

Seminar on Ground

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1. Introduction to ground

1.1 The idea of ground

We'll be talking about an emerging and exciting topic: ground.

In the beginning of a recent paper (2010, p. 109), Gideon Rosen introduces the idea of ground, and captures its sociology nicely:

This essay is a plea for ideological toleration. Philosophers are right to be fussy about the words they use, especially in metaphysics where bad vocabulary has been a source of grief down through the ages. But they can sometimes be too fussy, dismissing as 'unintelligible' or 'obscure' certain forms of language that are perfectly meaningful by ordinary standards and which may be of some real use.

So it is, I suggest, with certain idioms of metaphysical determination and dependence. We say that one class of facts *depends upon* or is *grounded in* another. We say that a thing possesses one property *in virtue of* possessing another, or that one proposition *makes* another true. These idioms are common, as we shall see, but they are not part of anyone's official vocabulary. The general tendency is to admit them for heuristic purposes, where the aim is to point the reader's nose in the direction of some philosophical thesis, but then to suppress them in favor of other, allegedly more hygienic formulations when the time comes to say *exactly* what we mean. The thought is apparently widespread that while these ubiquitous idioms are sometimes convenient, they are ultimately too unclear or too confused, or perhaps simply too exotic to figure in our first-class philosophical vocabulary.

Here are some ways that various authors put claims of ground (they take them to be, more or less, equivalent), where F_1 and F_2 are facts:

- F_1 *depends upon* F_2

- F_2 is *grounded in* F_1
- F_1 holds *in virtue of* P_2
- F_1 *makes* F_2 obtain
- F_2 obtains *because* F_1 obtains

1.2 Relata

In these claims the relata of the grounding (dependence, in-virtue-of, making, because) relation are facts; but we might instead take the relata to be propositions, or sentences. As we'll see, another possibility is that grounding isn't a relation at all, and so has no relata. On this approach, the locution for talking about ground is a sentence operator; one says " ϕ because ψ ", where ' ϕ ' and ' ψ ' are replaced with sentences (rather than names of facts or propositions or sentences). And yet another possibility (Schaffer) is that grounding relates individuals (so that one could say, e.g., that the senate is grounded in the senators). Yet another related concept is what Bennett (2013) calls "building": wholes are built from their parts, sets are built from their members, determinables are built from determinates, macro properties are built from their realizers, etc.

1.3 Examples

- "The fact that the ball is red and round obtains in virtue of the fact that it is red and the fact that it is round" (Fine, 2012, p. 37)
- "the particle is accelerating in virtue of increasing its velocity over time" (Fine, 2012, p. 39)
- "The dispositions of a thing are always grounded in its categorical features" (according to some) (Rosen, 2010, p. 110)
- "How do nonmoral properties give rise to moral ones, or normative ones more generally? How are the modal facts built out of the nonmodal ones?" Bennett (2013, chapter 1, p. 1)
- "[the debate] over the mind is not a dispute over whether mind or matter exists, but rather over whether mind is based in matter. The debate...over substantial space is not a dispute over whether there is space, but rather

over whether space is grounded in its occupants. And, finally, [the debate] over monism is not a dispute over whether wholes or parts exist, but rather over which is prior. (Schaffer, 2009, p. 363)

1.4 Grounding and explanation

The two are thought to be connected. E.g., Fine calls ground

...a distinctive kind of metaphysical explanation, in which explanans and explanandum are connected, not through some sort of causal mechanism, but through some constitutive form of determination... Fine (2012, p. 37)

As Schaffer (2012, pp. 122, 124) points out, it's natural to think of explanation as something *we* do, but as being backed by something in the world. E.g. if a causal explanation is to be good, there must be corresponding causal or nomic facts: causation (or laws) underwrites good causal explanations. So on this way of viewing things, Fine's point should be put a little differently: there is a distinctive kind of metaphysical explanation, and this kind of metaphysical explanation is underwritten by a distinctive metaphysical relation, grounding, which is a constitutive form of determination.¹

1.5 Necessitation, Directionality

Most writers accept:

Entailment If p grounds q then necessarily, if p is true then q is true

But everyone rejects the converse. E.g.:

...there would appear to be something more than a modal connection [in cases of grounding]. For the modal connection can hold without the connection signified by 'in virtue of' or 'because'. It is necessary, for example, that if it is snowing then $2 + 2 = 4$ (simply because it is necessary that $2 + 2 = 4$), but the fact that $2 + 2 = 4$ does not obtain in virtue of the fact that it is snowing; and it is necessary that if the ball is red and round then it is red but the fact that the ball is red does not obtain in virtue of its being red and round. In addition to the modal connection, there

¹Schaffer takes this point to favor entity-grounding, but I think the issues are orthogonal.

would also appear to be an explanatory or determinative connection—a movement, so to speak, from antecedent to consequent; and what is most distinctive about the in-virtue-of claims is this element of movement or determination. Fine (2012, p. 38)

Thus a distinctive feature of ground is that it usually (and perhaps always) holds in just one direction.

1.6 Essence

Ground may also be connected to essence, as understood by Fine (1994).

A traditional concern of metaphysics was that of what is essential. What is essential to a person? (As Fine puts it, the question is that of *what it is* to be a person. For example, is the essence of being a person something psychological or not?)

As he notes, it was common in the 70s and after to define essence in modal terms.

Modal definition of essence It's essential to x that x is F iff it's necessarily true that (if x exists, then) x is F

But as Fine notes, this doesn't seem right. His most famous and compelling example: it's necessarily true that Socrates is a member of {Socrates}; and it's necessarily true that {Socrates} contains Socrates as a member. The modal account then implies that it's essential to Socrates that he is a member of {Socrates}, and that it's essential to {Socrates} that it contains Socrates. But only the second judgment seems right. *Part of what it is to be* {Socrates} is to contain Socrates; but being a member of {Socrates} is not part of what it is to be Socrates.

Fine concluded that the notion of essence isn't definable in terms of modality. You need to add to your metaphysical tool kit this big fat new notion: essence.

Digression: the recent ground movement is in general part of an "inflationist" movement in recent metaphysics: being much more comfortable with more "metaphysical notions". (Perhaps this has something to do with Fine himself, the dominant metaphysician of the past 10 years, who by temperament is an inflationist, in contrast to the dominant metaphysician of the preceding 20, Lewis, whose temperament was deflationist.) It's not just essence and ground.

E.g. lots of people are now comfortable with formulating the debate over temporal parts in terms of very metaphysical notions. Take an person whose worldline is W . In some sense, the person “exactly occupies” W . Now, until the 2000s, the issue of temporal parts was mostly taken to be ontological: do there exist objects that are confined to the timeslices of W ? But nowadays, lots of people say things like: even amongst people who agree that there *are* such temporary objects, there remains a further issue, about *how* the person occupies W . On the one view (the temporal parts view), the person occupies the entire region. On another view (the non-temporal-parts view), the person doesn’t occupy the entire region; rather, she occupies each of its timeslices. This latter view is described as the view that the person is “wholly present at each moment”. In order for this to be a coherent distinction, one needs to utilize a very “metaphysical” notion of occupation. For after all, even the “wholly present” person agrees that the person “occupies” the whole region in the sense that you can’t find the person anywhere else, and no part of the region is free of the person.

End of digression. Note the parallel with our discussion of ground and necessitation. If you look at Socrates and {Socrates} modally, they’re symmetric; but in terms of essence there’s a “directional” difference. So one naturally wonders what the connection is, between essence and ground.

Not sure if we’ll talk much about this, but let me at least make it clear that essence and ground aren’t the very same notion. The notions have different logical forms. Ground relates a pair of propositions (p grounds q), whereas (the way Fine sets it up anyway), essence involves a single proposition plus an object: (it’s part of the essence of x that p). Also, when p grounds q , neither p nor q need to be claims that hold in virtue of the essence of anything. E.g., it’s raining or snowing in virtue of the fact that it’s snowing. (But it’s still possible to hold that this grounding fact has something to do with essence. E.g., the grounding fact just mentioned might be argued to have something to do with the essence of disjunction.)

1.7 Connection to the practice of metaphysics

Bennett, Fine, Rosen, and Schaffer all take grounding or something like it to be central to the practice of metaphysics, or at least part of metaphysics. The basic idea is that a big part of metaphysics is figuring out the nature of “ultimate

reality”. Is reality ultimately physical, as materialists say, or is it ultimately mental, as idealists say? Do moral facts ultimately “boil down” (in some sense) to nonmoral facts, as naturalists say, or must moral facts be recognized as *sui generis* (in some sense). These authors regard these claims about “ultimately”, “boiling down”, etc. to be claims about something like ground. E.g. are mental facts grounded in physical facts (materialism), are physical facts grounded in mental facts (idealism), or are there both utterly ungrounded mental facts and utterly ungrounded physical facts (dualism)?

When we’re asking “what is the nature of *X*?”, many of these authors regard us as asking about ground (or essence, in Fine’s case). Here’s an often-given example.² In the *Euthyphro*, Plato’s Socrates is asking what it is for something to be pious, and considers the suggestion that things that are pious are pious because they’re loved by the gods. Of course, one way to challenge this would be to argue that it’s not always true that something is pious iff it is loved by the gods. But Socrates makes a different argument. He concedes this biconditional (and perhaps even concedes that it is necessarily true), but still challenges the *because*—i.e. grounding—claim. Even if something is pious iff it is loved by the gods, it’s not true that pious things are pious *because* they’re loved by the gods. (If anything, the story goes in the other direction.)

Let’s look at some further ways in which grounding might be relevant to metaphysics.

1.7.1 Ground figures in the content of metaphysical claims

Ground might figure in the content of metaphysical claims. E.g. one might take materialism, the view that “reality is ultimately material” to be the view that all facts are either physical or are grounded in physical facts.

Side point: Fine (2001) rejects this characterization, and argues that in addition to ground we need a further notion, that of a proposition “being real”, or “holding in reality”, meaning ultimate reality. I didn’t assign this paper, because at points it is very difficult; but in many ways it’s the most important paper on ground.

There is another way that ground might figure into the content of metaphysical

²See Evans (2012) for this interpretation of Plato’s text itself.

claims. This is stressed by Fine (2001).³ In ethics there is supposed to be a distinction between factualists and nonfactualists:

The distinction, first pass Factualism: there are ethical facts, and ethical statements have truth values. Nonfactualism: these claims aren't true.

So factualists think that there are ethical facts (even if they're not fundamental facts); nonfactualists are people like emotivists, who think that the function of moral language isn't to state facts, but rather is to express our emotions. (Or plans, or) But: some contemporary nonfactualists are tricky. Like all nonfactualists, they're happy to go around saying things like 'Murder is wrong' (because they have the appropriate emotions or whatever). But they're *also* happy to go around saying things like 'There is a fact that murder is wrong', 'The sentence "Murder is wrong" is true', and so forth. Why? Because i) they have the right emotions (or whatever), and ii) they're "deflationists" about words like 'true' and 'fact': the rules for use of these words specify that you get to utter '*S* is true' and 'There is a fact that *S*' in exactly the same circumstances in which you get to utter *S* itself. But given this sort of tricky expressivism, how to understand the difference? Not the way I did above. Fine argues that we need to understand it in terms of grounding and reality:

The distinction, in Fine's terms Factualism: ethical facts are grounded in facts that hold in reality. Nonfactualism: that's not true.

There is a more general kind of situation in which we might want to articulate metaphysical claims using ground (or something like it). In the previous example, the problem was that there is a "deflationary" or "thin" way of reading a crucial term ("fact", "true"), which trivializes the flat-footed way of articulating a philosophical claim; we used ground (and reality) to articulate a "heavy duty" sense of the term; then we articulated a nontrivial version of the claim using the heavy duty sense. There are other cases that fit this same pattern. e.g. take ontology. Do there exist numbers? On some people's view, one can introduce a thin or deflationary sense in which it's pretty trivial to say that there exist certain things. E.g. someone like Schiffer (2003) thinks that there's a sense in which 'there are propositions' follows analytically from claims like 'John believes that snow is white' ('John believes that snow is white' is semantically equivalent to 'John believes the proposition that snow is white', which logically

³See also Dreier (2004).

implies that there are propositions.⁴) If one wants to accept these thin senses of there existing certain things but thinks that there remains a question of the ontology of propositions (not that people like Schiffer want to), one needs to articulate a thick sense of there existing propositions. And one can use ground to do it. E.g., Fine (2009) would say something like this: propositions exist in the thick sense iff some facts about propositions are *not* grounded in facts that make no mention of propositions.

