

# The Status of Ground\*

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As I use the term, ground is a purely explanatory notion: to say that some facts ground another is just to say that the former explain the latter, in a particularly metaphysical sense of ‘explains’.<sup>1</sup> To illustrate, imagine being asked what explains Europe’s being at war in 1939. A causal explanation might describe a sequence of events over the preceding 50 years that led Chamberlain to declare war on Germany. But there is another kind of explanation that would try to say what goings on in Europe at the time made it count as a continent at war in the first place. Regardless of what caused Chamberlain to declare war in 1939, someone in search of this second explanation recognizes that its being at war was not a *sui generis* state of the continent and that there must therefore be something about the continent *in virtue of which* it counted as being a continent at war. A plausible answer is that it was at war in virtue of various facts about how its citizens were acting, for example that some were committing various politically motivated acts of violence against others. An explanation of this second kind is a statement of what *grounds* Europe’s being at war in 1939.

Similarly, if someone asks why Lee Harvey Oswald did something wrong in Dallas, there are at least two kinds of answer. A causal answer might describe a difficult childhood during which he developed deep feelings of frustration leading to an unstable psychological rage. But another kind of answer hears the question as asking not for a causal explanation of why he acted as he did but rather for some explanation of what it was about his action that made it wrong. Is it because it violated Kennedy’s right to life? Is it because it violated some Kantian categorical imperative? Or is it because it did not lead to the greatest amount of utility? As I use

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<sup>1</sup>Here I am following Fine’s use of the term in his [11] and [13].

the term, an answer to this question would be a statement of what *grounds* the fact that Oswald did something wrong.

But what about the grounding facts themselves? If the Xs ground Y, what is the status of this grounding fact? Is it grounded in something else or is it an unexplained, brute fact about the world? The aim of this paper is to motivate the thesis that facts about what grounds what are themselves grounded in the essences of things and that these latter facts about essence are groundless. I argue that this view solves a difficult problem that I describe in sections 3–5.

To solve that problem, it is crucial that the reason these facts about essence are groundless is *not* that it makes sense to ask what grounds them and it just so happens that nothing does. Rather, the view I propose is that it is in some sense a mistake to ask what grounds them in the first place. Pictorially, philosophers like to think of ground as inducing a kind of hierarchical structure on the world: if the Xs ground Y, then the Xs are “explanatorily prior” to Y and can be pictured as “lying below” Y in the hierarchy of ground. On this picture, my view is not that these groundless facts about essence are brute facts occupying the lowest level of the hierarchy but rather that they are the scaffolding around which the hierarchy is built. That at least is the picture; I develop the view in more detail in sections 6–8.

Some might be tempted to dismiss the question of what grounds the grounding facts as a mere curiosity, perhaps even an artificial question of the sort that gives metaphysics a bad name. On the contrary, the question arguably concerns the status of much philosophy.

To see this, consider philosophical theses as diverse as physicalism about the mind, normative naturalism, and phenomenalism. All these theses claim that certain facts—about consciousness, norms, or external objects—in some sense “arise out of” various underlying facts—about the physical state of my brain, the natural properties of my action, and sense data, respectively. But what does this amount to? What does it mean for the mental facts to “arise out of” physical ones? It was once understood as the idea that mental truths can be *logically derived* from physical truths along with analytic definitions of mental concepts. But this is now taken to be too strong a requirement on what it is to be a physicalist. More recently, some have understood it as the idea that mental properties *supervene* on physical properties. But it is widely agreed that this is too weak if supervenience is a mere matter of necessary connection. Instead, there is a growing consensus that the issue is whether consciousness can be *explained*, in this metaphysical sense, purely in terms of physical events and processes. Similarly, normative naturalism can be understood as the thesis that normative facts about what one ought to do or believe are grounded in natural facts; and phenomenalism as the view that facts about the ex-

ternal world are grounded in patterns of sense data.<sup>2</sup>

If there is such a thing as ground, then, it is likely that many core philosophical issues will be formulated in terms of it. So our question of what grounds the grounding facts is the question of the status of these core issues in philosophy. Are they on a par with, say, issues in fundamental physics, such that failing to investigate them constitutes a failure to investigate a part of reality that cannot be accounted for otherwise? Or are they on a par with issues in (say) urban planning, issues that arguably need not be pursued in an investigation of the world at its most fundamental level? I finish the paper in section 9 by discussing the implications of my view on the nature of these philosophical issues. (I have also attached two appendices containing supplementary material that is not essential to the paper's main thread.)

