BY OUR BOOTSTRAPS[1]

Karen Bennett
Cornell University

1. *Grounding grounding?*

Recently much has been made of the grounding relation, and of the idea that it is intimately tied to fundamentality. If A grounds B, then A is more fundamental than B (though not *vice versa*[2]), and A is ungrounded if and only if it is fundamental full stop—absolutely fundamental.[3] But here is a puzzle: is grounding itself absolutely fundamental?[4]

There are seemingly compelling reasons to say that it cannot be. Theodore Sider argues for a principle he calls *Purity*—"the fundamental truths involve only fundamental notions" (2011, ms 126ff)—which entails that no connections between the fundamental and the nonfundamental can themselves be fundamental. And Jonathan Schaffer (2010, 40; personal communication)[5] points out that it is plausible to think that whatever the fundamental elements of the world are, they are open to free modal recombination.[6] So if grounding is fundamental, there is a possible world just like this one in the distribution of all the *rest* of the fundamental entities, but in which nothing grounds anything else. In that world, no actually grounded entity

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[1] Thanks to participants in graduate seminars at Cornell and NYU, and to Ted Sider and Jonathan Schaffer.

[2] *A* can be more fundamental than *B* without being grounded by *B*. Pick an arbitrary electron in Spain: it is more fundamental than me, though it does not even partially ground my existence or any of my properties. See my 2011, and especially, in progress, chapter 5.

[3] There are other uses of the term 'fundamental' in the literature. Sometimes it appears to mean the stronger 'ungrounded but grounds something else'; sometimes it appears to mean the orthogonal 'structural' or 'natural' (see Sider 2011). In this paper, 'fundamental' means 'ungrounded;' that is the sense required to generate the particular puzzles under discussion here.

[4] The puzzle here is actually more general than this. The question is not just whether grounding is fundamental, but whether any of what I elsewhere call 'building relations' are fundamental. I will explore the more general puzzle in chapter 6 of my ms in progress.

[5] The argument at 2010, 40 is not really for the claim that the grounding relation is not fundamental, but rather for the claim that distinct fundamental entities cannot share parts. However, it is clear from personal communication that he thinks the tools can be deployed as sketched in the main text.

[6] This is particularly plausible given the understanding of 'fundamental' on the table—namely, 'ungrounded'. Consider the reason that *non*fundamental entities are not freely recombinable. It is precisely that they are grounded, and thus supervene upon their grounds. There can be no change to the grounded entities without change to that which grounds them. This reason does not apply to ungrounded entities. In the absence of a reason to constrain their possible combination, it should be assumed that there is no such constraint; they are freely recombinable.

is grounded—each either fails to exist, or is fundamental. Since neither option is plausible,[7] grounding is not amenable to free recombination, and thus is not fundamental.

But, unfortunately, there are also seemingly compelling reasons to say that grounding *must* be fundamental. If it is not, it is itself grounded—the grounding relation obtains between the grounding relation and something more fundamental. And surely this involves some kind of circularity or regress. It means that building "must somehow bootstrap itself into being" (Schaffer, personal communication).

We face a dilemma, and a bad one. It appears that grounding can neither be fundamental nor grounded. But if it is neither, presumably we must reject grounding. And if there is no such thing as grounding, then nothing is grounded. And if nothing is grounded, the world is *flat*. Everything is metaphysically on a par. Everything is absolutely fundamental—there are no nonfundamental entities, properties, states of affairs... nothing. There are no nonfundamentalia at all.

I have no knockdown argument against the claim that the world is flat. But every fiber of my being cries out in protest. To claim that the world is flat is not simply to deny the existence of *some particular kind* of nonfundamentalia, but to deny the existence of nonfundamentalia altogether. There are lots of views that do the former. There are people who deny the existence of composite objects, of qualia, of meanings, of special science laws, of moral properties, and so forth. Such views are positively namby-pamby in comparison to true flatworldism.[8] The true flatworlder denies the existence of *all* of those things, and more besides. She denies that there are *any* nonfundamental properties, and, indeed, if in a previous life she had nominalist tendencies, she will deny that there are properties at all. She denies that there are states of affairs, she denies that there are sets, she denies that there are people.

Admittedly, that is a bit too quick. The flatlander *can* countenance all of the things just listed; she simply needs to say that they are fundamental. More plausibly, she could take a mixed approach—deny the existence of some of the phenomena, and claim that others are fundamental. For example, an anti-Humean dualist flatlander gets to preserve causation, laws, and mentality, but it would surely be going too far to claim that, say, cars are fundamental too.

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[7] The first option involves—roughly—the possibility of an extreme zombie world, and the second involves denying the natural thought that everything has its fundamentality status essentially (thanks to Shruta Swarup here).

[8] It is worth noting that eliminativisms in one domain often come with inflations elsewhere: the compositional nihilist who rejects full-blown flatworldism, for example, needs to compensate with more complex properties. See my 2009.

Or sets. Or states of affairs. Or organisms. Or 'Cambridge changes' to a thing's extrinsic properties.

I have perhaps put this point somewhat contentiously.[9] Regardless, it should be clear that *any* version of flatworldism will be radically revisionary. I repeat that I have no real argument against it. I will simply say that flatworldism is, to borrow a colorful word from a friend, "crazypants". An imprecise complaint to be sure, but it is my complaint nonetheless. It is a cousin of the incredulous stare.

So we must solve the dilemma. As with any dilemma, we have three options. We can grasp the first horn, we can grasp the second horn, or we can try to wriggle in between them. In this case, to grasp the first horn is to reject the Schaffer and Sider arguments, and argue that grounding is fundamental after all. To grasp the second horn is to dismiss the worry about regress or circularity, and to claim that grounding is in fact itself grounded. The third option is to claim that there are other moves available, or perhaps that there is something wrong with the question.

I opt for the second horn. I shall argue that the claim that grounding is grounded does not lead to a vicious regress.

2. Disambiguating the question

I only briefly sketched Sider and Schaffer's arguments against the claim that grounding is fundamental. But I even more briefly sketched the argument against the claim that grounding is grounded. All I said is that it looks like "some kind of circularity or regress" is involved in the claim that grounding is grounded. Surely I can do better than that. What exactly is the problem here supposed to be? It is in fact fairly far from clear. Indeed, it is not even clear what the question, "is grounding fundamental?" is asking.

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[9] What might be contentious is the fact that I am taking the rejection of grounding to be equivalent to the claim that everything is fundamental. It might be argued that anyone who truly thinks grounding talk is misguided should also think that fundamentality talk is misguided, at least if it is to be understood in terms of grounding. That is, it might be objected that I have described the rejection of grounding in a sort of grounding-infused way.

Fair enough. I have framed it as I have largely to motivate the paper in a simple and stark fashion. But, further, I truly think it is near impossible—certainly a bad idea—to do away with fundamentality talk altogether. Everyone, even those who reject grounding, should be able to claim that some things are more fundamental than others. (Good luck doing philosophy if you can't.) And anyone who rejects grounding and yet helps themselves to fundamentality talk owes us an alternative story about fundamentality—and an assurance that they do not face a similar dilemma (see notes 3 and 9). I do not claim here that there is no orthogonal notion of fundamentality that can avoid the problems; the paper is primarily directed at those—the majority—who think of fundamentality in terms of grounding or what I elsewhere call building (2011, ms).

One might think that the problem is with that tricky, controversial word 'fundamental', but that is not the problem I have in mind. For the purposes of this paper, 'fundamental' is synonymous with 'ungrounded'; the fundamental entities are those such that there is nothing in virtue of which they exist, obtain, or occur.[10] Nor is the problem specific to the grounding relation. Rather, the problem is an ambiguity in *any* question of the form "is property *P* or relation *R* fundamental?" Such a question might be asking whether there is anything in virtue of which the property or relation *exists*. But it might also be asking whether there is anything in virtue of which it *is instantiated on particular occasions*. That is, there are two different fundamentality claims in the vicinity. One is that the property or relation itself is fundamental; the other is that particular facts involving it are.

The relation between these two claims is complicated, and depends to a large extent upon what one thinks properties, relations, and facts are. Can there be something in virtue of which a property (or relation) exists even though there is nothing in virtue of which any particular instance of it obtains? Or, the other direction, can there be something in virtue of which every instance of a property (relation) obtains, yet nothing in virtue of which the property itself exists?

Nominalists can answer 'yes' to the first question. After all, the whole point of nominalism is to claim that *property* is not a fundamental ontological category. On this view, all properties and relations exist in virtue of something—namely, their instances. (Consider a simple class nominalism according to which monadic properties are sets of individuals and n-place relations are sets of ordered n-tuples. Sets exist in virtue of their members, so properties and relations exist in virtue of the individuals that instantiate them.) Yet for all nominalism says, the instances of some property or relation might obtain brutely. Indeed, that is one way to recover a nominalist-friendly meaning for talk of "fundamental" properties or relations.[11]

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[10] See note 3. Clearly, on other uses of 'fundamental', particularly the one that seems close to 'natural', the puzzles I explore in this paper look rather different. The regresses that seem to arise from the claim that that grounding is not fundamental (= is grounded) do not obviously arise in the same form from the claim that grounding is not fundamental (= is not a perfectly natural relation). However, similar issues *do* arise. It is just that the tricky question is not 'is grounding grounded?' but rather 'is naturalness natural?' and so forth.

[11] After all, the nominalist cannot say that any properties or relations exist fundamentally full stop. She can at best say that some are fundamental-for-a-property or fundamental-for-a-relation. And she will surely want to say this, or at least that some properties or relations are more fundamental than others. (Compare the strong interaction relation with the academic advising relation.) One meaning she might give to $fundamental_R$ is this: a relation is $fundamental_R =_{df}$ it is a set of ordered pairs, and there is nothing in virtue of which it is those ordered pairs and not others. Another meaning is this: a relation is $fundamental_R =_{df}$ it is a set of ordered pairs that has only fundamental entities as members.

A believer in transcendent universals, in contrast, can answer 'yes' to the second question—she can claim that some properties (relations) are such that there is nothing in virtue of which they exist, even though there is always something in virtue of which each of their instances obtains. The position I have in mind is one according to which universals (monadic or otherwise) can exist uninstantiated, and are ontologically prior to their instances. I see no reason why the defender of such a view could not say that particular facts involving those universals are grounded, in part by the existence of the universals themselves.[12]

There are presumably other views on which the answers to the two fundamentality questions come apart, as well as views on which they do not. I cannot pretend to canvass all the options and how they intersect. I will therefore treat the two issues separately for the case at hand—the grounding relation.

We now know that there are two things that the claim 'grounding is grounded' might mean. One is that there is something in virtue of which the grounding relation exists. The other is that there is something in virtue of which particular grounding facts obtain—for each *A* that grounds some *B*, there is something in virtue of which *A* grounds *B*. The question at issue is whether either claim leads to regress. *Prima facie*, it seems that both do, though the regresses take somewhat different shape. In the next two sections (§3 and §4), I will sketch the apparent fact regress and the apparent relation regress respectively. In §5, I introduce a notion that I use in §6 and §7 to argue that both regresses are merely apparent. In §8, I turn to some objections.

3. *The fact regress*

The starting assumption (for 'regressio') is that every fact about what grounds what is itself grounded. Suppose that *A* grounds *B*. I will remain neutral about what *A* and *B* are; perhaps they are facts, or properties, or property instances, or perhaps even objects. (I myself doubt that objects can be the relata of grounding, but Schaffer 2010 explicitly allows it.) Whatever they are, though, it is a fact that *A* grounds *B*. By the starting assumption, that fact

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[12] David Armstrong's immanent universals are mildly more puzzling. Because they cannot exist uninstantiated, they seem not to be ontologically prior to their instantiation, to the states of affairs in which they participate. So perhaps they exist in virtue of—are grounded in—their instances, just as a nominalist's properties are. Indeed, Armstrong says that there is "dependence of universals on states of affairs" (1997, 29) such that universals "are incapable of existing in independence of states of affairs" (1983, 165)—and, indeed, such that "states of affairs come first" (1997, 118). Yet he also makes comments that suggest that the universals are ontologically prior to—and thus partially ground—the states of affairs in which they obtain. For example, universals are "brought together" (1997, 116) in states of affairs, states of affairs "hold their constituents together in a non-mereological form of composition" (118), and the "constituents are gathered together into states of affairs by the fundamental tie" (118).

must be grounded; there is something in virtue of which *A* grounds *B*. Call it *X*. *X* grounds the fact that *A* grounds *B*. But the fact that *X* grounds the fact that *A* grounds *B* is another grounding fact, itself in need of grounding. Call its ground *Y*. *Y* grounds the fact that *X* grounds the fact that *A* grounds *B*. At this point, parentheses will be handy: …*Y* grounds [(*X* grounds (*A* grounds *B*)]. The regress is obvious.

Well, the infiniteness of the series is obvious, at any rate. What might be less obvious is whether it constitutes a vicious regress. It is an interesting and delicate question just which infinite series set off the regress alarm (see Nolan 2001). Nonetheless, this seems like a good candidate. It yields an infinitely expanded ontology of fact upon fact upon fact. It is, as they say, turtles all the way down.

The central problem here is that requiring a ground for every grounding fact violates the well-foundedness of the grounding relation. If every grounding fact is grounded, there are priority chains that are not only infinitely long, but which also fail to terminate or 'ground out' in something ungrounded. Let me be clear about what these nonterminating priority chains look like. The links are not things like the *A* and *B* with which we started—for all that has been said, *A* might itself be fundamental—but rather facts like *that A grounds B*. The grounds for that fact do not terminate in anything ungrounded. Indeed, it turns out to be important (see §6) that it is perfectly compatible with the regress that *A* itself be absolutely fundamental. There can be a rock-bottom level of properties, objects, events. There can even be a rock bottom level of *nongrounding* facts. But the grounding facts disappear over the horizon, where the turtles go.

4. The relation regress

Suppose the grounding relation exists in virtue of *X*: *X* grounds grounding. (A simple class nominalist, for example, will say that *X* is the ordered n-tuples that form—ground—the set which is the grounding relation.) But what shall we make of the double occurrence of the predicate 'ground'? Either the first instance picks out the same relation as the second, or it picks out a different one.

It does not look as though the first instance of the predicate can pick out the same relation as the second instance, though it is interestingly hard to articulate exactly why not. First, the problem is not that grounding would partially ground itself, in violation of the supposed irreflexivity of grounding. Quite generally, when *A* grounds *B*, the ground of *B* is not *A* plus the

grounding relation—the grounds of B are simply A. Here, the ground of grounding is simply X. Grounding need not serve as one of its own grounds. Second, it's at least not obvious that the problem is that the grounding relation would self-instantiate. Other properties and relations seem to do so without contradiction or regress. (Maybe the property of *being abstract* is abstract; maybe the *taller than* relation is the same –adicity (two-place) as the same –adicity relation.)

Yet surely *something* is wrong with the idea that it is really grounding in both places. I suppose the problem is something like this. We are trying to tell a story about how the grounding relation comes to be, what brings it into the world, what makes it the case that it exists in the first place. That story cannot invoke grounding *anywhere*—neither in the ground itself, nor in the relation by means of which the ground counts as a ground. The problem, in short, is a special kind of failure of reductive explanation. Typical failures of reductive explanation involve the explanans appearing, perhaps discreetly, in the explanandum. Here, the explanans appears instead in the relation by which the explanandum explains.

If something like that is correct, we must suppose that the two 'ground' predicates do not pick out the same relation. The first occurrence should really be, say, 'grounding*', and the troublesome sentence 'X grounds* grounding'. But what is this relation ground*? Is it fundamental or grounded? If it is fundamental, we are flipped back to the first horn of the dilemma from section 1. So it is grounded. So something must ground** ground*…. and we are once again off to the races.

The shape of this relation regress is similar to the fact regress. As before, we have not only an infinite series, but an infinite series that is massively ontologically committal—so many relations! However, it isn't the same. The regress does not involve the same entities (now it is relations rather than facts), and extra premises were needed to reach it. Further, the regress does not exactly violate the well-foundedness of grounding itself. For all that has been said, every grounding chain does terminate in something ungrounded. What does *not* so terminate is the chain of grounding^n relations in virtue of which the grounding relation itself exists in the first place.

They say a picture is worth a thousand words. Here are two.

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↑     ← X                              A    ↑***
A                                      Y…
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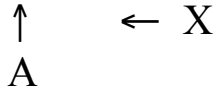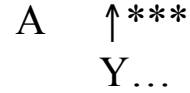
The fact regress	The relation regress

Arrows indicate grounding, or similar relations like grounding*. Arrows that point at arrows indicate the grounding of the relation; arrows that point at bracketed pairs indicate the grounding of a grounding fact.

5: Superinternality to the rescue

Both regresses can be halted. The key is to recognize that grounding is what I hereby dub a superinternal relation.

Begin by recalling Armstrong and Lewis' notion of an internal relation (Armstrong 1989, 43; Lewis 1986, 62).[13] An internal relation, like *being taller than*, supervenes on the intrinsic nature of the relata.[14] That is, the existence and intrinsic nature of the relata guarantees that the relation holds. For example, if I am 5'7" and Jenny is 5'11", Jenny is taller than me. That is all there is to the *taller than* relation; once our heights are settled, so is the obtaining of the relation. Indeed, it is natural to say that Jenny's being taller than me is nothing *further,* nothing beyond our heights. Armstrong therefore claims that internal relations are "an ontological free lunch" (1989, 56). They are "not something extra" (1989, 56), they "are not an addition to the world's furniture" (1997, 87), they "are not the sort of relations we should be focussing on in ontology" (1997, 92). Crucially, he uses this idea to defuse the instantiation regress (1989, 53-57 and 108-110). What follows, then, is inspired by this page from the Armstrong playbook.

Grounding, I claim, is not (only) internal, but *super*internal. A superinternal relation is one such that the intrinsic nature of only *one* of the relata—or, better, one side of the relation—guarantees not only that the relation holds, but also that the other relatum(a) exists and has the

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[13] Armstrong and Lewis made this distinction familiar to contemporary metaphysicians, but I confess that I am not sure who actually originated either the distinction or the particular use of the terminology. G. E. Moore's distinction between internal and external relations is not the same (for Moore, an internal relation is one such that anything that stands in it essentially stands in it (1919)). Moore was trying to interpret Bradley's putative claim that all relations are internal; see Vallicella 2002 for criticism of this interpretation of Bradley, and for comparison of Bradley's notions to the contemporary distinction between internal and external.

[14] Armstrong classifies any relation that does not so supervene as external. Lewis does not; he further requires that external relations supervene on the nature of the relata "taken together", and thus allows that there are relations that are neither internal nor external. For my purposes it does not matter how exactly externality should be defined, nor how to exhaustively classify relations. All that matters is the notion of internality.

intrinsic nature it does. (The 'one side' formulation allows many-one relations to be superinternal. I will often say 'one of the relata' for ease of expression, but this should not be taken literally.[15])

To see what I mean here, set aside the generalities and consider a particularly familiar grounding claim—physicalism. However exactly we should characterize 'the physical facts', physicalism is basically the claim that the physical facts ground the mental facts.[16] Now, here is a very bad way to understand what physicalism says. There are these highly complex physical facts, and there are these mental facts, and then, *in virtue of those facts*, there obtains the grounding/determination/realization relation between them. No physicalist has ever said that, and with good reason. No physicalist is going to say that the grounding relation holds between the physical and the mental in virtue of the intrinsic nature of *both* relata, because they are not going to say that the intrinsic nature of the mental facts is part of what makes it the case that the physical facts ground them. Rather, physicalists will say that the physical facts make it the case that the mental facts are what they are, have the intrinsic natures they do. They will say that *it all unfolds 'upwards' from the physical*. Both the less fundamental facts and the relation that generates them derive from the more fundamental facts.

I claim that it is the mark of grounding that it is superinternal.[17] That is what makes it *generative*. Everything is settled by the base, by the first relatum(a).

One minor complication. It is tempting to capture my idea by saying that the grounding relation is superinternal *rather than* internal—i.e., that it is not internal. That would be a mistake. Supervenience and entailment are typically understood to be monotonic: if A is entailed by or supervenes upon B, it is also entailed by and supervenient upon B + C for any C.[18] It follows that every superinternal relation is also internal. After all, the obtaining of a superinternal relation is entailed by or supervenient upon the intrinsic nature of the first relatum; the obtaining of an internal relation is entailed by or supervenient upon that plus more—the

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[15] The phrasing can also be easily modified to account for cases of partial grounding.

[16] Physicalism is more often characterized by means of relations other than grounding—often supervenience (e.g. Lewis 1983 and Jackson 1998), or, more recently, realization (e.g. Melnyk 2003). Sometimes people just use words like 'determines' or 'depends'. But it is unquestioningly what I elsewhere call a building claim (2011, in progress), and may as well be characterized in terms of grounding, especially since I am working with a fairly generic notion of grounding in this paper.

[17] I actually think this about building relations more generally. See my 2011 and in progress.

[18] If C is incompatible with B, A is still entailed; in standard logics, everything is entailed by a contradiction.

intrinsic nature of both relata. Thus if I am right that grounding is superinternal, it follows that it is also internal.

Still, it would be deeply misleading to characterize grounding as an internal relation. It would be misleading in exactly the same way as it would be misleading to claim that the obtaining of the *taller than* relation between Jenny and me supervenes on our heights plus the price of gold. That claim has extra packed in; it emphasizes a non-minimal supervenience base. The superinternality of grounding means that the *minimal* supervenience base for its obtaining on a particular occasion is the existence and intrinsic nature of the first relatum(a).

So. How does the superinternality of grounding help with the putative regresses from the previous two sections? Let us look at them both in turn.

6. The fact regress revisited

If grounding is superinternal, then wherever it obtains, it obtains in virtue of the intrinsic nature of the first relatum(a). This is equivalent to the claim that all grounding facts are grounded in their first relatum(a). And that right there both entails the claim that appeared to generate the fact regress—all grounding facts are themselves grounded—*and* stops the regress from progressing.

Suppose that *A* grounds *B*. By the superinternality of grounding, that fact is grounded in *A*. Now we have a new grounding fact: the fact that *A* grounds the fact that *A* grounds *B*. So far, this is precisely the same structure as the claim that started the regress in §3. Thus the next step of the apparent regress arises here. What grounds the fact that *A* grounds the fact that *A* grounds *B*? The superinternality of grounding gives us the answer. *A* grounds the fact that *A* grounds the fact that *A* grounds *B*. And what grounds that fact? The first relatum of the grounding claim— namely, *A*. And again and again, *ad infinitum*. *A* grounds (*A* grounds (*A* grounds (*A* grounds *B*)))…

We have here an infinite series, of course, but I claim that there is no vicious regress. At each step the same answer is put forward; at each step the superinternality of grounding returns the same grounds. Compare the truth regress: if proposition *p* is true, it is true that *p* is true, and it is true that it is true that *p* is true… and so on. The truth regress is often used as a paradigm of a harmless regress (e.g. Armstrong 1989, 56; Nolan 2001, 523-524). I claim that, given superinternality, the fact regress is similarly harmless.

Recall the two related issues that made my first presentation of the fact regress look bad—the expanded ontology, and the violation of well-foundedness. Neither is really the case, not if grounding is superinternal. First, the ontology. The infinite series turns out to be no addition to being; we do not postulate a new ground at each step. The series that appeared to be …*Y* grounds [(*X* grounds (*A* grounds *B*)] in fact takes identical values for *X*, *Y*, and so on*; X=Y=A*. So there is no explosion of facts that do grounding work. There is only one, namely *A*—*A* is the ground for the fact that *A* grounds *B*, for the fact that *A* grounds the fact that *A* grounds *B*, and so forth. Compare the truth regress: that grass is green is the truthmaker for the proposition 'grass is green', for the proposition ''grass is green is true', for the proposition '''grass is green' is true' is true', etc.

Second, well-foundedness. The infinite series here is *not* a non-terminating priority chain. It terminates in—grounds out in—*A*, or at any rate whatever the ultimate grounds of *A* are. It is true that *A* grounds an infinite number of things (*B*, that *A* grounds *B*, that *A* grounds that *A* grounds *B*….), but that is a failure to terminate *at the wrong end*. Well-foundedness is compatible with the existence of an infinity of grounded entities.

Note that my claim here depends on the assumption that A is either fundamental (ungrounded), or a link in a well-founded grounding chain. If it is not—if it is grounded by *x*, which is grounded by *y*, which sits on the back of a turtle…— then I cannot claim that it is the terminus of a well-grounded chain of facts about *A*'s grounding of *B*. The transitivity of grounding changes the infinite series *A* grounds (*A* grounds (*A* grounds (*A* grounds *B*)))… to the infinite series …y grounds *x* grounds *A* grounds (*A* grounds (*A* grounds (*A* grounds *B*)))… The latter series is not a well-founded, terminating priority chain. In short: if *A* is a link in a nonterminating priority chain, the superinternality and transitivity of grounding entail that the fact that *A* grounds *B* is also a link in a nonterminating priority chain. So my claim that superinternality blocks the fact regress by blocking the violation of well-foundedness requires assuming that *A* is a link in a well-founded grounding chain.

This is a perfectly reasonable assumption in this context. The question at issue is whether any special problems arise from the claim that every grounding fact is itself grounded. And the answer is no. If there are no independent violations of well-foundedness, that claim does not lead to a violation of well-foundedness or an infinitely expanded ontology. If there are independent violations of well-foundedness, well, then there are *already* violations of well-

foundedness and an infinitely expanded ontology, so there is not much point complaining about the fact regress in particular.[19]

6. *The relation regress revisited*

The superinternality of grounding blocks the relation regress as well. To block the fact regress, the key feature of superinternality is that it both demands and yields a ground for every grounding fact. Here, the key aspect of superinternality is that superinternal relations are *thin*—so thin as to barely be relations at all.

Consider again the more familiar notion of an internal relation. You may recall that Jenny is taller than me. The natural thing to say is that given my and Jenny's existence and intrinsic nature, nothing else has to happen. God need not bend down from heaven and insert the *being taller than* staple between us. One way to capture this thought is to say that the 'staple' is already, automatically present; another, more or less equivalent way to capture it is to say that there is no staple at all. That Jenny is taller than me is not a further fact beyond Jenny's height and my height. It is just a different way of talking.

Mutatis mutandis for superinternal relations. Given the existence of the ground, nothing else has to happen for it to *be* a ground, for it to ground what it does. God need not bend down and insert a staple, nor yank a string to unfurl the grounding relation upwards like a sail. The grounding relation is already, automatically present. Indeed, it is perhaps best not to call it a relation at all.

How does this dissolve the relation regress? Recall that the problem was that if the grounding relation exists in virtue of something else, there apparently must be a distinct relation grounding* to do the work (which in turn exists in virtue of something else, and so on). Now we can see that this is a mistake. No genuinely new relation needs to be postulated. The putative grounding* relation that links the grounding relation to its base is not an extra staple over and above the base any more than grounding is. If we have the base, we have what exists in virtue of it—even when that is grounding itself. There are no extra relations, ground* and so on. There is hardly even one.

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[19] It is interestingly difficult to argue that grounding *is* well-founded (see especially Cameron 2008). Although there is something intuitive about the thought that without well-foundedness, "being would be infinitely deferred, never achieved" (Schaffer 2010, 62), it is hard to see exactly what it means, or why we are supposed to believe it.

8. Objections

Here are three objections to my superinternality solution to the regresses. I do not claim to have satisfactory responses to all of them.

A first objection is due to Kit Fine. In unpublished work, he floats an idea similar to my own:

> what might ground [the grounding facts]? It is very hard to say. One possibility is that the fact that f grounds g will be grounded in the facts f and g and, since g is grounded in f, the fact that f grounds g will also be grounded in f. Thus the ground for the meta-fact 'f grounds g' will simply be the grounding fact f (unpublished 7).

However, he dismisses this move by asking, "but how… can the grounding relation disappear from the ground?" I take it his concern is that something seems to go missing if we deflate the grounding relation as much as the superinternality solution requires. The ground f (or *A*) is almost always something contingent—this particular arrangement of molecules, that particular pattern of physical properties, and so on. Yet f *makes* something else obtain. There is a kind of forcing or necessitating involved in grounding, and nothing contingent can provide it.

I am not sure what to make of this objection. Insofar as I understand it, it sounds rather like an anti-Humean about laws 'arguing' that Humeanism is false because it says that laws describe rather than govern with genuine force. But that is not an *argument* against Humeanism; deployed that way, it is just question-begging. It is at best a gut reaction that motivates one to search for non-question-begging arguments. Similarly here. I do not think this constitutes independent argument against the superinternality strategy.

Second, internal relations seem to be in principle *a priori* deducible from the existence and nature of their relata. An ideal reasoner armed with nothing but the requisite concepts and knowledge of our heights can infer that Jenny is taller than me. If this is true in general, it would seem that the same must be true of superinternal relations. Must the grounded be in principle *a priori* deducible from its grounds? Is this plausible? Here I wade into a dangerous morass that I prefer to avoid for now (see the vast literature on, e.g., black and white Mary and the zombie argument). I merely flag it as a line for further inquiry.

The third objection is from that pesky Tortoise of Lewis Carroll's (1895). I have claimed that given some *A* that grounds *B*, *A* also grounds the fact that *A* grounds *B*, the fact that *A* grounds the fact that *A* grounds *B*, and so forth. But the Tortoise will claim that I am asking far

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too much of *A*. It cannot do that much work, because it alone cannot even ground *B*. Indeed, he will claim that I have things backwards. It is not the case that *A* grounds *B* plus all those grounding facts; rather, it is *only in conjunction with* all those grounding facts that *A* grounds *B* at all. Let's see why he thinks this.

The Tortoise, of course, is primarily interested in convincing Achilles that logical entailment is impossible, that nothing has finite justification. However, his basic idea obviously applies here as well. Suppose I claim that *A* grounds *B*. The Tortoise insists that it is perfectly reasonable to believe that *A* exists (obtains, occurs, etc.) while denying that *B* does. After all, countenancing *A* alone doesn't force him to countenance *B*; he also needs to believe that *A* grounds *B*. Fair enough, we say, but surely the Tortoise must agree that *A* plus the fact that *A* grounds *B* grounds *B*—if he agrees that *A* exists, and that the fact that *A* grounds *B* obtains, he must accept that *B* exists. "No," says the Tortoise, "you have still missed a step…" and he continues on for months. (One can hardly blame Carroll's narrator for suddenly remembering "pressing business at the Bank" (280).) The conclusion is that the grounds for *B* are infinitely long. Anything that is grounded at all has infinitely expanded grounds.[20]

I resist the Tortoise's first move. We do *not* need more than *A* to get *B*. It is a mistake to think that one can countenance *A* without countenancing *B*. It is also a mistake, at least in these regress-inducing contexts, to treat the fact that *A* grounds *B* as an extra thing to accept, separate from *A*.

Now, I realize that the Tortoise will not accept this reply. We are, after all, basically in deadlock. I say that *A* alone grounds *B*, the fact that *A* grounds *B*, the fact that *A* grounds the fact that *A* grounds *B*, and so on *ad infinitum*. The Tortoise says that *A* alone grounds nothing, that only in conjunction with all that infinity of facts does it even ground *B*. So he would not be wrong to accuse me of digging in my heels. Nonetheless, I claim that I am not wrong to do so. My way of going eliminates regress and therefore dissolves the grounding dilemma. The Tortoise's only makes things worse. Which would you choose?

9. Conclusion

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[20] The Carroll conclusion is not that everything that is grounded is a link in an infinite chain of grounding, in violation of well-foundedness. There may be only one 'step' of grounding between *B* and its ultimate grounds—but those grounds are infinitely long.

I admit that the superinternality solution is occasionally hard to articulate, but that does not make it wrong. The *regresses* are suprisingly hard to articulate, too, but that does not make them nonsense.

The grounding dilemma is hard. On pain of flatworldism, we must solve it. To solve it, we must either claim that both the grounding facts and the grounding relation are fundamental, or else claim that they are grounded, or else wave a magic wand and find some way between the horns. I have not argued that the first and third options are hopeless. I have simply argued that the second is definitely not. Grounding is not fundamental.

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