1.7.2 Ground is relevant to the defense of metaphysical claims

Fine stresses this, concerning an imagined “anti-realist” about mentality or morality, i.e. someone who thinks that “reality” (i.e. ultimate reality) doesn’t contain mentality or morality:

For the anti-realist faces an explanatory challenge. If he wishes to deny the reality of the mental, for example, then he must explain or explain away the appearance of the mental. It is likewise incumbent upon the realist, if he wishes to argue against his opponent, to show that this explanatory challenge cannot be met.

The question now is: how is this explanatory challenge to be construed? What is it to explain the appearance of a world with minds in terms of a mindless world or the appearance of a world with value in terms of a purely naturalistic world? My own view is that what is required is that we somehow *ground* all of the facts which appear to presuppose the reality of the mental or of value in terms of facts which do not presuppose their reality. Nothing less and nothing else will do. Fine (2012, p. 41)

1.8 Ground and eliminativism

Some writers about ground are dismissive of “eliminativist” views. Here are two examples.

- *Ontology*: Do there exist tables and chairs? Some people, e.g. Peter van Inwagen, have said *no* (though there do exist subatomic particles “arranged tablewise” and “arranged chairwise”.) Schaffer and Fine both say things like the following: PvI’s eliminativism is absurd. *Of course* there

⁴See also literature on neoFregeanism.

exist tables and chairs. So whether there exist tables and chairs isn't an interesting question. But there is an interesting question of the ontology of tables and chairs: it's what grounds (facts about) tables and chairs.

- Some people (e.g. Mackie) are moral eliminativists. They say: since it's hard to fit morality into the nonmoral world (and since it would be crazy to say that the moral is its own autonomous domain), we must hold that morality is just a big mistake. There is no such thing as right and wrong. But Fine regards this as absurd. The interesting question isn't whether morality exists (of course it does). The existence of morality is part of the data to which metaphysical theories must conform. The interesting question is rather what grounds morality (or moral beliefs).

Thus ground plays a further philosophical role: it makes room for live philosophical questions even given Mooreanism.

Let me stress: you don't have to have this attitude towards eliminativism in order to take ground seriously! A friend of ground could regard the space of options about, e.g., tables and chairs as:

- there are no tables and chairs (eliminativism)
- there are tables and chairs, and facts about them are not grounded in facts not involving them (strong realism)
- there are tables and chairs, but facts about them are grounded in facts not involving them (weak realism)

Why might one dismiss eliminativist views? We should distinguish two reasons. One is epistemic: one might claim that anti-eliminativist claims are maximally certain. "There exist tables and chairs", for example, is more certain than any philosophical case against it. (Compare Moore's defense of common sense.) Another is metaphysical: you could hold that anti-eliminativist claims are thin and undemanding. For example, Fine says:

For given any persisting object, [a three-dimensionalist] might suppose that "in thought," so to speak, we could mark out its temporal segments or parts. But his difference from the four-dimensionalist will then be over a question of ground. For he will take the existence of a temporal part at a given time to be grounded in the existence of the persisting object at that time, while his opponent will take the existence of the persisting object at the time to be grounded in the existence of the temporal part.

(Fine, 2012, p. 42)

Another example of this sort: one might argue as follows. i) The English sentence “there exist tables” comes out true if assigned the truth condition that there exist subatomic particles arranged tablewise. ii) That English sentence is used by English speakers in such a way that there is immense metasemantic pressure to assign a meaning to it so that it comes out true. So iii) even if there is some reasonable meaning one might assign the sentence that would make it true, a better assignment of meaning would be the truth condition that there exist subatomic particles arranged tablewise, which counts it as true.

1.9 The need for ground

Let’s now get a little more into the argument for why we *need* to invoke ground at various points in philosophy. This will also lead us to a deeper understanding of what ground is (because we’ll have a clearer sense of what ground is supposed to do.)

When I was in graduate school, I took a course on ethics from Fred Feldman, who set things up in the following way. There are two kinds of claims about ethical concepts one can make. On the one hand, one can make a metaethical claim; and this kind of claim is a claim about the *analysis* of a property. An analysis of a property is a property identity, e.g.: that goodness = the property of causing pleasure. Moreover, property-identities were construed in a certain way. Predicates are synonymous iff they express the same property; thus, the property of being an *F* = the property of being a *G* iff the predicates *F* and *G* are synonymous. So in essence, to make a metaethical claim, one makes a claim about the meanings of ethical predicates.

The other kind of claim is a synthetic necessity. E.g., it’s necessarily true that an act is right iff it maximizes utility. It’s synthetic because the claim isn’t that ‘right’ *means* ‘maximizes utility’.

This was a pretty common way of thinking of the space of options for philosophical accounts of things. When we’re giving a philosophical account of one concept in terms of another, there are different strengths of connections we might claim hold between those concepts. The space of options Feldman was working with was this:

tighter connections ↓	modal	$\Box \forall x (Fx \leftrightarrow Gx)$
	analytic	$Fx =_{\text{df}} Gx$

A fuller account of the available space of options might be this:

tighter connections ↓	material	$\forall x (Fx \leftrightarrow Gx)$
	nomic	$\Box \forall x (Fx \leftrightarrow Gx)$
	modal	$\Box \forall x (Fx \leftrightarrow Gx)$
	apriori	$\Box \forall x (Fx \leftrightarrow Gx)$
	analytic	$Fx =_{\text{df}} Gx$

Think of the defenders of ground as saying that this set of concepts is inadequate, and that we need to add another connection, in between necessary and apriori equivalence:

tighter connections ↓	material	$\forall x (Fx \leftrightarrow Gx)$
	nomic	$\Box \forall x (Fx \leftrightarrow Gx)$
	modal	$\Box \forall x (Fx \leftrightarrow Gx)$
	metaphysical	??
	apriori	$\Box \forall x (Fx \leftrightarrow Gx)$
	analytic	$Fx =_{\text{df}} Gx$

(I put this in terms of equivalence, but the issue is the same for metaphysical claims that are merely conditional: we need something in between modal and analytic implication.)

Fine puts this well, in a discussion of how to understand materialism in the philosophy of mind:

It will not do, for example, to say that the physical is causally determinative of the mental, since that leaves open the possibility that the mental has a distinct reality over and above that of the physical. Nor will it do to require that there should be an analytic definition of the mental in terms of the physical, since that imposes far too great a burden on the anti-realist. Nor is it enough to require that the mental should modally supervene on the physical, since that still leaves open the possibility that the physical is itself ultimately to be understood in terms of the mental.

The history of analytic philosophy is littered with attempts to explain the special way in which one might attempt to “reduce” the reality of one thing to another. But I believe that it is only by embracing the concept of a ground as a metaphysical form of explanation in its own right that one can adequately explain how such a reduction should be understood. For we need a connection as strong as that of metaphysical necessity to exclude the possibility of a “gap” between the one thing and the other; and we need to impose a form of determination upon the modal connection if we are to have any general assurance that the reduction should go in one direction rather than another. Fine (2012, pp. 41–2)

Let’s think a little harder about what he’s saying. He’s making several assumptions about what we might call “metaphysical explanation”—what we’re doing when we give a metaphysical account of the nature of mind, or morality, for example. First, he’s assuming that when we give metaphysical explanations, we really are doing something intelligible, and we’re doing roughly what we think we’re doing.

Existence There are such things as metaphysical explanations

Second, there is this:

“we need a connection as strong as that of metaphysical necessity to exclude the possibility of a “gap” between the one thing and the other”

The assumption is:

Necessitation is necessary In a metaphysical explanation, the explanans necessitates the explanandum

Otherwise, he says, there will be a “gap” between the two. His reasoning is

obviously very compressed here, but it's got a lot going for it. Suppose someone held that the metaphysical account of what it is to be a creature with a heart is to be a creature with a kidney. That's obviously inadequate, even if in fact, all and only creatures with hearts are creatures with kidneys. Next suppose someone held that the metaphysical account of what it is to travel at lightspeed is to be a photon. Again, that's obviously inadequate, even if the laws of nature guarantee that the two are coextensive. *Why* are these proposals inadequate? Fine suggests that the metaphysical possibility of traveling at lightspeed without being a photon, e.g., is at least a sign that we don't have a metaphysical account here—that there is, as he puts it, a “gap” that's incompatible with being a metaphysical account.

Note that you can have the kind of “gap” Fine is talking about even if you *do* have metaphysical necessitation. It's necessarily true that $2 + 2 = 4$, but an alleged explanation of this fact as consisting in the fact that either snow is white or snow isn't white suffers from the same intuitive gap.

Next there is the following assumption.

Necessitation not sufficient In some cases there is necessitation without metaphysical explanation

This is the crux of the issue. (Really, it's metaphysical necessity that ground is most keen to supersede, as the central “tool” of metaphysics.) There are two different arguments for this that are worth distinguishing.

First, we can just look at examples.

- The fact that $2 + 2 = 4$ can't be metaphysically explained by the fact that either snow is white or snow isn't white, even though the former is necessitated by the latter. For any P , the fact that $P \wedge P$ necessitates but does not explain the fact that P .
- Suppose Spinoza is right that all true propositions are necessary. Then any true proposition necessitates any other; but it's not the case that any true proposition metaphysically explains any other. Or suppose that God exists necessarily. Then God's existence is necessitated by, but not explained by, the fact that snow is white. (Note that in this case, the argument relies on judgments about what *would* explain what, given odd metaphysical hypotheses.)
- According to most ethicists, a complete nonmoral description of the world

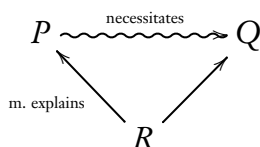
necessitates the moral facts. But not all ethicists are naturalists: many would hold nevertheless that the moral is not metaphysically explained by the nonmoral. (Well, it's unclear whether nonnaturalists would conceptualize their view in terms of metaphysical explanation—we'll discuss this later.)

Second, there is the directionality issue that Fine emphasizes:

“we need to impose a form of determination upon the modal connection if we are to have any general assurance that the reduction should go in one direction rather than another”

In its crudest form, the argument is something like this: necessitation *can* go both ways, but explanation can't; so necessitation isn't the same thing as explanation.

One might respond to this kind of argument by saying: “ok, metaphysical explanation can't be identified with necessitation, but it can still be defined in terms of necessitation in a more complicated way: *P* metaphysically explains *Q* iff *P* necessitates *Q* and *Q* doesn't necessitate *P*.” (People talked about this kind of proposal in the literature on supervenience.) A standard reply is the following: even if *P* asymmetrically necessitates *Q*, it might not metaphysically explain *Q* if both *P* and *Q* are metaphysical epiphenomena, so to speak, of some further *R*:



Can anyone think of a good nonschematic example? (Didn't I think of a good one in conversation w/ D Kovacs??)

Finally, there is:

“Nor will it do to require that there should be an analytic definition of the mental in terms of the physical, since that imposes far too great a burden on the anti-realist.”

I.e.

Analyticity and apriority not necessary In some cases there is metaphysical explanation without either analytic or apriori implication

This is a little harder to argue for, because of two reasons. One, the notions of apriority and analyticity are so unclear. And two, there are sophisticated attempts to argue that the range of apriori implication, anyway, is a lot greater than you might have thought—see e.g. Chalmers (1996). We'll try to take up some of these issues more later, but the basic idea is that one could uphold a metaphysical account of, e.g., mentality in terms of the physical, without claiming that this account flows from= the *meanings* of mental terms, and without claiming that it's a priori. The account is metaphysical, not semantic or epistemic.

In summary: ground is supposed to be a connection that is in between modal and a priori implication. It's still metaphysical (not epistemic or semantic), but it's closer than mere necessitation. That helps; but what exactly *is* the connection? Fine gives the feel, albeit in elusive terms:

It is for this reason that it is natural in such cases to say that the explanans or explanantia are *constitutive of* the explanandum, or that the explanandum's holding *consists in nothing more* than the obtaining of the explanans or explanantia. But these phrases have to be properly understood. It is not implied that the explanandum just *is* the explanans (indeed, in the case that there are a number of explanantia, it is clear that this requirement cannot be met). Nor need it be implied that the explanandum is unreal and must somehow give way to the explanantia. In certain cases, one might wish to draw these further conclusions. But all that is properly implied by the statement of (metaphysical) ground itself is that there is no stricter or fuller account of that in virtue of which the explanandum holds. If there is a gap between the grounds and what is grounded, then it is not an explanatory gap. Fine (2012, p. 39)

Review

Last class was scattered; let me make sure the basics are clear.