Admittedly, some philosophers are skeptical that there is any such thing as ground. Hofweber for one has complained that ground is an "esoteric" notion that is not even *prima facie* intelligible.<sup>3</sup> His worry is important but it deserves more discussion than there is space for so I will bracket it here. So my question is conditional: *if* the notion of ground is *prima facie* intelligible, what is the status of these formulated in its terms? Still, I am confident that the antecedent is true. My use of 'ground' may be a little different from its use in natural English, but I am just using it stipulatively as a label for a mode of explanation. Far from being esoteric, the above examples suggest that this mode of explanation is just as familiar to us as causal explanation. There might be sophisticated skeptical arguments against either notion, but the onus is on the skeptic to provide them since both seem on the face of it to be intelligible and have true applications.

## 1 More on Ground

Let me start by clarifying the notion of ground I am working with. First, as with any explanatory notion we should distinguish between full and partial explanations. One explosion in the Rhine might be part of an explanation of what it was for Europe to be in a state of war, but it does not fully explain it. By something's ground I mean its full explanation.<sup>4</sup>

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<sup>2</sup>For arguments to this effect see Horgan [15] and Fine [11]. Perhaps unsurprisingly, thinking of these kinds of views in terms of ground can have a significant effect on the first-order question of whether the view is plausible. I discuss this in the particular case of the metaphysics of space and time in Dasgupta [4].

<sup>3</sup>See Hofweber [14].

<sup>4</sup>Note that some things may have many full explanations. For example, the fact that snow is white or grass is green is fully explained by the fact that snow is white, and also fully explained by the fact that grass is green.

What is the logical form of a grounding claim? Ground is an explanatory notion, and explanations are typically expressed with the sentential operator ‘because’: Europe was at war in 1940 *because* its citizens were acting in certain ways, the action was wrong *because* it did not maximize utility. This suggests that the logical form of a claim about ground is

S because  $\Gamma$

where S is a sentence,  $\Gamma$  is a list of sentences, and ‘because’ is read in the metaphysical rather than causal sense.<sup>5</sup> Informally, the sentences in  $\Gamma$  describe those aspects of the world that together (fully) explain its being the case that S. On this approach, our question about what grounds the grounding facts is the question of finding a list  $\Delta$  such that

(S because  $\Gamma$ ) because  $\Delta$

I favor this approach, but it is often convenient as a shorthand to reify and treat ground as a relation between facts. On this approach, the logical form of a claim about ground becomes

the Xs ground Y

where Y is a singular variable and ‘the Xs’ is a plural variable, both ranging over facts.<sup>6</sup> On this approach, our question of what grounds the grounding facts is the question of finding some facts Z such that

the Zs ground the fact that the Xs ground Y

It should be clear that my use of the term ‘ground’ here differs from some other uses found in the recent literature. For example, Schaffer uses it to label a relation that can hold between entities of any ontological category whatsoever: objects, properties, facts, states of affairs, propositions, and so on.<sup>7</sup> But when I say that the Xs ground Y I mean that the Xs explain Y, and it makes no grammatical sense to explain an object such as a

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<sup>5</sup>This is how Fine characterizes the logical form in his [11] and [13].  $\Gamma$  is taken to be a list and not a conjunction so as to allow one to make sense of the plausible view that a conjunction is grounded in its conjuncts without it collapsing into the view that the conjunction grounds itself.

<sup>6</sup>This is how Rosen characterizes the logical form in his [22]. Strictly speaking, I am simplifying the matter somewhat. In Dasgupta [3] I argue that ground is irreducibly plural, in the sense that sometimes a collection of facts *are* together grounded in some underlying facts, even though none have a ground on their own. To make sense of this view, we must take both X and Y to be plural variables and replace ‘is’ with ‘are’. Or, on the sentential operator approach, we must instead take the logical form to be

$\Delta$  because  $\Gamma$

where  $\Delta$  and  $\Gamma$  are both lists of sentences. But I will ignore this complication here.

<sup>7</sup>See Schaffer [24] and [25].

table. We may of course explain why the table exists and why it has various properties, but not the table itself. Similarly, it makes no grammatical sense for a table to explain anything: its existence or its having various properties might explain, but not the table itself.<sup>8</sup> So Shaffer and I clearly mean something different by ‘ground’. What then does he mean by it? In personal communication he tells me that he uses it to label a relation between entities that he believes must underly the mode of explanation that I label with ‘ground’. I am skeptical that there must exist such a relation, but I will not discuss this issue here. The point is just our uses of ‘ground’ are different.

This is important, for my question is easily misunderstood if one reads ‘ground’ as expressing the Schafferian notion. For example, if read that way it is easy to hear the question in this paper as asking what, if anything, grounds the grounding relation.<sup>9</sup> But this is not my question. Indeed, this question makes no sense on my notion of ground, since insofar as I take ground to be a relation it only relates facts, not relations. Moreover, one way to sidestep this alternative question is to take the Schafferian predicate ‘ $x$  grounds  $y$ ’ to be a piece of ideology that does not correspond to a relation in the world. On that view, the question of what grounds the grounding relation simply does not arise. But as I emphasized above, my question arises whether we formalize the mode of explanation I call ‘ground’ as a sentential operator or as a relation between facts.

Moreover, on the Schafferian notion of ground a natural thesis is that facts are grounded in their constituents. The fact that Fido is a dog might be grounded, on this view, in Fido and the property of being a dog. Thus when I ask what grounds a grounding fact, someone using the Schafferian notion of ground might reply that it is (like any fact) grounded in its constituents. But this makes no sense on my use of ‘ground’. For when I say that a fact is grounded, I mean that it is *explained* by other various other facts, and as I pointed out above it makes no grammatical sense to say that Fido (the object) explains anything.

In what follows I will assume that ground is transitive in the sense that if S because  $\Gamma$ U and T because  $\Delta$ , then S because  $\Gamma$ U $\Delta$ . One might object by arguing that all parts of an explanation must be relevant to what it explains and that relevance is not transitive. Still, the objector can nonetheless make sense of the transitive closure of ground; and, in the other direction, those who think that ground is transitive may agree that relevance is not and make sense of the non-transitive notion of “relevant ground”. So both sides can make sense of each other’s notion, and for our purposes it is not important to settle which notion of ground should be taken as basic.

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<sup>8</sup>The same goes for a property such as redness. It makes no sense to explain redness itself, at best it makes sense to ask why something has it or perhaps why it has various higher-order properties.

<sup>9</sup>This is one of the questions discussed by Bennett [1].

It suffices to say that I will discuss the transitive notion.

## 2 Connective Explanations

Our question is what grounds the grounding facts. If the Xs ground Y, what if anything explains the fact that the Xs ground Y?

Sometimes it is natural to explain one grounding fact in terms of others. Suppose that there is a table in the room because some molecules are arranged in a certain way, and suppose that those molecules are arranged like that because of how some atoms are arranged. By transitivity it follows that there is a table in the room because of how those atoms are arranged. It is then natural to explain this latter grounding fact by citing the previous two.

Here we are distinguishing between *mediate* and *immediate* ground.<sup>10</sup> Even though the arrangement of the atoms grounds the table's being in the room, it does so only in a mediated sense. In contrast, the arrangement of the molecules might be taken to immediately ground the table's being in the room. The idea in the last paragraph, then, is that it is sometimes tempting to explain cases of mediate ground in terms of chains of immediate grounds. (In what follows I will often leave out the qualifiers 'mediate' and 'immediate' for brevity, but it is usually clear from context what I mean.)

But let us focus on facts about what *immediately* grounds what, where this kind of explanation is not available. What explains them? To fix ideas, suppose that the fact that Oswald's action did not maximize utility immediately grounds the fact that his action was wrong. What explains this?

One answer is that there is no answer. On this view it is a brute, inexplicable fact that the action's failing to maximize utility immediately grounds its being wrong. Call this view *fundamentalism* about ground. One reason to reject fundamentalism is that it cannot explain patterns in the grounding facts. For if one thinks that the wrongness of Oswald's action is immediately grounded in its failing to maximize utility, one will likely explain the wrongness of other actions similarly. But what then explains this striking pattern? How come that in all these various cases, an action's being wrong is always explained in the very same way? It is hard to see what the fundamentalist can say. Since she says that each grounding fact is brute, it would appear on her view to be a brute, unexplained coincidence that all these acts of wrongness are explained similarly. And this is unsatisfying: surely if all these wrongness facts are explained similarly, there should be some reason why this is so.<sup>11</sup>

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<sup>10</sup>See Fine [13].

<sup>11</sup>Sider offered a similar objection to Fine's notion of Reality (see Sider [27], p. 171).

The overwhelmingly natural thing to say here is that, *contra* fundamentalism, each grounding fact is explained by some connection between wrongness and utility. The pattern in the grounding facts will then follow from the fact that each grounding fact has a common explanation. But what is the connection between wrongness and utility that might explain each grounding fact?

One suggestion is that the connection is metaphysical necessitation. The idea is that it is a necessary truth that an action is wrong if it fails to maximize utility, and this (at least partly) explains why the fact that Oswald's action failed to maximize utility grounds its being wrong. The idea would then be that this necessary connection between wrongness and utility also (at least partly) explains why other actions (say, Hitler's) were wrong in virtue of their failing to maximize utility. The fact that all these acts of wrongness are grounded similarly then follows from the fact that each grounding fact has a common explanation. Call this the *necessitation* view.

Another suggestion about the connection between wrongness and utility is that the latter is part of the essence or nature of the former. It is part of *what wrongness is*, one might say, that an action is wrong if it does not maximize utility; and this (at least partly) explains why the fact that Oswald's action failed to maximize utility made it wrong. Again, the idea would be that this fact about what wrongness is also explains why other actions are wrong in virtue of their failing to maximize utility, so (again) the pattern in the grounding facts would follow from the fact that each grounding fact has a common explanation. Here we are explaining a grounding fact about *why* something obtains in terms of a fact about *what* something is, i.e. in terms of something's essence. This idea that grounding facts are grounded in essences was considered by Rosen [22] and endorsed by Fine [13], and it is the view that I favor.<sup>12</sup> And what grounds the facts about essence? Neither author discussed this question, but the view that I want to defend here is that they are groundless. Let us call it *essentialism*.

What is this notion of essence? As I use the term here, a statement of something's essence is a statement of what that thing is in certain core respects. These statements are answers to familiar kinds of 'what' questions. For example, when we ask in the philosophy seminar room 'What is it to act freely?' and consider the answer that freedom is the ability to have acted otherwise, we are considering a claim about the essence of free action. And when we ask in the chemistry lab 'What is gold?' and consider the answer that it is an element of atomic number 79, we are again considering a claim about the essence of gold. Regardless of whether

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<sup>12</sup>Though I should note that Rosen and Fine both developed the idea a little differently than described here. I will discuss their views in more detail in section 9.

these claims are correct, we seem to understand them reasonably well. Of course, 'what' questions are notoriously context sensitive: in some contexts, the appropriate answer to 'What is gold?' might be 'The substance that composes this ring!' So a claim about essence is not the answer to just any 'what' question. But I take it that we are reasonably familiar with the sorts of academic contexts in which the above questions might be asked. These contexts are operative in our undergraduate lectures and our students understand the questions perfectly well.

I will discuss the notion of essence and develop essentialism about ground in more detail later on, but the basic idea is clear enough for now. Before we move on, I should say that some theorists speak of the 'laws of metaphysics', general principles such as that any collection of objects compose a whole or that any two objects form a set. Thus, a third thesis about the connection between wrongness and utility that might explain the grounding facts is that they are connected by a law of metaphysics. On this approach, one might say that it is a law of metaphysics that an action is wrong if it does not maximize utility; and this would be taken to (at least partially) explain why the fact that Oswald's action failed to maximize utility made it wrong. Call this view *legalism*.<sup>13</sup>

What exactly is a law of metaphysics? If it is identical to or grounded in an ungrounded fact about essence then legalism would imply essentialism (by the transitivity of ground). So the view takes on particular interest if the laws are distinct from essences and are themselves ungrounded, and that is how I understand the view here. Since I will not defend it, I will not discuss further what this notion of an ungrounded law of metaphysics might be (my aim right now is just to survey some salient options).

So here are four views of ground: one that takes grounding facts to be groundless, and three others that explain them by appeal to some connection between constituents of the ground and constituents of the grounded.

### 3 Ampliativity

Unfortunately, there is a compelling reason to think that none of these views can be true.

To see why, consider the doctrine of physicalism. The initial vision behind this view is that at some basic level the world is constituted wholly by physical matters of fact concerning physical entities and that phenomena like wars, norms, and experiences of pain arise out of that physical basis. There are plenty of details for physicalists to dispute, for example whether natural laws governing how the physical entities interact are part of that basic level too.<sup>14</sup> But putting those issues aside, the shared

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<sup>13</sup>Jonathan Schaffer has said that he is attracted by this view in personal communication.

<sup>14</sup>This is the issue of Anti-Humeanism vs Humeanism about natural law.

vision is that if one digs deep enough one will find a world characterizable without notions of war, normativity, or pain. As it is sometimes put metaphorically, when God made the world Her work was done when She had determined the purely physical matters of fact, for all the other many and varied aspects of the world arose out of that physical basis.

There is of course a question of what it means for some facts to “arise out of” others, and as I mentioned earlier one of the main reasons why contemporary metaphysicians are so interested in the notion of ground is that they take it to be the concept in terms of which theses like physicalism should be expressed. Thus as a first approximation the grounding theorist will state physicalism as follows:

(P) All facts are purely physical or are grounded in purely physical facts.<sup>15</sup>

Now consider a non-physical fact such as the fact that Oswald’s action was wrong. By (P), the physicalist must find some physical facts in which it is grounded. Thus she may state that its being wrong was grounded in its failing to maximize utility, with an eye to then further grounding facts about utility in purely physical facts. But now consider the fact that those facts about utility grounded the action’s being wrong. Since this grounding fact is partly about *wrongness* it is not a purely physical fact, so it follows again by (P) *that the physicalist must ground this grounding fact in purely physical facts.*

I just focused on physicalism, but the point generalizes to other -isms such as normative naturalism, materialism, phenomenism, and so on. For the exciting idea behind all these -isms is that at some basic level the world is constituted by a relatively sparse basis of natural or material or phenomenal facts, and that this sparse basis gives rise to genuinely novel phenomena such as wars and norms and experiences of pain that were not part of the underlying basis. So if we formulate these -isms in terms of ground, it appears to follow from the truth of any one of them that the hierarchy of ground is “ampliative” in the sense that as one moves up the hierarchy one encounters genuinely novel aspects of the world like wars and norms and pains that that were not found at the lower levels. But the grounding facts that detail how those higher level facts are grounded in the lower level facts are themselves in part about those higher level phenomena. So these -isms appear to require *that those grounding facts themselves are grounded in those lower level facts.*

To be clear, the hierarchy may or may not in fact be ampliative: it might turn out for reasons of first-order metaphysics that facts about wars and

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<sup>15</sup>This does not imply that there is a realm of ungrounded physical facts, since it does not imply that there are any ungrounded facts at all. It is consistent with (P) that every fact is grounded in some other facts and so on *ad infinitum*.

norms and pain are all groundless and that therefore all these -isms are false. But the idea is that this radical conclusion should not be enforced *merely* by a thesis about the nature of ground.

The point, of course, is that if this is right then all the views of ground surveyed in the last section must be rejected. For suppose that a would-be physicalist claims that Oswald's action's being wrong is grounded in its failing to maximize utility. What is the status of this grounding fact? According to fundamentalism, it is groundless. And according to the other views, it is explained by a (necessary or essential or legal) connection between utility and *wrongness* that is itself groundless. Either way, it follows that there are groundless facts about wrongness and our would-be physicalist has failed to respect (P). Thus all those views about the nature of ground seem to imply, regardless of any first-order considerations, that physicalism, normative naturalism, materialism, phenomenalism and so on are all false; a consequence that I take to be unacceptable.

That is the potential objection to those views. Since I take it seriously enough to guide our discussion let me make it explicit. The constraint I just motivated is

*Ampliativity*: An adequate theory of ground must leave open the possibility that ampliative theses like physicalism are true when formulated in terms of ground.

The idea behind this kind of constraint was first expressed by Sider in his principle of Purity, and others have subsequently developed other principles in the same spirit.<sup>16</sup> Strictly speaking, Ampliativity is logically independent of Purity and these other principles, but the question of how they differ and why I prefer Ampliativity is somewhat tangential to our main thread so I leave a discussion of this to Appendix A. In any event, my argument for Ampliativity rests on two premises:

- (1) Ground is the concept in terms of which theses like physicalism are properly formulated.
- (2) If ground is the concept in terms of which theses like physicalism are properly formulated, an adequate theory of ground must leave open the possibility that those theses are true when formulated in terms of ground.

The thought was then that all the views of ground described in the last section violate Ampliativity, and this thought rests on two more premises:

- (3) The views of ground described in the last section all imply that (P) is false.

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<sup>16</sup>See Sider [27], chapter 7, for a discussion of Purity. And see deRosset [6] for an example of a related constraint.

(4) Physicalism is true only if (P) is true.

Are these premises true? One could of course deny (1) and take the above discussion to show that ground is not fit for formulating theses like physicalism. But since the interest in ground stems from the hope that such theses can be formulated in terms of it, this would be deeply disappointing for a friend of ground. So I take (1) to be a working hypothesis. Similarly, one could deny (2) and take the above discussion to show that theses like physicalism do not get off the ground.<sup>17</sup> But again, this would be a disappointing result for the friend of ground so I take (2) a working hypothesis too. To be clear, there may be other reasons why theses like physicalism do not get off the ground. For example, some worry that there is no principled account of what it is for a fact to be physical in the first place.<sup>18</sup> But these are not worries that stem from the nature of ground *per se*. All (2) says is that our theory of ground should not preclude these kinds of theses.<sup>19</sup>

As for the second set of premises, (3) is obviously true. The real action lies in (4). A defense of one of the views of ground described in the last section must, I think, argue that physicalism does not require something as strong as (P). The truth of physicalism must be shown to consist in something weaker than (P), something that is consistent with one of those views of ground. Of course, the point here is not limited to physicalism: on this response, all these -isms like normative naturalism and phenomenism must be shown to consist in something weaker than we might at first have thought. I will develop this response in detail later on when I

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<sup>17</sup>Thanks to Earl Conee for emphasizing this point to me.

<sup>18</sup>See Ney [20] for more on this issue.

<sup>19</sup>I have been treating ground as a relation between facts here, but there is an issue about how theses like physicalism are to be understood if we take ground to be a sentential operator. The obvious suggestion is to distinguish between physical and non-physical vocabulary, and then express physicalism as the view that for any true sentence S containing non-physical vocabulary, there is a list of true sentences  $\Gamma$  all of which contain just physical vocabulary, such that 'S because  $\Gamma$ ' is true. But this turns physicalism into a metalinguistic thesis about sentences and one worries that this distorts the original physicalist idea which concerned the explanation of worldly matters. The problem is that we would like to endorse physicalism even though we are not in a position to say precisely what the mental facts of our world are or which particular physical facts ground them. We just want to say that *whatever* the mental facts are, there are *some* physical facts or other that ground them. If we quantify over facts this is straightforwardly expressed by (P), but if we treat ground as a sentential operator we have to quantify over sentences and turn physicalism into a thesis about language. One solution is to treat physicalism as a massive disjunction, with each disjunct consisting in a possible collection of 'because' claims amenable to the physicalist (this approach follows from the metalinguistic approach on some deflationary theories of truth). Another approach, which I am somewhat partial to, is an expressivist interpretation of physicalism. On this approach, to endorse physicalism is to express a plan or commitment or intention or disposition to endorse certain kinds of explanations. These approaches raise many interesting questions, but the question that I address in this paper arises for all of them so I leave a discussion of this for another time.

defend essentialism about ground.

## 4 Sufficient Explanations

But why bother defending essentialism? Why not follow the above argument where it leads and reject all the views of ground discussed so far? The reason is that the only view of ground left standing is a non-starter.

To see why, consider a would-be physicalist who follows the above argument where it leads. Suppose she endorses

- (a) The fact that Oswald's action failed to maximize utility grounds the fact that it was wrong.

with a view to then further grounding its failing to maximize utility in purely physical terms. Since this theorist agrees that physicalism requires the truth of (P), she must then explain (a) in purely physical terms, without mentioning anything about wrongness. And this seems to be impossible.

To see this, it is important that we hear candidate explanations in the flesh rather than considering them in the abstract. Our question is what explains (a): Why is it that the action's failing to maximize utility was responsible for its being wrong? One thing that an answer to this question must explain is why its failing to maximize utility made it *wrong*, rather than (say) right. Why, that is, was this naturalistic fact about the action responsible for its having *this* moral property as opposed to another? It is almost irresistible to think that the answer must have something to do with *wrongness*. Essentialism about ground agrees: on this view it is part of *what wrongness is* that an action's failing to maximize utility suffices for its being wrong, and this (at least in part) is why Oswald's action's failing to maximize utility made it wrong. But regardless of essentialism, it is overwhelmingly plausible that the answer must at the very least have something to do with wrongness and its connection to utility.<sup>20</sup>

Let us now hear my opponent's explanation. We just saw that a candidate explanation must say why the action's failing to maximize utility is responsible for its being *wrong*, rather than (say) right. My opponent answers that it is because various quantities are distributed throughout space-time, but it is difficult to take the proposed answer seriously: if someone sincerely offered me that answer I would be inclined to think that she had misunderstood the question! I was asking why the action's having a certain naturalistic property was responsible for its having *this*

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<sup>20</sup>I am using locutions like 'was responsible for' and 'made it the case that' as synonyms for ground. The reason is that I want us to hear the question of what grounds (a) for what it really is and think about how we might genuinely answer it. The term 'ground' does not serve this purpose well since its everyday English meaning is somewhat different than its stipulated meaning in this paper.

moral property rather than another; the fact that various physical quantities are distributed thus and so simply fails to address the question. And note that the point remains if one tries to initially explain (a) by describing the distribution of utilities (with an eye to subsequently grounding those utilities in purely physical facts). For so long as one continues to say nothing about wrongness and its connection to utility it seems that one has failed to address the question.

The point is perhaps illuminated by an analogy with causal explanation. Suppose that a particular object's being F causally explains why it became G a little later. What explains this causal connection? Why is it that its being F causally explains its being G? One candidate answer is that there is a covering law that everything F becomes G.<sup>21</sup> