world A does not obtain in world C. So if X contains some totality fact in A, then X cannot obtain in C.

Here's another way to explain why I am not satisfied by the example. Antiplasm, at best, shows that Internality is false when applied to nonnecessitating grounding. It does not show that Internality is false for grounding+. To spell this out: Antiplasm leaves the following thesis untouched:

Internality for Grounding+: If: it is possible that X fully grounds B, enabled by E, then: necessarily, if B and E obtain, and everything in X obtains, then X fully grounds B, enabled by E.

I think grounding+ is an interesting relation. So I want to look for counterexamples to Internality for Grounding+.

Now for Litland's (2015) counterexample. It is a very complicated example involving nonparadoxical contingent self-reference—too complicated to present here. I think it simply succeeds; it is a counterexample to Internality. (And it is also a counterexample to Internality for Grounding+.) Still, Litland's example has some undesirable features: it is an extremely isolated case; it crucially relies on contingent self-reference and on controversial (though, I think, correct) assumptions about the grounds of logically complex facts in the presence of

self-reference. These are not good reasons to maintain Internality in the face of Litland's counterexample. But they are good reasons to look for counterexamples that lack these undesirable features, and to look for a more general pattern of contingent grounding.

Despite Leuenberger's and Litland's attacks on Internality, it remains a very popular thesis among grounding theorists. Why is it so attractive? I can think of two reasons.

First, Internality follows from some attractive theses about patterns of grounding. In (4), my napkin is square because it is equilateral and rectangular. The same goes for all square objects. My picture frame too is square because it is equilateral and rectangular. Or consider a canary. She is colored because she is yellow, and so is anything else that is yellow. One might think that grounding follows patterns that are sensitive to the properties involved, but not to the individuals involved. Here's a way of capturing this idea. Call a property "qualitative" if it concerns no individuals. Being yellow and being near a town are qualitative; being Australian and being Susan's friend are not.

> Qualitativism: If: F and G are qualitative, and possibly for some x, [x is F] grounds [x is G], then: necessarily, for any y, if y is F, then [y is F] grounds [y is G].

For instance, if it's possible that something is colored because it is yellow, then necessarily, anything yellow is colored because it is yellow.

Qualitativism is an appealing and popular thesis.[12] And it entails a restricted version of Internality—namely, that grounding is noncontingent between facts of the form [a is F] and [a is G] (where F and G are qualitative). The plausibility of Qualitativism appears to support this restricted version of Internality. Perhaps Qualitativism can somehow be generalized so that it entails Internality in its unrestricted form. If so, this would support Internality.

Surprisingly, Qualitativism is false. Here is a counterexample. Say that an adjective is homological just if it applies to itself. The adjective "polysyllabic" applies to itself because it is polysyllabic. The fact that "polysyllabic" is polysyllabic grounds the fact that it is homological. But the fact that the word "alive" is polysyllabic does not ground its being homological ("alive"

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[12] Paul Audi (2012), Wilsch (2016), and Rosen (2010) all say things along the lines of Qualitativism.

is not alive). Being polysyllabic and being homological are both qualitative properties, so this is a counterexample to Qualitativism.[13]

Interestingly, this is also a counterexample to several principles related to Qualitativism. Tobias Wilsch (2016, pg. 4) endorses:

Generalization: For qualitative properties F and G, if there is some x such that [x is F] grounds [x is G], then necessarily all Fs are G.

And Rosen (2010) endorses:

Formality: Whenever A grounds B, there exist "propositional forms" (e.g. disjunctive form) ϕ and ψ such that (i) A is of the form ϕ; B is of the form ψ; and (ii) For all propositions p, q: if p is of the form ϕ and q is of the form ψ and q is true, then [p] grounds [q].

["Polysyllabic" is polysyllabic] grounds ["polysyllabic" is homological], while ["alive" is polysyllabic] does not necessitate that "alive" is homological, so this is a counterexample to Generalization. And ["polysyllabic" is polysyllabic] and ["alive" is polysyllabic] are of the same propositional form, as are the proposition that "polysyllabic" is homological and the proposition that "alive" is homological. So this is a counterexample to Formality.

Back to Internality. As far as I can see, there is no correct principle that both captures grounding patterns and entails Internality (or even a restricted version of Internality). But this does not show that Internality is false. The homological example shows that grounding is

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[13] "Polysyllabic" and "homological" are interpreted words; they have their meanings essentially. Also note that we could weaken Qualitativism to avoid the counterexample:

Weak Qualitativism: If F and G are qualitative, and possibly: for some x, [x is F] grounds [x is G], then: necessarily, for any y, if y is F and G, then [y is F] grounds [y is G].

Weak Qualitativism still entails the restricted version of Internality. And "alive" isn't a counterexample to Weak Qualitativism, since "alive" is not homological. New counterexample: "polysyllabic" is homological because it is polysyllabic, and "English" is polysyllabic and homological (since it is an English word), but it's not homological in virtue of being polysyllabic.

sensitive to individuals, not just qualitative properties. It does not directly threaten Internality; it merely undermines an apparent reason for believing Internality.

Let me flag a second reason to think that Internality is true. A big question in the grounding literature is "what grounds grounding?" What grounds facts of the form [X grounds B]? As far as I know, every attempt to answer this question has assumed that Internality is true. If Internality is false, then all the views about what grounds grounding are false. I will accept this consequence; I address this in Section VI.

Now for my counterexample to Internality.

III. A Counterexample to Internality

Fire or Hold?[14]

Private is a soldier. His two superiors are Sergeant and General. Private's orders are whatever the highest ranking officer has commanded. There are two possible commands: *fire!* and *hold fire!* (or just "hold"). Sergeant and General each have a lever. By pushing forward, they command Private to fire; by pushing backwards, they command him to hold. They cannot issue two commands, but can refrain from issuing a command.

General commands nothing, while Sergeant commands Private to fire. Then Private's orders are to fire because Sergeant commanded him to fire and General didn't command him to hold. (There are other partial grounds too—facts about the chain of command. But these may safely be ignored.)

Now imagine a world where Sergeant and General both command Private to fire. Then General's command is the ground—the sole ground—for the fact that Private's orders are to fire. Sergeant's command is irrelevant.

This is a counterexample to Internality. Although [Sergeant commands Private to fire] + [General doesn't command Private to hold] actually ground [Private's orders are to fire], they do not necessarily ground it. Notice that the example doesn't threaten Necessitation.

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[14] The example is inspired by Lewis (2000).

[General didn't command Private to hold] and [Sergeant commanded him to fire] necessitate [Private's orders are to fire].

Let us consider some attempts to defend Internality.

Objection A: Even in the scenario where General commands Private to fire, Sergeant's command to fire also grounds [Private's orders are to fire]. There are two independent full grounds. So the grounding is necessary after all.

Reply to A: This underestimates General's authority. Once he gives a command, Sergeant's commands have no more weight than those of a random person on the street. If General commands Private to fire, then Private's orders are to fire regardless of what Sergeant does. It is simply not true that Sergeant's command to fire explains why Private's orders are to fire.

Objection B: There is more to the ground than we might have thought. Private's orders are to fire because Sergeant commanded him to and because General didn't command him to hold or to fire. Then in the counterfactual scenario, the ground doesn't obtain. General does command him to fire in that scenario.

Reply to B: This cannot be right. How could it be that Private's orders are to fire in part because General didn't command him to fire?

Objection B2: We must understand partial grounding properly. Partial grounds need not each make a "*pro tanto* contribution" to the grounding.[15] They are just parts of full grounds. Full grounds are explanatory; partial grounds need not be explanatory when considered in isolation. So we can include [General didn't command Private to fire] as a partial ground.

Reply to B2: This misses the point. The problem is that if we include [General didn't command Private to fire] as part of the full ground, we end up with a worse explanation. The [General didn't command Private to fire] is not needed or wanted as part of the explanation of

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[15] Berker (2018) uses this phrase. Objection B2 is analogous to what Berker and Litland (2013) each say about Schaffer's (2012) dented sphere. Their responses to that example are more plausible than the present objection to my counterexample.

why Private's orders were to fire. Not needed because [Sergeant commanded Private to fire] + [General didn't command him to hold] (+ some further partial grounds about the army's chain of command) is already a complete explanation. Not wanted because it is especially bad to add to this explanation that General didn't command Private to fire. Objection B takes an alternative way that the grounded fact could have been grounded, and arbitrarily adds to the ground the fact that it didn't pan out. This is an ad hoc and implausible addition.

Objection C: Fair enough. Here is a subtle modification: Private's orders are to fire because Sergeant commanded him to and because General didn't command Private to do anything.

Reply to C: This is is still ad hoc. Why give an unnecessarily strong explanation? Why not just include [General didn't command Private to hold], rather than [General didn't command Private to do anything]?

There's also another problem for Objection C. [General didn't issue any commands] is a negative existential fact. Like other negative existential facts, it is grounded in its instances.[16] One of its instances is [General didn't command Private to fire]. By the transitivity of partial grounding, the suggestion in Objection C still commits us to saying that Private's orders are to fire in part because General didn't command him to fire.

Objection C2: This reply assumes that partial grounding is transitive. We already know about (apparent) failures of transitivity from Schaffer (2012). Consider a dented sphere, O, with determinate shape S. O is at least roughly spherical because it has shape S. And O has shape S in part because it is dented. But plausibly, O isn't roughly spherical because it is dented. If anything, the dent "makes it harder" for O to be roughly spherical. Now there is a dilemma. If we reject transitivity, then the Reply to C does not work. Alternatively, we could keep transitivity, maintaining that O is roughly spherical partly because it is dented. But then why not say the same about our case? [General doesn't command Private to fire] partially grounds [Private's orders are to fire].

Reply to C2: I am still convinced that [General doesn't command anything] is not a partial ground. But there is no need to insist on this. We can modify the example, so that there's a third kind of command that General can give, and he does give it. That way it won't

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[16] This is a popular view of the grounds of negative existentials; see Fine 2012 for instance.

even be <u>true</u> that he doesn't issue any command. So then there will no such fact as [General didn't issue any commands] that might be thought to partially ground [Private's orders are to fire].

Fire or Clean?

As before, Sergeant and General have levers that can be moved forward for *fire!* or backward for *hold fire!*, or left in the middle to issue no command. And as before, if General commands Private to fire or to hold fire, then Sergeant's command is ignored. But General can simultaneously give Private a new command—to clean his rifle, so long as his orders aren't to fire. If General commands Private to clean his rifle, but Sergeant commands him to fire, then General's command is ignored. General gives this command by moving his lever upward. He can simultaneously move his lever upward and back, to also command Private to hold fire, or just upward. But the lever cannot go upward and forward; it's not possible to clean your rifle while firing it, so General's lever is built so he cannot command both cleaning and firing. So General's lever has five possible positions. Sergeant's lever does not go upward; it has only the three original positions (his command center has not yet received the recent upgrades).

Now imagine that General moves his lever upward, commanding Private to clean his rifle, while Sergeant moves his lever forward, commanding Private to fire. Then Private's orders are to fire because Sergeant commands him to fire and General doesn't command him to hold. As before, the fact that General doesn't command Private to fire is irrelevant.

Consider a world where General and Sergeant both command *fire*. Then Private's orders are to fire because General commanded *fire*. As before, Sergeant's command is not a ground. Sergeant's command is irrelevant; any command he issued would rightly be ignored. So the responses in Objections A and B are just as bad applied to this case (Fire or Clean?) as they are to the original case (Fire or Hold?). And the response in Objection C doesn't work, since General does issue a command.

IV. Ennoblers: Examples

I've defended the counterexample from some objections. Now I will diagnose what's going on. Consider [General doesn't command Private to fire]. This fact cannot be part of the ground. But what exactly is its role? Hold fixed that [Sergeant commands Private to fire] and

[Private's orders are to fire] obtain. Then [General doesn't command Private to fire] is the difference-maker for whether the latter grounds the former. It explains how [Sergeant commands Private to fire] + [General doesn't command Private to hold fire] got to be a ground, rather than a mere possible ground. Call such a difference-maker an "ennobler".[17] [General didn't command Private to fire] ennobles [Sergeant commands Private to fire] + [General doesn't command Private to halt], bestowing upon it the status of ground. An ennobler does not explain the grounded fact, but rather the fact that the ground is a ground. This is a rough gloss of "ennobler", not a definition. I define "ennobler" later.

To clarify what ennoblers are, I'll go through some examples. Each is also an example of contingent grounding.

Don't Litter

Boston local law says *don't litter*. Massachusetts state law says nothing about littering. Massachusetts law overrides local law whenever they conflict. To use the legal term, local law is "preempted". So littering is illegal in Boston because local Boston law says *don't litter* and Massachusetts law doesn't say *you may litter*.

Counterfactual scenario: Massachusetts law also says not to litter. Then it's [Massachusetts law says not to litter] that grounds [littering is illegal in Boston]. Local law is irrelevant.

In the actual scenario, [Massachusetts law doesn't say *don't litter*] ennobles [Boston local law says *don't litter*] and [Massachusetts law doesn't say *you may litter*] to ground [littering is illegal in Boston].

Now an epistemological case:

Jack and God

When it comes to metaphysics, Jack almost always speaks truly. So if he tells me something about metaphysics, I have reason to believe it. But I know Jack's secret. Jack is reliable because he (and he alone) confers with God, the ultimate authority on metaphysics.

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[17] I borrow the term from Yablo (2004).

Now, suppose that Jack tells me that persons have free will. This gives me reason to believe in free will. [I have reason to believe that persons have free will] is grounded in [Jack says that persons have free will] + some other facts, like [Jack's statements about metaphysics are reliable] or [Jack confers with God].

> Counterfactual scenario: After Jack says that persons have free will, God comes and tells me the same thing. Jack's testimony is rendered irrelevant: why heed the testimony of an intermediary when I have the information straight from God? Jack's testimony is "screened off" by God's testimony.

The ennobler is that God doesn't tell me that persons have free will.[18]

In each example, the grounded facts arguably have some normative aspect; they concern Private's orders, legality, and what I have reason to believe. Are there nonnormative cases? This question is important because Kit Fine (2012) claims that there are different kinds of grounding, including <u>metaphysical</u> grounding and <u>normative</u> grounding, which have different properties.[19] One might think that only <u>normative</u> grounding can be contingent.

Not so. There are nonnormative counterexamples to Internality. Recall the example of restricted quantification. On Skiles' view, [all Fs are G] is fully grounded in [a is G] + [b is G] + ... for all the Fs. This would be a counterexample to Necessitation. I disagree. I think that the full ground of [all Fs are G] also includes [there are no Fs besides a, b...]. So restricted quantification is probably not a counterexample to Necessitation. But either way, it is a counterexample to Internality.

<u>Roger's Students</u> (again)

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[18] Muñoz (forthcoming) discusses the epistemological upshot of similar cases. His view is the same as mine: he would say that God's testimony "disqualifies" Jack's.

[19] Fine (2012) says that normative facts usually aren't metaphysically necessitated by their normative grounds. Berker (2018) argues against Fine's view.

Roger's students are Kevin, Ginger, and Nicole; each is wise. Then [Roger's students are all wise] is fully grounded in [Kevin is wise] + [Ginger is wise] + [Nicole is wise] + [Roger has no students who aren't Kevin, Ginger, or Nicole].[20]

Counterfactual scenario: Kevin isn't Roger's student, through he still manages to be wise. Everything else is the same: Nicole and Ginger are wise, and they are exactly Roger's students. Then [Kevin is wise] isn't a partial ground of [all of Roger's students are wise].

Ennoblers (in the actual world): [Kevin is Roger's student], [Ginger is Roger's student], and [Nicole is Roger's student]. These together ennoble [Kevin is wise] + [Ginger is wise] + [Nicole is wise] + [Roger has no students who aren't Kevin, Ginger, or Nicole] to ground [all of Roger's students are wise].

Generalizing from this case:

Restricted Generalizations: [a is F] + [b is F]... (and so on, for all the Fs) ennoble [a is G] + [b is G] + ... + [a, b... are at most the Fs] to ground [all Fs are G].[21]

Roger's Students is a nonnormative counterexample to Internality. It also has a different structure from the other examples. In Fire or Hold?, Don't Litter, and Jack and God, some facts fully ground some fact B in the actual world; in the counterfactual scenario, they still obtain, but get "usurped" by some other facts that take their place as the grounds of B. General's command usurps Sergeant's; state law usurps local law; God's testimony usurps Jack's.

What about Roger's Students? The actual ground is [Kevin is wise] + [Ginger is wise] + [Nicole is wise] + [Roger has no students who aren't Kevin, Ginger, or Nicole]. But instead of

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[20] I'm now assuming that [Roger has no students who aren't Kevin, Ginger, or Nicole] is a partial ground, rather than an enabler. This is only for simplicity's sake. Roger's Students is a case of contingent grounding either way.

[21] An alternative view, inspired by Fine (2012), is that [all Fs are G] is grounded in [a is G] ... + [a, b ... are exactly the Fs]. On this view, there is no ennobler. But I think that [a, b ... are exactly the Fs] is grounded in [a is F] ... + [there are no Fs besides a, b ...], and that only this last fact partially grounds [all Fs are G].

getting usurped in the counterfactual scenario by some independent facts, it gets usurped by (very nearly) one of its own subsets: [Ginger is wise] + [Nicole is wise] + [Roger has no students who aren't Ginger or Nicole]. (This isn't quite a subset, since this last fact features only Ginger and Nicole, not Kevin.)

V. Ennoblers: Principles

What can we say about the connection between Internality and ennobling? There are two things I'm pretty confident of.

First, every counterexample to Internality involves an instance of ennobling. More precisely:

Existence of Ennoblers: If it's contingent whether X grounds B, then necessarily, X grounds B just if there is some non-empty E that ennobles X to ground B.

Why is this? There is a difference between worlds where the grounding obtains and worlds where it doesn't. There must be some reason for this difference: an ennobler. This gives us a sufficient condition for the presence of an ennobler.

We can also can give a necessary condition:

Internality*: If it's possible that some set of facts E ennobles X to ground B, then necessarily, if B and all the facts in X and E obtain, then X grounds B.[22, 23]

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[22] Internality* may seem subject to the following counterexample. Actual world: same as in Fire or Hold?. Counterfactual world: a fourth character, Supergeneral, commands Private to fire, while Sergeant still commands him to fire, and General commands nothing. Then Supergeneral's command, not Sergeant's, grounds [Private's orders are to fire]. [Sergeant commands Private to fire] and [General doesn't command him to halt] and [General doesn't command him to fire] all obtain, but Sergeant's command doesn't ground [Private's orders are to fire].

Here are two possible responses. (1) I misidentified the ennobler. It shouldn't be that General didn't order Private to fire, but that no officer outranking Sergeant ordered Private to fire. This rules out the possibility of Supergeneral commanding Private to fire. (2) I didn't fully spell out the ground in Fire or

Recall that a similar principle, Necessitation*, connected Necessitation to enablers. In light of Necessitation*, it seemed plausible to add the enablers to the ground, resulting in a notion of grounding that satisfies Necessitation: grounding+. Why not do the same here? Why not add the ennoblers to the ground, resulting in a new relation grounding++, which satisfies Internality?

There are two problems with this. The main problem is that the discussion of Fire or Hold? showed that grounding++ is a gerrymandered relation. The ennobler, [General didn't command Private to fire], should not be treated as a partial ground for [Private's orders are to fire]. Or consider Roger's Students. [Kevin is Roger's student] should not be included in the ground of [all of Roger's students are wise]. As Roger's group of students grows, it becomes harder for the whole group to be wise. In general, [a is F] is not a partial ground of [all Fs are G]; being an F doesn't help make it the case that all Fs are G. So we should not include

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Hold?. I should have also included the fact that Sergeant is outranked only by General. I'm convinced that (1) or (2) is right, and I lean toward (1).

[23] The converse is false; not every case of ennobling is a case of contingent grounding. Here's a counterexample:

Puny Humans

Humans have two notable features. First, they are all under 10 feet tall. Second, they are each essentially human. Now, applying the principle Restricted Generalizations, we know the following. [All humans are under 10'] is grounded in [Abby is under 10'] + [Bernhard is under 1o']... + [there are no humans besides Abby, Bernhard...], ennobled by [Abby is human] + [Bernhard is human]... But Abby, Bernard, and all other humans are essentially human. So there is no world in which Abby or Bernard fails to be human while still having a height under 10'. And so the grounding obtains in every world in which the grounds all obtain.

This shows that not every case of ennobling is a case of contingent grounding. One might think that a weaker but still interesting thesis gives sufficient conditions for contingent grounding—namely, that whenever an ennobler is contingent, the grounding it ennobles is contingent. (More precisely, if: possibly X grounds B ennobled by E, and X + B don't necessitate E, then: X + B don't necessitate [X grounds B].) But even this is probably not true. For X might ground B in every world in which X and B obtain, where the grounding is ennobled by E in one world and by some other fact E* in another world in which E does not obtain.

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ennoblers as partial grounds. Grounding++ is not joint-carving; unlike grounding, it is not always explanatory. Grounding++ does not deserve to have "grounding" in its name.

This is the difference between enablers and ennoblers. Enablers help explain the grounded fact, so they plausibly can be included in the ground. Ennoblers do not help; they may even "hinder" the grounded fact, ruling out a possible way for it to obtain. Ennoblers only explain why the ground is a <u>ground</u>.

There is a second, subtler problem with defining grounding++ by including the ennoblers as partial grounds: Internality* doesn't entail that grounding++ is noncontingent. Internality* says that if it's possible that X grounds B, enabled by some set of facts E, then B + X + E necessitate that X grounds B. It does <u>not</u> entail this stronger principle:

<u>Internality**</u>: If it's possible that X grounds B, enabled by some set of facts E, then necessarily, if B and all the facts in X and E obtain, then X grounds B, <u>ennobled by E</u>.

Internality** is what would be needed for grounding++ to satisfy Internality. Internality* is not enough. But I am not convinced that Internality** is true. For ennobling itself might be contingent; ennoblers might be such that they could have obtained without being ennoblers. They could be usurped by some other facts better suited to ennoble.

Let me change topics for a moment. We will return to ennoblers soon.

VI. What Grounds Grounding?

The falsity of Internality has significant consequences—among them, that every view proposed in print of what grounds grounding is false.

The question "what, if anything, grounds grounding facts?" is difficult and important. One might have thought facts of the form [X grounds B] are ungrounded. But there are strong reasons to think that they must be grounded. One reason, given by Dasgupta (2014), is that

physicalism entails that grounding facts are grounded.[24, 25] Suppose physicalism is true. Plausibly, physicalism entails that every ungrounded fact is physical. So mental facts are grounded in physical facts. Take [M is grounded in P], where M is a mental fact and P is a physical fact. This grounding fact is not a physical fact, since it is partly about M, a mental fact. Then it follows from physicalism that it is grounded. Our view of grounding facts had better be consistent with physicalism, so we shouldn't take grounding facts to be ungrounded.

But then what grounds grounding facts? Two main views have been proposed. Bennett (2011), deRosset (2013), and Litland (2017) say that X fully grounds [X grounds B]. Grounding facts are grounded in the ground. This view is simple and elegant. But if Internality is false, it is also false. If Internality is false, X may not necessitate B. This doesn't quite refute the view, because <u>Necessitation</u> might be false. [X grounds B] might be grounded in X, even though X doesn't necessitate it. But if Necessitation is true, then [X grounds B] can't be grounded in X.

A second view, endorsed by Dasgupta (2014), takes X to be a partial ground of [X grounds B], but never a full ground. X, together with some facts about what is essential to B, grounds B.[26] Dasgupta gives an example of an event E, a conference, which contains people giving talks, comments, etc. [E is a conference] is grounded in [E contains people giving talks, comments, etc.] And the grounding fact—[[E is a conference] is grounded in [E contains people giving talks, comments, etc.]]—is fully grounded in [it is essential to conferencehood that if an event contains people giving talks, comments, etc., then that event is a conference] + [E contains people giving talks, comments, etc.].

Dasgupta's view is intuitive, and it gives plausible stories about individual cases, like the case of the conference. But if Internality is false, then so is Dasgupta's view. Any fact about what's essential to B is necessitated by B. If Internality is false, then X and B together don't

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[24] Or at least that many of them are. Perhaps not all. It is compatible with physicalism that [P1 grounds P2] is ungrounded, if P1 and P2 are both physical facts. See Sider (2012, pg. 170) for a more general argument.

[25] Ultimately, Dasgupta says that only something weaker is true: physicalism entails that grounding facts are <u>nonfundamental</u> (they may be ungrounded).

[26] Or perhaps what is essential to the constituents of B, rather than B itself. See Rosen (2010) and Fine (2012) for similar views.

necessitate [X grounds B]. But then X together with any facts about what's essential to B don't necessitate [X grounds B]. So if Necessitation is true, Dasgupta's view is wrong.[27]

Can these views be fixed? I think so. We can simply add the ennoblers to the ground of the grounding fact. Take, for example, the first view—namely, that X grounds [X grounds B]. Then simply add the ennoblers to X. If X grounds B, ennobled by E, then X + E fully ground [X grounds B]. This avoids the problem, since X + B + E necessitate [X grounds B].

The idea is that an ennobler helps to make the ground a <u>ground</u>. I think this is intuitive. (In fact, I find it so intuitive that I think it provides a new reason to think that at least some grounding facts are grounded.) In <u>Fire or Hold?</u>, [General didn't command Private to fire] is part of what makes [Sergeant commanded Private to fire] + [General didn't command Private to hold] ground [Private's orders are to fire]. In <u>Roger's Students</u>, [Kevin is Roger's student] is part of what makes [Kevin is wise] a partial ground of [all of Roger's students are wise].

This appears to remove the threat that grounding facts posed to physicalism. [X grounds B] is grounded in X + E (+ maybe some other facts). X and E are any old facts, and it is the job of physicalists to find physical grounds for them. Assuming that grounding is transitive, [X grounds B] is grounded in whatever physical facts ground X and E. (What about the other facts that might partially ground grounding facts, like facts about essences? I don't know whether these could have physical grounds, or whether they could be made consistent with physicalism in some other way. But it's not my problem. If they can't be, then they shouldn't be included in the grounds of grounding facts.)

But a new question arises. What grounds <u>ennobling</u>? Can we say why E ennobles X to ground B? Yes. In fact, we can do something even better: we can <u>define</u> ennobling. Suppose that X + E fully ground [X grounds B]. Then we define ennobling:

<u>X is grounded in B, ennobled by E</u> just if [X grounds B] is grounded in X + E.

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[27] Bennett, deRosset, Dasgupta, and Litland all endorse Necessitation. Litland himself (2015) observes that Internality is entailed by Necessitation + the Bennett-deRosset-Litland view, and by Necessitation + Dasgupta's view. Another view is that [X grounds B] is grounded in X + some metaphysical laws. This too entails that Internality is true or Necessitation is false.

I'm defining ennobling by appealing to what grounds grounding. But earlier I gave instructions for figuring out what grounds grounding ("just add the ennoblers to whatever you previously thought grounded grounding") by employing an undefined notion of ennobling. This is a problem. I can't have both the definition and the instructions, since the definition trivializes the instructions. The instructions now uselessly tell us that [X grounds B] is grounded in X + the Y such that Y + X grounds [X grounds B]. A choice must be made. I choose to keep the definition, and trivialize the instructions. But hopefully the examples I have given help illustrate what together with X could ground [X grounds B].

VII. Ennoblers and Enablers

There is another potential problem for this definition of ennobling. I think ennoblers are always partial grounds of grounding facts. I am less confident that there are no other partial grounds that I have missed. In particular, one might think that <u>enablers</u> help to ground grounding facts.[28] For instance, [I wasn't under duress] partially grounds [[I promised to lend my friend the book] grounds [I have reason to lend it]]. But if enablers ground grounding facts, then our definition of ennoblers will fail to distinguish them from enablers. It will classify enablers as ennoblers.

This view of enablers is tempting, but I don't think it's right. Unlike ennoblers, enablers don't help to explain grounding facts at all. What distinguishes enablers from ennoblers is that they explain different facts: ennoblers explain <u>grounding</u> facts, whereas enablers explain the <u>grounded</u> facts. This is why enablers can be included in the ground, while ennoblers cannot be. Ennoblers don't explain the grounded fact at all; they might even make it harder for it to obtain. Enablers, by contrast, do explain the grounded fact, so it makes sense to include them as part of the ground.[29]

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[28] Skow (2016, pg. 111) defends this view.

[29] Antinecessitarians may want to respond that enablers and ennoblers explain different "aspects" or "parts" of the grounding: enablers explain why X was "sufficient" to ground B, while ennoblers explain why X was "relevant enough" to B to qualify as one of its grounds. Then the ennoblers and the enablers together explain the grounding. (I have encountered this response (with this wording) in conversation, and in Muñoz (ms), but I have never seen it in print.)

There are two serious problems with this approach. First, grounding is not a mere conjunction of sufficiency and relevance. Some facts do not get to be a full ground in virtue of being relevant and sufficient. If anything, X owes its relevance to B to the fact that it grounds B. So if enablers explain

These issues generalize beyond grounding. If we think that causal background conditions are not causes, we face a question: what is it for something to be a background condition? It is very tempting to answer that background conditions are "second-level explanations". Bradford Skow (forthcoming) argues for this at length. He claims that background conditions are not causes; rather, they are reasons why one event caused another. The presence of oxygen does not cause the lighting of the match; instead, it is a reason why the striking of the match is a cause of the lighting.[30]

But I am skeptical of this, because of the contrast with ennoblers. Consider the fact that the match was not engulfed in flame a split second earlier. That would explain why the striking (rather than an engulfing) was a cause of the lighting. The lack of engulfing is a causal ennobler, making the striking into a cause. The presence of oxygen, by contrast, only explains why the match lit; not why the striking was a cause of its lighting.[31]

Skow's view extends far beyond states like the presence of oxygen. He thinks that many conditions that seem to "help" bring about an effect E are really reasons why some event C caused E. His view extends to dispositions: the glass' fragility was not a reason why it shattered; rather, the fact that it was fragile was a reason why my dropping it caused it to shatter. It extends to laws: laws explain facts of the form [C caused E]; they do not explain E. Skow uses all this to defend (1) an elegant view of reasons why, on which for X to be a reason why a concrete event occurs is for X to cause or ground the event, and (2) an attractive view of

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sufficiency and enablers explain relevance, it does not follow by transitivity that they explain grounding. Second, in a case of nonnecessitating grounding, it is not clear in what sense X is sufficient for B. It is certainly not metaphysically sufficient for B. But if X is not sufficient for B, then no enabler explains why it is, since nothing explains what is false. The antinecessitarian would be better off claiming that enablers make themselves + X jointly sufficient for B. At least it is true that the enablers + X are sufficient for B. But it just sounds bizarre to say that the enablers make this the case.

A different thought is that the enablers make X a "candidate ground"—one precisification of this is that they make it possible for it be a ground—and then the ennoblers turn X into an actual ground. But then the ennoblers + X fully explain why X actually grounds B, without help from the enablers. In general, I do not think it will work to try to "split up" the explanatory work that enablers and ennoblers do.

[30] Skow (forthcoming)

[31] Yablo (2004) also emphasizes this contrast; he thinks that background condition may be causes, while ennoblers clearly aren't.

causation, on which only events can cause or be caused.[32] Dispositions, laws, and background states might seem to be counterexamples to these. The presence of oxygen might be thought to be a cause of the lighting, contradicting (1). And if it is not a cause, then it seems to be a reason why the match lit, without being a cause or a ground, contradicting (2). Skow escapes these problems by saying that it is neither a cause or a reason why the match lit; rather, it is a reason why the striking caused the lighting.

But if I am right, then Skow's maneuvers do not work. It is (causal) ennoblers that are second-level reasons why; they explain why one event is a cause of another. Laws, dispositions, and background states that seem "helpful" to an effect do not do the same explanatory work that ennoblers do; instead, they are reasons why the effect occurred.

I have raised a general worry for Skow and antinecessitarians. They want to distinguish between grounds (and causes) and enablers (and their causal analogues). But then it is hard to distinguish the explanatory work that enablers do from the work that ennoblers do. However, I think that there is one promising way for Skow and antinecessitarians to address this worry. I'll focus on grounding, but my suggestion works just as well for causal cases.

The idea is to take grounding to be irreducibly contrastive: grounding facts can take the form [X grounds that B obtains, instead of…]. Then antinecessitarians can say that an ennobler for X to ground B explains why X, rather than something else, grounds B. To make this concrete, suppose we hold the Bennett-deRossett-Litland view, with enablers and ennoblers added. Then:

> X grounds B, ennobled by E just if E + X ground that [X grounds B] obtains, instead of B obtaining and not being grounded in X.

> X grounds B, enabled by E just if E + X ground that [X grounds B] obtains, instead of B not obtaining.

Enablers and ennoblers always ground the same fact—the grounding fact—but they always ground it against a different contrast. Irreducibly contrastive grounding gives us a way to distinguish enablers from ennoblers.

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[32] Skow (2016, pg. 75) develops (1); Skow (forthcoming, chapter 2) develops (2).

(Why <u>irreducibly</u> contrastive? The usual strategies for reducing contrastive explanation to noncontrastive explanation do not help. An idea from Dennis Temple (1988) is that "A explains why p, instead of q" may be replaced by "A explains why p and A also explains why ~q". Following this idea, we might say that for X to ground B, instead of p, is for X to ground both B and [~p]. Then an enabler of X's grounding B would be a ground of both [X grounds B] and B. But then enablers would be partial grounds after all, so Necessitation would be true.)

The best way of making sense of enablers is as grounds of grounding facts, and the only way of making sense of <u>that</u> uses irreducibly contrastive grounding. So antinecessitarians should hope that grounding is irreducibly contrastive.

Conclusion

Rejecting Internality leads to a messier theory of grounding. We need to worry about ennoblers now. And grounding is less unified: sometimes it is contingent; sometimes it isn't. Metaphysicians have wondered whether the diverse cases of grounding really have much in common, and we have found a respect in which they have <u>less</u> in common than expected.

Should this worry grounding theorists? Would they be better off theorizing only about more specific relations, like rightmaking or the determinate-determinable relation? I don't think so. For Internality failures give grounding a different kind of legitimacy: they bolster the analogy between grounding and causation. My counterexamples to Internality are closely analogous to counterexamples to the intrinsicality of causation. (<u>Fire or Hold?</u> is based on Lewis' (2000) example of trumping preemption.) Such examples would never lead anyone to question the fruitfulness of theorizing about causation; the same should apply to grounding.[33] And the disunity among cases of grounding exposed by the counterexamples to Internality is outweighed by the unity between grounding and causation.

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[33] Bernstein (2016) suggests that the <u>truth</u> of Internality is bad news for grounding theorists. She defends a skeptical stance toward grounding by arguing that causation and grounding are <u>not</u> very similar; one of her arguments is that grounding is always internal, whereas causation is extrinsic in cases of trumping preemption.

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