- *Idea of ground*. One fact producing another, one fact holding in virtue of another. The core idea is that many of the main theses of philosophy are really claims about ground. E.g., materialism is the view that all facts are

grounded in physical facts. Can think of it as “metaphysical causation” maybe.

- *conditional vs biconditional*. In philosophy we sometimes ask: “what is Knowledge?” “What is the good?”, “what is it to have a belief?”, etc. Now, in some of these cases we may be after an a priori account of the target (e.g. maybe the JTB account was supposed to be a priori; and some functionalists think of their account of analytic). But in many cases we’re after what the phenomenon consists in, metaphysically, not a priori. So there’s something like the niche for ground here. *However*, when we give an account of what knowledge, or the good, or a belief *consists in*, we’re after necessary and sufficient conditions for being the thing. So perhaps we should distinguish “metaphysical analysis” (Dorr’s term) from ground. Each is a connection in between necessity and a priority, but ground implies necessary conditionals whereas metaphysical analysis implies necessary biconditionals.
- *Eliminativism and ground* (see above) (Fran was also asking about this.)
- *Fran’s email point*. Ground was motivated by giving many cases (e.g. physicalism, the Euthyphro problem). But one might object that there are different things going on in these different cases. This is indeed a way to resist ground; we’ll talk about it more soon. [This wasn’t her whole point, and may not have been her main one.]
- *Chad’s question*. In statements like this:

F_1 obtains in virtue of F_2 ’s obtaining

is the ‘obtains’ part significant, so that in-virtue-of/ground is about obtaining? No; the ‘obtains’ is just there because ‘in virtue of’ calls for sentences on either side, not names. The locution is really a two-place predicate: $G(F_1, F_2)$. We can of course ask about grounding facts in the case where F_1 and F_2 are higher-order facts, such as *the fact that the fact that snow is white obtains*. But we can also ask about first-order facts (like the *fact that snow is white*) directly. (And it may be important to be able to ask about both, e.g. in the case where we want to claim that the higher-order facts hold in virtue of the first-order facts.)

2. Fact/operator view

Now we'll talk about some more details, regarding one particular conception of grounding.

2.1 Operator vs predicate

Simplest version of the view: the canonical statement of ground takes the form:

$$F_1 \text{ grounds } F_2$$

where ' F_1 ' and ' F_2 ' are names of facts (facts in the worldly, nonrepresentational sense, as Fine is thinking of it).

But in Fine's view (and I agree), the best form of the view takes the canonical statement to instead be like this:

$$\phi \text{ because } \psi$$

where ' ϕ ' and ' ψ ' are not names, but rather are schematic variables that may be replaced with sentences. Thus on this view, the core locution, 'because', is an operator, not a predicate.

[Clarify the operator vs predicate distinction.]

Why prefer the operator view? As Fine points out, it stays neutral about certain things. E.g. suppose we want to say that something is water in virtue of its being H_2O . If we take ground to be a relation between facts or propositions, we'll need to have a pretty fine-grained conception of those things, in order to keep ground irreflexive.

Why are connectives like 'and' and 'not' normally regarded as operators, not predicates (of propositions, or sentences)?

First, get clear on what it would mean to regard them as predicates. The view might be the following. When you utter a conjunctive sentence $A \wedge B$, the logical form is actually $C(\langle A \rangle, \langle B \rangle)$, where C is a predicate for conjunction and $\langle C \rangle$ is the proposition expressed by sentence C . So note that in addition to the conjunction sign, we need a device $\langle \dots \rangle$ for forming names of propositions, when you stick a sentence inside. But now there is a question about iteration. What proposition does $A \wedge (B \wedge C)$ express? The view says that it expresses the

proposition $C(\langle A \rangle, \langle B \wedge C \rangle)$. But now “ \wedge ” occurs in the name of a proposition (in the expression “ $\langle B \wedge C \rangle$ ”). So in addition to our predicate C for conjunction, we seem to need a second concept of conjunction as well: we need something which converts two names of propositions into a name of a further proposition. [Illustrate this with a diagram of the space of propositions.] This is a function on the space of propositions.

One could get by with just the function, by introducing a truth predicate. Maybe this would be the most sensible view. On this view, *all* sentences, even atomic sentences, refer to propositions. So when you say “snow is white”, you’re really saying “ s is true”, where s is a name of the proposition that snow is white. Then you can regard “snow is white and grass is green” as meaning “ $c(s, g)$ is true”, where s and g are names of the propositions that snow is white and grass is green, respectively, and c is the conjunction function.

Ok, now, why prefer the operator approach? First, the predicate approach intuitively brings in extraneous entities and concepts—propositions and truth. When we say that snow is white and grass is green, we’re just talking about the same sorts of entities as we’re talking about when we say that snow is white: snow, say. We don’t suddenly ascend and start talking about things like propositions.

Perhaps there is a parallel reason to prefer the operator approach to ground. When we assert that snow is white, and then ask why, aren’t we querying the very part of reality that the assertion concerned? (We might *also* ask about the fact that snow is either white or green, of course.)

Another reason for treating ‘and’, etc. as operators is metasemantic. Assume that the operator semantics and the predicate semantics are both coherent and available. But which do *we* mean? The operator semantics seems then to be a more plausible hypothesis, since the higher-order semantics attributes unnecessary semantic complexity. Not sure this has an analog for ground, since ground isn’t natural language; the question is how best to speak, not how we already do speak.

With some operators, treating them as predicates leads to paradox (as in Montague (1963)). There may be a risk of that with ground; might be worth looking into.

(By the way, the following argument might seem like a good one, but it isn’t really. It’s very natural to say: the fact that snow is white obtains because snow

is white. Snow, not facts, wear the pants. The tempting argument is then that this view could not be stated if ground were a predicate of facts rather than an operator. This is a bad argument; the view could be understood, as follows:

[Snow is white] grounds [[Snow is white] obtains]

where ‘ $[\phi]$ ’ to denote the fact that ϕ . The crucial thing is that even though the relata of the ground predicate are facts, on the predicate view, the relation of ground needs to be properly understood. The question “why ϕ ” (e.g. “why is snow white?”) is answered by a claim of the form “ F_1 grounds [snow is white]”. An “ascent” is built into the meaning of the grounding predication, intuitively. So “why does [snow is white] obtain” would not be answered by something of the preceding form; it would instead be answered by something of the form “ F_1 grounds [[snow is white] obtains]”).

The operator view does have a disadvantage, though (as Fine notes). Suppose we want to say there is no ground for snow’s being white. It’s easy with the fact view:

there exists no F' such that F' grounds [Snow is white]

Not so easy with the operator view. Some possibilities:

- There exists no S such that Snow is white because S
- There exists no sentence S such that \ulcorner Snow is white because $S \urcorner$ is true

The former is ungrammatical in typical languages; we’d need a language allowing quantification into sentence position. The second won’t be right if the language in question lacks a sentence for the ground in question.

2.2 Plural arguments

Suppose we want to say that conjunctions are grounded in their conjuncts. We can’t say:

$A \wedge B$ because A and $A \wedge B$ because B

For “ $A \wedge B$ because A ” may well be false (it implies $\Box((A \wedge B) \rightarrow A)$). We don’t want to say that $A \wedge B$ is grounded in its conjuncts *individually*; we want to say that it’s grounded in them *taken together*. This means regarding the operator ‘because’ as being plural on its right, so we can say:

$A \wedge B$ because A, B

The principle that ground implies necessitation then needs to be restated:

Entailment restated If A because Γ , then necessarily: if $\bigwedge \Gamma$ then A

(“ Γ ” takes the place of an arbitrary list of sentences; $\bigwedge \Gamma$ is the conjunction of those sentences. Note that this definition is a schema.)

2.3 Full versus partial ground

What I have been discussing is what Fine calls *full* ground. When A because B_1, B_2, \dots , then Fine calls each of the B_i s individually a partial ground of A .

As Fine points out, the notion of full ground seems to be a more basic one. You can define partial in terms of full, and I just did. But not the reverse. Suppose A and B are both true. Then $A \wedge B$ and $A \vee B$ have the same partial grounds, but different full grounds.

[Fine gets into tons of other subtle issues involving types of ground, their logic, semantics, about essence, and other things. Lots of potential paper topics in there.]

2.4 Some logical issues

Here are some principles that Rosen discusses. In Fine’s terms, the relevant notion of ground is strict, full ground.⁵

Asymmetry If A because B, Γ , then not: B because A, Δ

Irreflexivity Not: A because A, Γ

Transitivity If A because B, Γ and B because Δ , then: A because Γ, Δ

Factivity If A because Γ , then $\bigwedge \Gamma$

Monotonicity If A because Γ , then A because B, Γ

\wedge If A and B , then: $A \wedge B$ because A, B

\vee If A , then $A \vee B$ because A

⁵“Strict” is the sort of ground that obeys irreflexivity.

\exists If $\phi(a)$, then $\exists x \phi(x)$ because $\phi(a)$

Comments:

- Asymmetry implies irreflexivity
- Fine introduces a type of ground, weak ground, for which irreflexivity and hence asymmetry fail.
- Fine introduces a type of ground, immediate ground, for which transitivity fails.
- Fine introduces a type of ground, nonfactive, for which factivity fails.
- It's important that Monotonicity fails. The ground is supposed to be entire relevant to the grounded.
- \wedge , \vee , and \exists are part of what Fine calls the “impure” logic of ground, since they don't concern the grounds of arbitrary claims, but rather, of claims with certain specific logical forms.
- Fine notes an interesting problem with \exists . It implies that $\exists x x=a$ because $a=a$, which by Entailment implies that Necessarily, if $a=a$ then $\exists x x=a$. But since (he says) it's necessary that $a=a$, it follows that it's necessary that $\exists x x=a$ —that a exists necessarily. He has a very interesting solution to this problem. [—must-reading if you're interested in the various puzzles having to do with necessary existence.]
- possible paper topic: Dasgupta's argument that ground is plural in both arguments.

2.5 Is ground fundamental?

Seems to me one very important question is whether any facts about grounding are themselves fundamental.

When ground is argued to be a new “primitive” notion, what does that mean? On the one hand the primitivity could be merely conceptual or methodological. When we *say* ‘ground’, we don't *mean* anything that could be stated in other terms; and it's *legitimate* to talk about ground without having a definition in our pocket. But on the other hand, one might regard commitment to ground

as commitment to some new metaphysics: to some facts that (to put it in terms of ground) are not grounded by non-ground-involving facts.

Let's introduce the notion of a fundamental fact. This could be understood in various ways. Perhaps as: not grounded in anything else. Perhaps as (if we buy certain things in Fine (2001)): holds in reality. Or perhaps in some other way. Intuitively, the idea is that of a rock-bottom fact. Now we can distinguish two ways in which ground might be metaphysically primitive.

Strongly metaphysically primitive All facts about ground are fundamental

Weakly metaphysically primitive Some facts about ground are fundamental

Here is an argument against strong primitiveness. Suppose that there is a city because *C*. Then this fact itself is a fundamental fact, given strong fundamentality. And intuitively that's wrong: it means that one of the fundamental facts involves the property of being a city. Intuitively: when God created the world, she didn't need to think about cityhood at all. (This is my "purity" argument.)

If you buy the final claim, you'll presumably also want to say that *no* fact about ground that involves a "nonfundamental concept" (such as *city*) is a fundamental fact. But that leaves open that weak primitiveness is still true. One might hold that grounding claims like these are fundamental facts: there exists an electron or there exists a proton because there exists a proton.

If you buy the purity argument, there is then a question of how facts about ground are to be grounded. We'll spend some time on that separately. But for now, assuming that facts about ground must indeed be grounded, where does this leave us?

1. *No quick account of connection/levels.* Anyone who talks about fundamentality (e.g. "fundamental facts") will say that in some sense, all other facts are based in them. (If you're not willing to say anything like that, it's hard to see why you're talking about fundamentality.) But what is this basing relation? What is the relationship between statements about physics and statements about, e.g., cities, smiles, and candy?

If you posited fundamental facts of ground, you would have an account of this relation. But what if you only posit nonfundamental facts of ground?

Well, you can still say that the relation is that of ground. (Similarly, you can *say* that the relation of ground is the notion at issue in philosophy,

when we state physicalism, etc.) But it shouldn't be thought that this helps us understand the relation any better. All we're doing is insisting that there is a relationship, and that it isn't identical to necessitation, or a priori implication, or.... For ground is "primitive" only in a conceptual or methodological sense; thus we still have the question of what the levels relationship amounts to (i.e. how facts about grounding are themselves grounded).

2. *Ground might yet be modal.* For all the assault on modal *definitions* of ground, ground may yet be grounded in modal terms (or modal plus other stuff). We don't know how that would go, but nor do we know how facts about cities are grounded in microphysics.

Now, ground might be grounded in modal stuff plus the austere facts about ground. But here, there is a question of whether there's really a reason to posit those austere facts. They're so mechanically given.

2.6 Infinite descent

There's a controversy over whether it should be assumed that ground is well-founded, i.e. over whether there could be an "infinite descent" of ground; i.e. over whether there must be a "bottom level" of reality.

It's very hard to give an argument against infinite descent that doesn't beg the question. E.g. "if there's no bottom, then where does anything come from?" (Compare attempts to argue for the PSR.) On the other hand, the principle seems pretty damn right.

It's normally assumed that the only kind of possibilities that would call for infinite descent would be quite weird, e.g. involving gunk. But actually, one can argue that perfectly mundane phenomena involve gunk.

Given path dependent distance, the friend of ground will feel compelled to say that a certain path is one meter long *because* it is made up of two (nonoverlapping) half-meter long parts. (This is consistent with saying that it's *also* the case that the path is one meter long because it's made up of a quarter-meter part and a three-quarter meter part.) But now, the half-meter long parts of the initial path have the lengths that they do because they are made of quarter-meter parts, which themselves have their lengths because of the lengths of still smaller parts,

and so on.

Clarify “well-founded”. In mathematics, it just means: no infinite descending chains. But if the ground relation has an infinite descending chain, but some element is at the bottom of the whole chain, that might be regarded as unobjectionable. In my example, though, you don’t have even that.

This could be regarded as an objection to ground. For if you accept ground, you’re forced to describe the facts about distances in a way that is, by your lights, objectionable. Whereas if you don’t describe it in terms of ground, but rather in terms of the notion of a *fundamental concept*, then all is well. Simplistic description: the fundamental concept is just, say, the relation between paths and numbers: *length in meters*.⁶

3. Entity grounding

Jonathan Schaffer (2009) has a different conception of grounding. On his view, ‘grounds’ is a predicate of entities of arbitrary category. Thus, in addition to speaking of facts (or propositions) grounding and being grounded, we can speak of, for instance, concrete individuals grounding one another.

(Side point: his primitive predicate ‘ x grounds y ’ is a predicate of partial ground. In his original paper he says that full ground can be defined in terms of partial: the X s fully ground y iff the X s are all and only the partial grounds of y (p. 376 note 34). But that doesn’t work, since there might be entities that have the same partial grounds but different full grounds. E.g. maybe the fact that $P \wedge Q$ and the fact that $P \vee Q$ have the same partial grounds, namely, the fact that P and the fact that Q ; but they have different full grounds.)

He gives the idea with examples (p. 375):

- Plato’s Euthyphro dilemma
- an entity and its singleton

⁶Complication: suppose you preferred the comparativist fundamental predicate: *paths p_1 and p_2 are congruent to paths p_3 and p_4* . Then, it might be argued, there is no coherent notion of a path having a certain distance, in which case my original example doesn’t work. But the example could be reworked in terms of congruence; and also, there is my example involving openness.

- an object and its holes
- natural features and moral features
- truthmakers and truths

Note the mix of types of entities. Facts (or propositions) in the Euthyphro example, entities in the second two, properties in the fourth, and a mix in the fifth (entities/propositions).

3.1 Defining entity grounding in terms of fact grounding

Let's consider Schaffer's examples. It would seem that a friend of fact-grounding could interpret the cases in terms of fact-grounding, but in different ways in different cases.

Take first the case of an entity grounding its singleton. What does this intuitively mean? Schaffer elsewhere describes grounding as "the metaphysical notion on which one entity depends on another for its nature and existence" (2010, p. 345); and this gloss fits the singleton case (and the hole case). So we might define up a notion of *individual grounding* in terms of fact-grounding thus:

x individual-grounds y $=_{df}$ x 's nature N_x and y 's nature N_y are such that y exists and has nature N_y because x exists and has nature N_x

(This is only rough: the definition should probably separately specify grounds for the existence and nature of y , rather than for the conjunctive claim that it exists and has that nature, and should give a plural rather than conjunctive ground.)

Next let's look at the example of natural and moral features. Here, the existence and nature of moral and natural features doesn't really seem to be the issue. Rather, their instantiation seem to be at issue. So if we want to define up a notion of grounding appropriate to this case, we should instead try something like this:

f_1 feature-grounds f_2 $=_{df}$ any x that has both f_1 and f_2 has f_2 because it has f_1

Next take the case of truthmaking. Here we can define:⁷

⁷More subtleties if you want this to extend to arbitrary propositions p and nevertheless want to stick to the operator conception...

x makes-true $\langle \phi \rangle =_{df} \phi$, and ϕ because x exists

So we can make a first point: we *could* account for what is going on in all these cases (albeit in different ways) by sticking with just fact-grounding. So given just these cases, anyway, there doesn't seem to be a reason to invoke any notion other than fact-grounding.

A second point is that we could *try* to object to Schaffer as follows. Given what we've just seen, it would *seem*, intuitively, that although Schaffer speaks of the grounding relation holding between entities of different categories in his different cases, in fact, those cases don't all seem to involve the same relation. Certainly that's so if you view the cases as we just have—through the lens of fact-grounding—since the definitions were so different in the different cases. E.g. in the case of entity-grounding, the case involved fact-grounding of a thing's existence and nature, whereas in the case of feature-grounding it involved the fact-grounding of the instantiation, not the existence, of the features.

However, this objection isn't decisive, for Schaffer might respond that the cases only appear heterogeneous because we're viewing them through the alien lens of fact-grounding, and that they really do involve some one phenomenon of entity-grounding.

3.2 Collapsing positions

But the considerations that were leading us to say that Schaffer's cases involve different relations can also be used to give a more dialectically appropriate argument against Schaffer's position. The argument is that Schaffer's notion of grounding collapses positions that ought to be kept distinct.

Take the claim that “natural features ground moral features”. Aren't there *two* claims one might want to make here? One is the (pretty common) claim that is captured by the definition above: moral features are *instantiated* because natural features are. The other is the (weird) claim that moral features *exist* because natural features exist. These claims seem to be collapsed by the language of entity-grounding.

Another example: what does it mean to say that the proposition p grounds the proposition $p \vee q$? There's the claim that $p \vee q$ is *true* because p is true, and also the claim that $p \vee q$ *exists* because p exists. Here, the second claim isn't so weird.

It's a natural view to have if one has a structured conception of propositions, but not if one has an unstructured conception. (Note also that if you accept the claim that p grounds $p \vee q$, having the thought that the latter exists because of the former, then you ought also to accept the claim that " p grounds $\sim p$ ".)

3.3 Concrete states of affairs

Schaffer could respond to the collapsing positions objection by picking one of the two ways of "reading" claims of entity-ground and sticking to it in every case. That would mean picking one of the two collapsed positions and saying that it is the one that is signified by the grounding claim; and it would require then finding some other way to articulate the second collapsed.

The natural reading of grounding claims to pick is the "existential" reading:

Existential reading x Schaffer-grounds y if and only if y exists and has the nature it does because x exists and has the nature it does

(This is the natural reading to choose, if we're choosing, because it's the one that's most general: the instantiation or truth readings make sense only in certain cases, namely when the relata of the grounding relation are properties features and propositions, respectively.) Thus, for example, his statement "natural features ground moral features" will mean that moral features exist and have their features because of the existence and features of natural features". He might then try to secure a way to formulate the other positions. How to do it?

One way to do it would be to posit certain entities: "concrete states of affairs".⁸ The concrete state of affairs that ϕ is an entity that does *not* exist necessarily; rather, it exists only if ϕ . Then, he could offer the following account of fact-grounding:

Definition ϕ because $\psi =_{\text{df}}$ the state of affairs that ψ Schaffer-grounds the state of affairs that ϕ

Using this defined notion, the collapsed positions can be uncollapsed:

⁸My discussion of Schaffer's views in Sider (2011) assumed that this was his intended strategy. This is no longer true (maybe I was wrong to suppose that it ever was?)

Natural features may not Schaffer-ground moral features; but whenever an object instantiates a natural feature and a moral feature, the state of affairs that the object instantiates the natural feature Schaffer-grounds the state of affairs that the object instantiates the moral feature

The proposition that snow is white may not ground the proposition that either snow is white or snow is purple; but the state of affairs that snow is white Schaffer-grounds the state of affairs that either snow is white or snow is purple.

The idea here is that states of affairs are entities whose existence is tightly tied to the truth of the corresponding proposition, so that their existence can be used as a surrogate, so to speak, for the truth of the corresponding propositions.

3.3.1 Required assumptions about states of affairs

In order for this approach to work, it's going to require a number of assumptions about states of affairs. Let me bring them out.

They exist. (Schaffer may regard this as not a big deal, because of his permissivism.)

They're fundamental. (in the Schafferian sense of not being grounded in anything). For what other entities could ground, e.g., the state of affairs of Ted's being a philosopher? Not entities like Ted and the property *being a philosopher*—these two could exist even if the former didn't instantiate the latter, and hence even if the state of affairs didn't exist. (Tropes?—they're basically the same as states of affairs. If they're cited, then I'll just recast my discussion in terms of them, rather than states of affairs.)

They can be logically complex. Defenders of concrete states of affairs often reject the existence of logically complex states of affairs, such as the state of affairs that either snow is white or snow is purple. But this approach requires their existence.

They're unstructured. (Despite being contingent.) Assume that disjuncts hold because of their instances, given the sense of 'because' defined in terms of Schaffer-grounding as above. Then the state of affairs that Ted is a philosopher Schaffer-grounds the state of affairs that either Ted is a

philosopher or Obama is president. Assuming that Schaffer-grounding implies necessitation,⁹ it follows that it's necessary that if the state of affairs that Ted is a philosopher exists then the state of affairs that either Ted is a philosopher or Obama is president exists. It's possible for Ted to be a philosopher while Obama doesn't exist; hence it follows that the state of affairs that either Ted is a philosopher or Obama is president could have existed even though Obama doesn't exist, which contradicts a structured conception of states of affairs.

3.4 Entity-grounding and explanation

Here is a second concern about the entity-grounding approach. Citing grounds is supposed to explain, or to be part of an explanation, anyway. But citing a list of entities doesn't explain.

Take the following extreme case. Suppose that monism is true: there is just one fundamental entity, the entire cosmos. Call the Cosmos: Cosmo. In that case, suppose we asked: what is the metaphysical explanation of the fact that there are cities? The best answer should be "Cosmo". But that doesn't explain anything.

Even if monism isn't true, we can make a similar point. Let $x_i \dots$ be all the fundamental entities. The metaphysical explanation of the fact that there are cities, given entity grounding, ought then to be " $x_i \dots$ ". Again, that doesn't seem to be a good explanation.

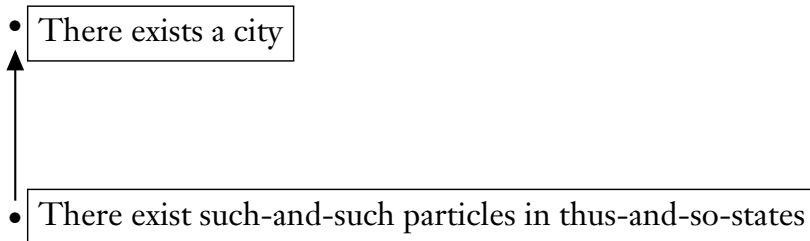
Contrast how this looks with fact-grounding. Suppose that there are cities because there are ϕ s. (ϕ is a long open sentence in the language of physics.) Grounds are supposed to be, or be part of, explanations. So we should be able to metaphysically explain the fact that there are cities by saying that there are ϕ s. This *does* look like a good explanation.

The entity-grounder will likely reply as follows. In an explanation of why there is a city, the grounding fact has the form $\text{ground}(\text{Cosmo}, c)$. However, Cosmo is a massively complex state of affairs, the state of affairs that there exist such-and-such particles with such-and-such physical states; and c is the state of affairs that there is a city. Think of it this way: the situation is not just:

⁹Note: Schaffer tells me by email that he rejects this assumption.



It is rather:



However: these “thought-bubbles” on the states of affairs are essential to the explanation. Without them, we can’t give a metaphysical explanation of why there exists a city.

It’s important to be clear what this does and doesn’t show. It does show, I think, that the entity-grounding facts don’t suffice on their own for metaphysical explanations. You also need the thought-bubbles. But it’s consistent with the argument that the facts about entity-grounding play a partial role in metaphysical explanations.

I do worry, though, that the remaining needed element in metaphysical explanations—the assignment of the thought-bubbles—requires something in the vicinity of grounding. The thought bubbles don’t correspond to any old description of the states of affairs; they correspond to a privileged description of them. How to make sense of that? One way would be to cite Fine’s notion of essence. Which state of affairs is the state of affairs that ϕ ? (I.e., how do you find the state of affairs with the thought-bubble “ ϕ ”?) It’s the one that essentially exists iff ϕ . Another idea uses fact-grounding instead: it’s the state of affairs that exists because ϕ . (And note: these are *metaphysical* notions in the vicinity.)

3.5 Distancing ground from explanation

There is a response Schaffer might make to all of what I have been saying.¹⁰

First, give up on contingent states of affairs; states of affairs exist necessarily.¹¹ Second, distinguish ground from explanation. Ground is to metaphysical explanation as causation is to causal explanation. Three, claim that the relationship between ground and metaphysical explanation might be very complex (just as the relationship between cause and explanation is complex).

Given these claims Schaffer could reject my various concerns. Recall that I responded to the collapsing positions problem by defining fact-grounding in terms of Schaffer-grounding and then using the resultant notion of fact-grounding to capture the lost positions. On the present view, Schaffer would reject the demand to define fact-grounding in terms of entity-grounding. Given how closely fact-grounding is associated with metaphysical explanation, we should not expect it to have a neat definition in terms of ground (metaphysical causation). And he would say that the lost positions could simply be captured by using the notion of metaphysical explanation. That notion is certainly *related* to Schaffer-grounding, but there's no telling exactly how it's related.

Recall that I worried that entity-grounding is unexplanatory. Schaffer could just embrace that. Ground isn't supposed to be the same as explanation!, he might say. The claim was never that grounds *answer* why-questions; they merely underwrite answers to why-questions.

Some points about this.

Point one: without the contingent states of affairs I don't see how grounding will contribute to metaphysical explanation at all (in most cases, anyway). For suppose that all entity-grounding obeys the existential reading, and suppose that facts are necessary existents. Then the truths about ground are going to be pretty sparse. There won't be any facts at all about facts grounding one another, presumably, since the facts all exist necessarily. (Again, remember that "fact f_1 grounds fact f_2 " does *not* mean that fact f_2 *obtains* because fact f_1 obtains".) To be fair, the fact that facts exist necessarily doesn't *imply* that no facts ground other facts. But there doesn't seem to be any reason to say that some facts ground others. (E.g., since facts exist necessarily, there's reason to

¹⁰It's suggested both by some recent correspondence and some remarks in Schaffer (2012).

¹¹Better give up on the tropes too; otherwise what's the point?

regard them as structured entities, and so no reason to say that, e.g., the fact that snow is not white is grounded in its constituent fact that snow is white.) There similarly won't be any facts about properties grounding one another—assuming again that properties exist necessarily. There will, presumably, be some grounding facts involving individuals: perhaps the fact that complex individuals are grounded in their parts, or perhaps the monistic converse fact. But that's basically it. And if there aren't more grounding facts, it's hard to see how they help to underwrite, even in a complex way, metaphysical explanations. What is the metaphysical explanation of the fact that, e.g., $F = ma$ is a law of nature? Say you're a regularity theorist; the explanation is going to involve a regularity involving particles, their masses, their positions, and the forces on them. The facts about ground (of complex individuals by their parts, or the converse facts) here play no role at all.

Point two: causation isn't so far from causal explanation as the view under discussion would have it. A big part of the point of causation is to take part pretty directly in explanations. If someone asks why the fire started, citing a cause is a good answer. (It's important to this that causes are generally taken to have fact-like structure.)

Point three: The view we're considering in effect takes metaphysical explanation as conceptually primitive, though perhaps underwritten by ground. So it isn't a competitor to Fine's view. In fact, it's a sub-case of Fine's view. It embraces Fine's notion of ground (under the rubric "metaphysical explanation"), and adds that the facts about Fine-ground are underwritten, in some way or other, by entity-grounding.

The view does say that Fine-grounding is (at least in part) grounded. (Given the purity argument, that ought to be Fine's view anyway.)

Moreover, unless Schaffer-grounds are themselves rock-bottom, the view under discussion isn't providing *ultimate* grounds for Fine-ground.

Thus the view is in effect the following. Begin with Fine's view, but then add that Fine-grounding is (Fine-) grounded, and that the Fine-grounds of Fine-grounding involve, in part, at an intermediate level, a relation of entity-grounding. (And given point one above, the role of entity-grounding in the Fine-grounding of Fine-grounds is pretty modest.)

4. Truthmaking

The idea of truthmaking is “entities-first”. When a proposition is true, it’s true because of the world; and the world is entities. So every true proposition is “made true” by something.

Truthmaker principle For every true proposition p there exists some x such that x makes p true

What does ‘makes true’ mean? Best take it as a primitive notion (it’s in the vicinity of ground).

Suppose a truthmaker theorist takes the makes-true locution as a *replacement* for talk of grounding. Then the account seems to fall short in ways that entity-grounding does, since the thing doing the grounding (though not the thing getting grounded) is an entity.

Now, someone might just think the truthmaker principle is true. Why? Let’s briefly consider one reason.

4.1 Rodriguez-Pereyra’s argument

1. All true propositions are true in virtue of reality
2. If 1 then all true propositions are true in virtue of entities
3. Therefore, all true propositions are true in virtue of entities

His argument for 1 is that “truth is not primitive”. He’s thinking that, e.g., if you deny that ⟨Snow is white⟩ is true in virtue of reality, you’re saying that the truth of this proposition is rock-bottom, and thus, the rock-bottom includes stuff about truth.

His argument for 2 is as follows. Against 2, you might think that:

...[the claim that] truth is grounded in and determined by reality is compatible with truth’s being grounded in *how* things are, not in *whether* things are.... (Rodriguez-Pereyra, 2005, p. 23)

Against this, he says:

Suppose the proposition that the rose is red is made true by how the rose is. But the rose is not only red: it is also light, soft, fragrant, long, thin, etc. This is how the rose is. But if being how it is is what makes the proposition that the rose is red true, being how it is, is also what makes the proposition that the rose is light true, the proposition that the rose is fragrant true, and so on. (Rodriguez-Pereyra, 2005, p. 23)

He then considers the reply:

It might be thought that one could say that the proposition that the rose is red is true because the rose instantiates the property of being red, while the proposition that the rose is light is true because the rose instantiates the property of being light. (Rodriguez-Pereyra, 2005, p. 24)

His reply:

But this only helps if for the rose to instantiate the property of *being red* is not for it to instantiate the property of *being light*. And this should not mean that there is an entity, the-rose-instantiating-*being-red*, distinct from another entity, the-rose-instantiating-*being-light*. For that means reifying how things are. And reifying how things are is admitting truthmakers.

But if it does not mean that, what does it mean? (Rodriguez-Pereyra, 2005, p. 24)

Reply: he's fixated on entities. [stress connections with discussions of nominalism in general.] His opponent's position is this:

⟨The rose is red⟩ is true because the rose is red

Not: ⟨The rose is red⟩ is true because the rose is light

He then wants to have two distinct entities, *the rose's being red* and *the rose's being light*; but what's wrong with the opponent just stopping with the position as stated?

By the way, I put the reply in terms of the operator 'because'. If one put the whole thing in terms of propositional grounding, one could supply two distinct entities after all:

⟨The rose is red⟩ grounds ⟨⟨The rose is red⟩ is true⟩

⟨The rose is light⟩ does not ground ⟨⟨The rose is red⟩ is true⟩

⟨The rose is red⟩ ≠ ⟨The rose is light⟩

(Btw, R-P misses this position, I believe, because of unclarity about how locutions like ‘true in virtue of’, ‘true because’, etc., work. He seems to think that grounding predicates must involve truth—otherwise his defense of his premise 1 wouldn’t make sense; but then it wouldn’t be sensible to say that propositions about truth are doing the grounding. The solution is to say that the claim ‘ p grounds q ’ involve the “subject matter” of p and q , and not anything about truth (unless p and q themselves concern truth), which opens up the position I just described. And actually, section 7 of his paper is a nice illustration of the trouble you get into, if you’re not clear about the logical form of claims of grounding. Seems to me that if you i) distinguish the operator ‘because’ from the grounding predicate, and ii) are clear about how the grounding predicate works—and in particular that it doesn’t involve truth—then that section evaporates.)

5. Metaphysical semantics

I’d like to talk about my own conception of ground: metaphysical semantics. But first we need some background, on the metaphysics of fundamentality that my account presupposes.

5.1 Structure

5.1.1 Atomism

My account concerns the nature of fundamentality. To get the feel, let’s contrast it with an opposing view. The opposing view is based on the concept of a *fundamental fact*. (Compare Fine’s notion of reality.) Thus the fundamental consists of all the fundamental facts.

On my view, instead of basing our metaphysics on the concept of a fundamental fact, we should instead base it on the concept of a *fundamental fact-part*. For example, instead of saying that the fact that something is negatively charged is a fundamental fact, I say that the constituents of this fact are fundamental fact-parts. For example, the property of being negatively charged is a fundamental property.

This is a more atomistic account than the fundamental-fact metaphysics. The picture is that there are some fundamental building blocks, and fundamental reality consists of how those building blocks are put together.

Given this notion of a fundamental fact part, I can define up a notion of a fundamental fact: a fundamental fact is a fact all of whose parts are fundamental fact-parts.

5.1.2 Absolutism

The opposing view mentioned in the previous section didn't define fundamental facts as those facts that are grounded in no other facts. Rather, it took 'fundamental fact' as an undefined notion. Instead of beginning with the "comparative" notion of ground, it begins with the absolute notion of fundamental fact. (I call ground a comparative notion because it's a kind of comparative fundamentality: the fundamentality of two propositions are compared.)

My view is like this opposing view in that it doesn't define its core concept in terms of ground or anything else comparative. It just starts with the notion of a fundamental fact part.

5.1.3 No entities

I put things in terms of fact-parts because that's the best way to get the hang of the idea, but really I don't want to put things in terms of entities at all. Instead of saying that charge is a fundamental property, I prefer not to speak of charge at all. I prefer instead a way of speaking that's analogous to Fine's 'because'—an "operator" rather than a predicate. So just as Fine says " ϕ because ψ " rather than " $[\psi]$ grounds $[\phi]$ ", I say "Structural(F)" rather than " F -ness is structural". 'Structural' (my symbol \mathcal{S}) is an operator rather than a predicate in the sense that it combines with things that aren't terms to form sentences.

But I'll often speak loosely. Instead of saying "Structural(is charged)" I'll say that charge, or the concept of charge, or the word 'charge' carves at the joints or is fundamental, etc.

5.1.4 Beyond the predicate

Go back to “Something is charged”. I don’t only want to say that ‘charge’ carves at the joints; I also want to say that ‘something’—(unrestricted) existential quantification—carves at the joints.

There are familiar questions about which properties and relations are fundamental. E.g. is the causal relation fundamental? Is the property of being conscious fundamental? These questions are about reality’s fundamental structure: whether it has causal or mental aspects. But consider parallel questions: whether reality’s fundamental structure includes modal or quantificational or logical aspects. These are not questions about properties or relations. To put it linguistically, they’re not about predicates, but are rather about quantifiers and operators.

This is connected to the previous point. One reason I don’t want to tie the view to entities is that it isn’t clear whether expressions like quantifiers and operators stand for entities.

5.1.5 Natural properties

David Lewis famously defended the idea that we can distinguish natural properties and relations from non-natural ones. His notion of (perfectly) natural properties and relations is very close to my notion of structure, except that he just applies naturalness to properties and relations, and his ‘natural’ is a predicate (of properties and relations).

5.2 Purity, connection, definition

As I said, the concept of structure is absolute. But I certainly do want to say something like: all facts “rest on” the fundamental facts (where the fundamental facts are defined as facts all of whose parts are fundamental, as above). (This claim is what I call “completeness”.) But to say this, we need to make sense of this notion of “resting on”—the relation that connects nonfundamental with fundamental facts.

Purity puts a constraint on this resting-on relation. I don’t want to get into the details of this, but basically, purity rules out one’s saying that facts like these

are rock-bottom:

There existing a city rests on ϕ

Rather, they have to rest on something. Facts about the *connection* between fundamental and nonfundamental are themselves non-fundamental.

But that doesn't mean we need to *define* the notion of resting on. There are lots of notions we can't define but which, nevertheless, take part in facts that rest on others. E.g. nearly ever ordinary macro word.

In fact, so far as my general setup is concerned, one could think of resting on as Finean ground. 'Ground' is a conceptual primitive, but facts about ground are grounded in facts that don't involve ground.

My own proposal will be a little different, but in the same spirit.

5.3 Metaphysical semantics

I want to take a linguistic approach to "rests-on"—i.e. to capturing the connection between fundamental and nonfundamental. Very roughly: every language must have a "metaphysical semantics", which gives meanings in perfectly fundamental terms.

The distinction between this approach and the grounding approach is, very roughly, that instead of saying how nonfundamental facts are made to hold, we say how nonfundamental sentences relate to the world.

5.4 Examples

Example 1: pretend that 'female' and 'sibling' are fundamental predicates. Then a metaphysical semantics of the truth-theory variety might contain this clause:

The sentence " x is a sister of y " is true of objects u and v if and only if x is a *sibling of y and x is female*

The italicized part is the part that is supposed to be in perfectly fundamental terms (the "metaphysical truth condition" of the sentence (formula)). (Thus in addition to the predicates 'female' and 'sibling', the sentence operator 'and' had also better carve at the joints.)

Example 2:

Suppose only subatomic particles exist. Still, I want to (at least in principle) allow a metaphysical semantics that, to a first approximation, looks like this:

The sentence “There exists a table” is true if and only some things are arranged tablewise

Now, this won’t do since ‘arranged tablewise’ isn’t a fundamental predicate. So replace it with its “metaphysical definition”—a complex plural predicate stated in perfectly fundamental terms.

The sentence “There exists a table” is true if and only some things are τ (i.e. iff $\exists xx \tau(xx)$)

Note that for this to be part of a metaphysical semantics, plural quantification needs to carve at the joints. (The issue isn’t whether we “understand it”; the issue is whether it’s fundamental.)

This second example is different from the first in that the metaphysical truth condition of a sentence of the form $\exists x \phi$ does not have that form. You can think of the quantifier in the nonfundamental language as being fictional with respect to the quantifier in the fundamental language, and you can view the nonfundamental language’s quantifier as meaning something different from the fundamental language’s quantifier.

Bring in Fine’s notion of non-proxy reduction:

It is important to bear in mind that a reduction need not proceed via proxies. The mother of all reductions, Russell’s theory of descriptions, cannot readily be regarded as one in which entity gives way to entity, and another example, more pertinent to our present concerns, is that in which quantification over pairs is replaced by quantification pairs. Instead of saying ‘there is a pair x such that...’, one says ‘there is an x_1 , and an x_2 such that...’. Here there is no single entity that goes proxy for a pair. (Fine, 2003, p. 171)

The situation here is the analog, for my setup, of Fine saying “there exists a table because there exist things arranged τ -wise”.

5.5 Metaphysical versus linguistic semantics

Return to:

The sentence “There exists a table” is true if and only some things are τ (i.e. iff $\exists xx \tau(xx)$)

There’s a perfectly good sense in which “some things are τ ” is not the *meaning* of “There exists a table”: a competent speaker could know the latter but not the former. So in what sense is a metaphysical semantics a “semantics”?

My account gets a little hazy at this point, but what I said was the following. Both a metaphysical semantics and a linguistic semantics (the more usual kind) aim to explain; and they both aim to explain something about linguistic behavior. But linguistic semantics aims for more: for integration w/ psychology (what a speaker knows), with syntax, etc. Metaphysical semantics aims for both more and less. It aims for less in that it doesn’t try to integrate with psychology, syntax, etc.; it aims for more in that it tries to explain whatever it does indeed try to explain in perfectly fundamental terms.

This isn’t a perfectly clear account. E.g. does a metaphysical semantics need to explain the difference between ‘Hesperus is a planet’ and ‘Phosphorus is a planet’? How about ‘Hesperus is a planet’ and ‘The first heavenly body visible in the evening is a planet’?

Note though that there’s a correlative unclarity in the notion of ground. Is the ground of Hesperus being a planet the same as the ground of Phosphorus being a planet? How about the ground of the first heavenly body visible in the evening being a planet?

Ground is supposed to correspond to a distinctive sort of metaphysical explanation; similarly, metaphysical semantics is supposed to describe word-world relations in a distinctively metaphysical way.

5.6 Similarity to grounding

People often overstate the difference between the grounding approach, on the one hand, and linguistic approaches like mine on the other.

5.6.1 Object-language counterpart of ‘metaphysical truth condition’

E.g. suppose you begin with my metaphysical semantics approach. In simple cases, anyway, you can then introduce into the object language an operator that is like ground except it’s biconditional. Suppose we’ve got a fundamental language L_F , and a language L_1 where each sentence has a metaphysical truth condition stated in L_F . Now consider a new language L_2 whose vocabulary includes all the expressions in both L_F and L_1 , plus a two-place sentence operator ‘because’ subject to the following metaphysical truth condition:

‘because(ϕ , ψ)’ is true in L_2 iff ϕ is the metaphysical truth condition for ψ in L_1

Note that this doesn’t allow for iteration of ‘because’. Also, it doesn’t allow intermediate levels of ‘because’ (you always go to the most fundamental ground). Also, I haven’t given a full account of the metaphysical semantics for L_2 (in particular I’d need to say something about the metaphysical semantics for sentences that mix the vocabularies of L_F and L_1). But anyway, I hope it’s ok for me to still make the following point: this ‘because’ would behave a lot like Fine’s. Not completely, for it wouldn’t replicate the “merely conditional” aspect of Fine’s ‘because’. E.g. you couldn’t say “ $\phi \vee \psi$ because ϕ ”. But it would still be “objectual”.

You might reply that even though on the surface it’s objectual, if you look at its guts—its metaphysical semantics—it’s really linguistic. But we don’t know what’s inside the guts of Fine’s ‘because’, since it’s a conceptual primitive. Also, though my ‘because’ has linguistic stuff in its guts, it also has stuff about explanation (a metaphysical semantics, I said, is a certain sort of explanatory theory).

More parity.

5.6.2 “Just talk”

You might think that on my view, in contrast to the grounding approach, the nonfundamental is “just talk”. E.g. return to:

The sentence “There exists a table” is true if and only some things are τ (i.e. iff $\exists xx \tau(xx)$)

You might be tempted to describe my view as implying that “there don’t really exist tables; we just say that there are”. But this is problematic for various reasons.

- When you say “there don’t really exist tables”, do you mean that “There don’t exist tables” isn’t true in English? Well, that’s not true, since the above was the metaphysical truth condition for ‘there exist tables’ in English. There *do* exist tables.
- When you say “there don’t really exist tables”, do you mean that ‘there are tables’ isn’t true in my fundamental language? But this doesn’t really mark a difference with the grounding approach. For the grounder also thinks that there don’t *really* exist tables, taking “really ϕ ” to mean “in reality, ϕ ”, or “ ϕ ; and no ψ grounds ϕ ”, or something like that.

5.6.3 Quantifier variance

You might think that the difference has to do with the fact that on my view, the English quantifier may be different from the fundamental quantifier. The ontology of ordinary objects, on my view, is thus in a sense less robust than the ontology of ordinary objects according to grounders like Fine and Schaffer.

I’m inclined to disagree, and say that the appearance of this is just due to the fact that the grounding view is underspecified.

First let’s get straight about the idea of quantifiers meaning different things in different languages. Eli Hirsch is famous for claiming this, and also that it undermines the usual debate over ontology. His idea is: there’s a language in which PVI is right that there are no tables, there’s a language in which DKL is right that there *are* tables; there’s a language in which commonsensical ontological claims are true; the only issue is which is *our* language; so i) why are you so bent out of shape about the question?; and ii) since the question is how our language works, shouldn’t you be doing conceptual analysis (and thus rejecting out of hand *both* PVI and DKL’s claims)?

My account doesn’t imply that there’s no point to traditional ontology, since although I accept the possibility of these different languages, I also have the idea of a fundamental language. Still, I am open to the idea of quantifier variance, since I’m open to the idea that some languages have a metaphysical semantics

under which their quantifiers aren't the fundamental quantifier.

With all this in mind, let's return to the question of whether quantifier variance marks an important difference between me and the grounders. Let me begin by making a point that assumes that the grounders accept my notion of a joint-carving quantifier. Given this assumption, we can ask the grounder a question. When using the fundamental quantifier, is ontology sparse or abundant? And we can then distinguish two main possibilities:

1. The fundamental quantifier's range is abundant, in which case:
 - (a) English's quantifier is the same as the fundamental quantifier
 - (b) Facts about macro-objects are grounded in facts with the same logical form (e.g. " $\exists x \text{table}(x)$ because $\exists x \tau(x)$ ", where τ is a complex singular predicate along the following lines: " x has such-and-such subatomic parts, which have thus-and-so physical features")
2. The fundamental quantifier's range is sparse, in which case:
 - (a) English's quantifier is not the same as the fundamental quantifier
 - (b) Facts about macro-objects are grounded in facts with different logical forms (e.g. " $\exists x \text{table}(x)$ because $\exists xx \tau'(xx)$ ", where τ' is a complex plural predicate along the following lines: " xx are subatomic particles with thus-and-so physical features")

(assuming, that is, that the grounder wants to go on saying the kinds of things that Schaffer and Fine say ("*of course* there exist tables and chairs; the only question is what grounds (facts about) them").)

Thus the grounder's situation is parallel to mine. For if ontology in the sense of the fundamental quantifier is abundant, then I too will identify the quantifier of the fundamental language with the quantifier of the sparse language, and will accept logical-form-preserving metaphysical truth-conditions; whereas if ontology in the sense of the fundamental quantifier is sparse, then I will (or at least am open to) distinguish the fundamental quantifier from the English quantifier, and will accept non-logical-form-preserving metaphysical truth-conditions.

Now, the forgoing discussion assumed that the grounder was willing to talk about fundamental quantification. This may be a contentious assumption. One of the things that makes it very hard to get straight on how exactly the various

views of ground differ is that they also are accompanied by other differences, making it hard to isolate the sources of the differences.

Suppose, then, that the grounder rejects talk of fundamental quantification, and that she is only willing to speak of these matters in her main language: English augmented with ‘because’ (and perhaps also something like ‘in reality’). Still, even in this vocabulary, she can distinguish two possibilities:

3. Facts about macro-objects are grounded in facts with the same logical form
4. Facts about macro-objects are grounded in facts with different logical forms

Note the parallel to what we had before. Still, there remains a difference: she won’t further elaborate 3 and 4 as involving 1b and 2b as above; and she won’t think of them as being generated by a difference in the range of the fundamental quantifier.

However, it would be possible to overstate the significance of the difference here. The differences are only statable using vocabulary the grounder rejects (fundamental quantification). So it isn’t exactly right to say that the grounder differs with me over QV; it would be better to say that the grounder rejects the notion needed to articulate this difference. (Or at least: is unwilling to use this notion; perhaps the grounder doesn’t go so far as to reject it.)

Also, remember that the grounder is a conceptual primitivist about ‘ground’. She does not say what the guts of ‘ground’ are. But recall how we earlier saw that one could introduce a notion of ground within my setup. In its guts it would involve stuff about jointcarving and metaphysical semantics. Since the grounder doesn’t say what the guts of ‘because’ are, it’s at least consistent with her position that its guts involve jointcarving and metaphysical semantics. And, if it does, then the two possibilities 3 and 4 above would be elaborated exactly as they were before (1a/1b, 2a/2b).

Let me end by stressing one thing about quantifier variance. It’s important to distinguish two sorts: descriptive versus metaphysical. Descriptive QV says that different speakers of English actually utilize different quantifiers. This sort of variantist might claim that metaphysical disputants (like PvI and Lewis) actually use different quantifiers, and thus talk past each other. This is a very contentious descriptive claim about the semantics of English. Metaphysical

QV just claims that various potential meanings for quantifier expressions exist, without making any claims about what English quantifiers mean. Lots of times, when people fall all over themselves to disavow QV, they actually have in mind descriptive QV, even though in most cases the important claim is metaphysical QV.

5.7 Advantages to “stepping outside of language”

I have been arguing that the differences between my approach and that of the grounders isn't as great as it might at first look. Still, I have two main reasons for preferring my own approach. One I want to postpone: I think there are advantages to a “biconditional” rather than “conditional” approach.

The other I can talk about now. The grounding approach is “objectual”, whereas my approach steps outside the language and looks at its relationship to the world. My approach is more straightforward in cases where the language relates to the world in nonstandard ways: the liar, nonfactualism, fictional quantification (differential grounds).

5.7.1 Nonfactual discourse

Take the case of nonfactualism. What I will say about factual and nonfactual language is something like this:

Factual statements, such as ‘there exist tables’, have metaphysical truth conditions: e.g. ‘there exist tables’ is true iff ϕ . Nonfactual statements, such as ‘murder is wrong’, have metaphysical assertability conditions, e.g. ‘there exist tables’ is assertable by speaker S iff $\alpha(S)$.

Two main points about the difference between metaphysical truth conditions and metaphysical assertability conditions (I'm actually not sure how separable these are):

- The assertability conditions are relativized to a speaker. (Thus they may depend on the speaker's mental states.)
- Assertability conditions have a different functional role from truth conditions. Truth conditions are assigned to bits of language whose main

function is to communicate information about the world. Assertability conditions are assigned to bits of language whose main function is to coordinate plans (say; this is Gibbard's way of doing things). This difference may ramify in other ways that I don't fully understand.

So anyway, that's my way to contrast factual from nonfactual discourse. Fine does it differently:

- Facts about morality and facts about e.g. tables and chairs have grounds. When we trace the grounds, we eventually reach facts that have no further grounds.
- In the case of the former, all the terminal points of grounding chains will hold in reality; not so for the latter.
- The grounds of facts like "*S* said that murder was wrong", "*S* believes that murder is wrong", "'murder' refers to murder" will include facts about coordinating plans, and not facts about murder; whereas the grounds of facts like "*S* said that there are electrons", etc. will include facts about electrons¹²

My approach seems more direct.

5.7.2 Differential ground

Let me mention another case. Suppose that, using the fundamental quantifier, one can say that no parts ever compose more than one whole; but suppose further that English has a metaphysical semantics along the following lines:

"There exists a statue, *S*, with modal properties m_S , made up of clay *c*; and there also exists a distinct lump of clay, *L*, with modal properties m_L , which is also made up of *c*" is true iff clay *c* has statue shape.

Now let's look at matters from the point of view of English, augmented with the notion of ground. We'll then presumably say:

- There are two singular facts, the fact that *S* has m_S and the fact that *L* has m_L .

¹²Too simplistic; but see Fine (2001, section 6).

- Although the conjunctive fact that S has m_S and L has m_L has a ground—namely, that c has statue shape—there is no ground for the fact that S has m_S that isn't also a ground for the fact that L has m_L .

That's a strange situation. Now, if you stepped back and looked at English's metaphysical semantics, all the mystery disappears. The English quantifier is in a sense fictional with respect to the fundamental quantifier. The "fiction" (i.e. the metaphysical semantics) provides a ground (metaphysical truth condition) for sentences quantifying over both the statue and the lump, but nothing distinctive, in isolation, for sentences just talking about the lump, or of the statue. It's like this: we might introduce a practice of saying "there is a fictional detective who does such-and-such" whenever a certain fiction does such-and-such. But then suppose we ask: well, exactly how much does the detective weigh? Our practice doesn't give an answer. This doesn't point to anything metaphysically weird. Now, if someone just came across someone saying "there is a fictional detective..." but dissenting from all sentences of the form "this fictional detective weighs such-and-such", they might think that something really weird is going on. The way to set this person straight is to point out how the practice of talking about fictional detectives works.

6. Rayo and Williams

Now we're going to think about another "linguistic" approach to ground.

6.1 A linguistic conception of levels

Williams mentions the basic thought. He first quotes Jonathan Bennett:

The work of any interesting metaphysician involves two or more levels. I do not mean levels of reality: the metaphysicians I am talking about do not describe reality as stratified; rather, they stratify their accounts of it. At the basic level of speech, thought and conceptualization, they express truths that directly reflect the metaphysical situation; at the less basic level, they say things that are still true, but, as stated, are bad pointers to the metaphysical situation, and one needs an account of what their truth amounts to, comes down to, arises from, in terms of facts expressed at the

basic level. The non-basic level gets a hearing only because it involves ordinary, familiar ways of saying things. (Bennett, 2001, p. 147)

Williams then says:

I am a fan of the Bennettian picture. Mind-independent reality is thus-and-so (perhaps an ontology of concreta spread through space-time, characterized by the instantiation of various natural properties). The relation between this reality and *representations of it*—including the sentences of natural language and the language of thought—is complex and demands analysis. When the dust settles, some of these representations will turn out to be *true*. But—for example—all that may be required of reality for the representation ‘there are tables’ to be true, is that certain simple particles stand in certain arrangements. (Williams, 2012, p. 171)

So the picture is that different kinds of representation of reality might connect to reality in different ways. Maybe some representations get to be true “indirectly”. See also Horgan and Potrč (2000).

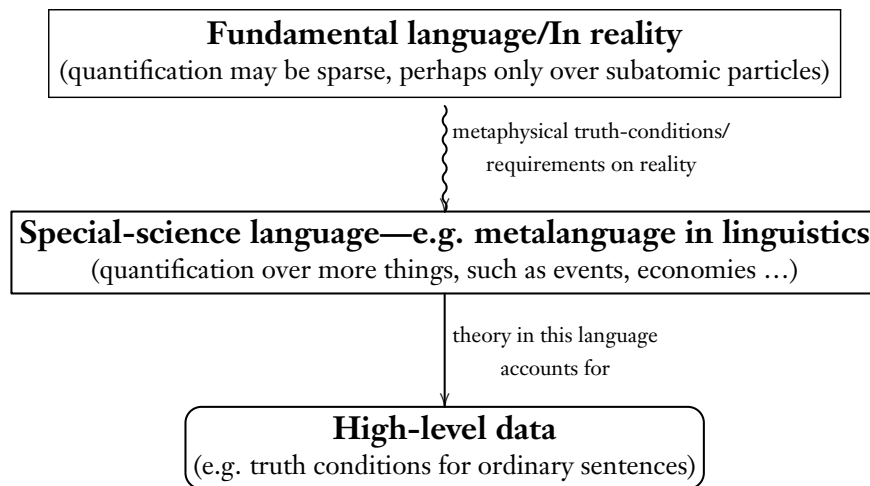
Williams then has a nice discussion of some alternate ways to think about what this might amount to. One point he makes is that certain views here are just empirically implausible. For instance, some argue that there are differences in the linguistic semantics, or the syntax, of sentences that “directly correspond” with reality and those that “indirectly correspond”; but these proposals are just empirically contentious. (E.g. assimilating “there is a table in the room” to “loose talk”, such as “I’m from Philadelphia”. Someone from Cherry Hill who says this is aware that she’s taking certain liberties, linguistically. Not so for ‘there is a table in the room’.)

6.2 “Autonomous” conception of “requirements on reality”

Williams puts forward a concept of “requirements on reality”, and claims that it should be understood “autonomously”. This should be taken in the same spirit as when defenders of ground say that they want to introduce a distinctively metaphysical notion of ground, not definable in terms of more familiar notions. To be more specific, Williams says he wants a notion of requirements on reality on which we can say things like this:

...what is required for ‘Billy is sitting’ to be true, is that, in reality, the things arranged Billy-wise be arranged sitting-wise. (Williams, 2012, p.

And, this notion of “requirements on reality” should *not* be understood as being defined in terms of “what we ordinarily mean”, or as requiring any speculative semantic or syntactic hypotheses. The *picture* is that ordinary syntactic and semantic theorizing doesn’t know anything about requirements on reality. Requirements on reality thus play a similar role to metaphysical truth conditions in my picture from *WBW*:



6.3 Requirements on reality part of semantic theory

How are these requirements on reality to be understood? Williams has an interesting idea. Suppose there’s a semantic theory with clauses as follows:

‘Larry’ refers to x iff x ’s simple parts are the yy , and in reality, the yy are arranged Larry-wise.

x satisfies ‘sings’ iff x ’s simple parts are the yy , and in reality, the yy are arranged singing-wise.

He then says: if you crank through what such a theory implies about a sentence, S , it will contain a part that says what must hold in reality. E.g. the two clauses above will imply:

‘Larry sings’ is true iff there’s some x with simple parts y such that (i) in reality, the y are arranged Larry-wise, and (ii) in reality, the y are arranged singing-wise.

What S then requires of reality is (i) and (ii).

On this view, the semantic theory gives truth and reference conditions in terms of subatomic particles. It might seem that this is giving up on the “autonomy” he wanted; surely natural language knows nothing about subatomic particles. In reply he says that even if the semantic clauses above are true, it’s compatible with this that there are also “less loaded” descriptions of semantic properties of words; these latter are what the semanticists care about.

Note that Williams needs to distinguish two ways of describing semantic properties: the one that’s of interest to metaphysics and the one that’s of interest to semantics. So in this respect the view is pretty close to mine. I have two different semantic theories, with (implicitly) entirely different semantic relations (truth, reference, etc.) whereas Williams has a single set of semantic relations, but two different theories about them.

Note also that Williams’s semantic theory is put in the “higher-level” language: it uses quantification over composite objects. As he says in note 8 (while discussing Azzouni, who says similar things):

...if our view is that a minimal metaphysical base (say: atoms arranged this way and that) is sufficient to allow talk of macroscopic things to be true, then we should be able to happily use such talk within a range of theoretical projects. Why shouldn’t that include giving a semantic theory? Or indeed, in the present case, in saying what reality has to contain in order for the sentences to be true? (Williams, 2012, p. 180)

Here the view is in one way like mine, but in another not. My theory certainly uses the higher-level language in that it uses nonfundamental concepts like that of a sentence and of truth. But the metaphysical truth condition itself is stated in wholly fundamental terms.

On Williams’s view, on the other hand, the truth condition (when given in the metaphysical way) is stated in mixed terms. Take the right-hand-side of the reference condition for ‘Larry’. It begins with a condition on ‘ x ’, where this is a variable bound to a nonfundamental quantifier (since the referent is composite). Then it continues by stating a condition on the y s that must hold

in reality.

So think of it this way. Williams and I agree that *the statement that a sentence has certain requirements on reality* can be stated in nonfundamental terms. But he also thinks that it's ok if the statement *of the requirements themselves* is stateable only in mixed terms, whereas I require that the statement of the requirements be given in purely fundamental terms.

6.4 Rayo on requirements

Rayo's conception of requirements on reality has a similar feature: he allows that there may be no way to state those requirements without using nonfundamental discourse (not his phrase). His theory is complex, but I can state a simple form of it that gives the idea.

Let's begin with an example. Consider someone who doesn't accept an ontology of sets, and consider the following sentence:

There is a set containing at least one mouse

Rayo's idea is that this sentence demands of reality merely that there exists at least one mouse. And he puts this in the following way. Suppose we've got a bunch of possible worlds. Sentences are true at worlds. But these are nominalistic worlds: at no world are sentences saying that there exist sets true. Now consider the following condition on possible worlds:

For some set, α , and some $x \in \alpha$, [x is a mouse] is true at w

This condition on worlds w divides all the possible worlds into two groups, one that satisfies the condition and one that doesn't. And a set of worlds is a proposition. Consider the proposition corresponding to the set of worlds satisfying the above condition. The requirement on reality generated by the original sentence is this proposition.

This particular proposition could also be generated by a condition that doesn't mention sets:

For some x , [x is a mouse] is true at w

But now take the Geach-Kaplan sentence:

GK There are some critics that admire only one another

There are some things, such that each of them is a critic, and whenever y is one of them and admires z , then $z \neq y$ and z is one of them too

Here too we can generate a condition on worlds:

There is a nonempty set α such that: (a) for any y , if $y \in \alpha$, then [y is a critic] is true at w , and (b) for any $y, z \in \alpha$, if [y admires z] is true at w then $z \in \alpha$ and [$y \neq z$] is true at w

This too corresponds to a condition on worlds. But here one can't capture the condition on worlds without bringing in sets (or plural quantifiers). Nevertheless it's just a condition on nominalistic worlds.

And to the worry that you needed sets to *specify* the condition on worlds, Rayo's answer is similar to Williams's (well, Williams's answer is similar to Rayo's—Rayo's paper came first and Williams is following Rayo): provided you accept this strategy of quantifying over things even if you don't think they ultimately exist, then it's acceptable to use it in specifying the demands in question.

Rayo then goes on to show how to give a recursive assignments of demands (in particular, to sentences in the language of impure arithmetic, from the point of view of a nominalist).

Suppose a community tries to introduce a “quantifier” ‘blerg’ by saying: “a sufficient condition for there being blerg F s is that there are exactly 17,843 F s; and a necessary condition is that there be at least one F ”. It's natural to claim that these stipulations leave the meaning of ‘blerg’ underspecified, and that there simply is no fact of the matter whether, e.g., if whenever there are an odd number of F s then there are blerg F s.

But imagine someone in the language saying that the demands on reality of sentences containing ‘blerg’ can be stated along these lines:

(B) The set α of all and only F s is such that i) there are blerg members of α , and ii) for each $u \in \alpha$, [u is F] is true at w

We will object that this statement *uses* blerg; the person says: well my view is that ‘blerg’ is ok, and if it's right, then I'm entitled to use ‘blerg’ to say what my sentence demands of reality.

What has gone wrong? Well, the community's introduction of ‘blerg’ is semantically deficient: the constraints that they lay down are consistent with multiple assignments of meaning. And laying down (B) doesn't improve on the situation.

So even given (B), there is still massive indeterminacy (this can be conceptualized in different ways) in the truth conditions of statements containing ‘blerg’.

The worry about Rayo and Williams’s view is that the same may be true of their claims. Suppose there are no sets in reality. Then it may be that even given their methods for assigning requirements on reality to statements containing ‘number’ (or ‘sings’), there remains massive indeterminacy in sentences containing those terms. Only by a “noncircular” assignment of truth conditions—i.e. an assignment that doesn’t use the term in question—can one establish that there is no such indeterminacy.

It may be that there are *other* facts that hold in reality, other than the existence of sets, that would secure determinacy. e.g. modal facts like “necessarily, if the axioms of arithmetic are true then...”. But these facts could be incorporated into my style metaphysical truth conditions. My point is that if you don’t posit any such further facts, then you can’t construct my style truth conditions, and thus you’re not in a position to argue for determinacy.

7. Bennett on grounding grounding

7.1 Two arguments that grounding must be grounded

One: purity.

Recombination argument (which Bennett attributes to Schaffer):

...whatever the fundamental elements of the world are, they are open to free modal recombination. 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 is grounded—each either fails to exist, or is fundamental. Since neither option is plausible, grounding is not amenable to free recombination, and thus is not fundamental. Bennett (2011, p. 27)

A side point about this argument. Its crucial premise is something like this:

Recombination All logically possible combinations of fundamental elements are metaphysically possible

(This is still not perfectly clear, but I don't think my point requires further clarification.) This is used to argue for a possible world in which nothing grounds anything. But the principle has an ambiguity:

Individual recombination Each fundamental element is such that all logically possible combinations of it (with respect to all other entities) are metaphysically possible

Collective recombination The class of all the fundamental elements is such that all logically possible combination of its elements are metaphysically possible

The argument appeals to individual recombination: it says that if grounding is fundamental then we can just delete all the facts involving it from the world (since that's a logically possible combination). Since the combinations in question are facts involving grounding and nonfundamental entities, the needed principle is individual recombination.

This raises the possibility of someone objecting that only collective recombination is true. And this might well be a plausible view (at least, given the notion of entity-fundamentality presupposed by the argument).

Still, one can offer a version of the argument that appeals only to collective recombination. Collective recombination implies the possibility of, e.g., a situation in which every entity that is actually fundamental grounding every other such entity—a possibility that is presumably as objectionable as the one Bennett considers.

Let's have a bit of a tangential discussion of recombination. Recombination principles are principles that all ways of "mixing and matching" certain "elements" are possible. (And remember that the kind of possibility at issue is "metaphysical possibility"—a very "broad" sort of possibility.) Why are they thought to be true? After all, there are *prima facie* counterexamples. i) transitivity of 'earlier than'. ii) mathematical cases.

There is an old question of whether there are any "synthetic necessities". Empiricists thought that there weren't; rationalists thought that there were. Recombination is in the spirit of the empiricist's side of this issue: keeping the necessary truths down to those that hold just because of definitions. For if you're dealing just with fundamental elements, then any necessities couldn't be due to definitions.

But this way of thinking about the issue presupposes something: that *analytic* necessities are unproblematic. And this isn't obviously correct. They reduce to logical truths (say), but why are logical truths necessary?

Here is one perspective on this: logical truths are just very general truths (or: truths of a very general pattern, every instance of which is true). (Many logical truths are like this, anyway.) But there are many other general truths. Maybe some of these are necessary too. (E.g. transitivity of earlier-than.) And maybe there is a more complex rule determining what is necessary. (E.g. in mathematics, it seems like all the facts are necessary.)

7.2 The ground grounds grounding

Karen makes the following claim about the grounds of grounding claims:

The ground grounds grounding The fact that A grounds B is grounded in A

Karen infers this principle from a further claim:

Left-superinternality The fact that A grounds B is grounded in the intrinsic nature of A

I have a concern about this further claim: it depends on a substantive question about the nature of facts: that they have nontrivial intrinsic natures. One possible view about abstract entities is that they don't have intrinsic natures, that they are all intrinsically alike. (If this seems weird, ask yourself what the intrinsic nature of a simple property—pretend greenness is an example—is. It's not that it's green!) Their distinctive natures are relational: the nature of greenness is to be instantiated by something iff that thing is green; but it doesn't have this nature in virtue of its intrinsic nature. (Compare Lewis's argument against magical ersatzism.)

This concern could be answered by replacing left-superinternality with:

Left-superessentiality The fact that A grounds B is grounded in the essential properties of A

(Maybe the relevant essential properties are intrinsic, maybe they're not.)

(You might think that you need to change this to:

Left-superessentiality* The fact that *A* grounds *B* is grounded in (*A*, the essential properties of *A*)

You need to add that *A* obtains, not just that it has such-and-such essential properties! But Karen was, I think, working with a conception of facts on which they can't exist without obtaining.)

There's an interesting question of whether Left-superessentiality implies The ground grounds grounding (as Karen says it does). You might think it doesn't, on the following grounds: TGGG implies that *A* alone, regardless of its essential properties, grounds the fact that *A* grounds *B*; and so you might think that this doesn't follow from Left-superessentiality, which says that you also need that *A* has such-and-such essential properties to get a ground of the fact that *A* grounds *B*. I imagine the reply: but you never need to additionally mention a thing's essential properties in a ground. If a fact plus its essential properties grounds something, then so does the fact alone.

One further thing (brought up by the distinction between Left-superessentiality and Left-superessentiality*). Karen says this:

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. Bennett (2011, p. 33)

Something seems definitely right here. The physicalist isn't going to want to say that the *obtaining* of the mental facts helps ground the fact that the physical grounds the mental. More generally, we're not going to want to claim:

The grounded grounds grounding The fact that *A* grounds *B* is grounded in *B*

But it's not so crazy to say that the *intrinsic nature*—or better, the essential nature—of the grounded fact is part of what grounds the grounding fact. The intuitive idea is that grounded facts have as part of their essence a kind of blueprint. The blueprint says what you need to do in order for the fact to

obtain. E.g. the fact that there exists a bachelor might have, as part of its blueprint: “I’ll obtain if there exists an unmarried male”.

Of course the blueprint isn’t enough; since grounding is factive, you also need that the world cooperates and gives us the materials. So I think these thoughts lead to this:

The ground plus the grounded’s essence grounds grounding The fact that A grounds B is grounded in $(A, \text{the essential properties of } B)$

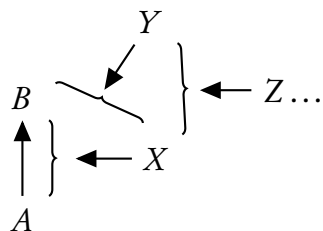
(Fine (2012, §1.11) defends a view like this, though it’s not clear to me whether his talk of “given that...” is intended to build the occurrence of A into the ground.)

At any rate, both The ground grounds grounding and The ground plus the essence of the grounded grounds grounding are interesting claims.

7.3 The fact regress

To motivate the claim, Karen brings up a puzzle that we face if grounding *isn’t* grounded:

Suppose that A grounds Bit is a fact that A grounds B . By the starting assumption [that grounding facts are always grounded], that fact 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 $B))$]. Bennett (2011, p. 30)



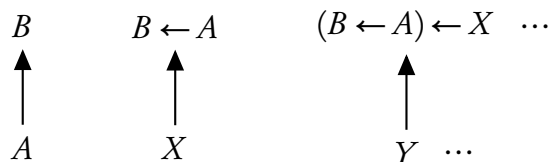
Karen says that this regress threatens to show that grounding isn’t well-founded; and then she solves this problem by appeal to The Ground Grounds Grounding.

But I don't think that this regress implies that grounding is not well-founded, or that it's problematic. (These issues are relevant to the metaphysical semantics approach, by the way, since it faces an analogous regress.)

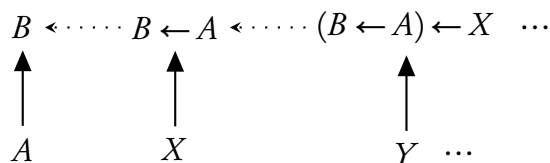
First, the regress doesn't threaten to imply that ground isn't well-founded. (Karen agrees with this in her most recent discussion.) A picture of grounding being not-well-founded would look like this:



Whereas what we've got instead looks like this:

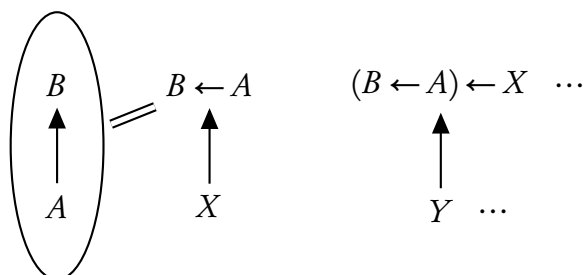


The crucial point is that the diagram does *not* contain these dotted arrows:



Each of the grounding facts along the top row holds just in virtue of the fact immediately below it. (And the facts in the bottom row could be fundamental; or they hold in virtue of further fundamental facts; but there's no argument that they have infinite descending chains of ground below them.) To be sure,

each of the grounding facts on the top row *is* the fact that the previous top-row fact holds in virtue of the fact below it:



But as Karen points out, that doesn't mean that, for example, *B* holds in virtue of *A* and also the fact that *B* holds in virtue of *A*. *B* holds in virtue of *A* alone. As Karen also points out, this is a kind of Lewis Carroll point: when *A* holds in virtue of *B*, *B* on its own grounds *A*; you don't also need to add the fact that *B* grounds *A* to get a ground of *A*.

7.4 Is the proposal explanatory?

I want to put this off until I discuss this issue in general. But vaguely put, my concern is that Karen's answer is ok if the question is what grounds ground, but that it just goes to show that grounding isn't a helpful concept. Suppose you're told that *A* grounds *B*, and you want to know why. If you're just told *A*, you don't know a lot more than what you started out with.

Part of the problem with ground here is that it's merely conditional. A biconditional notion of ground would require a more interesting ground.

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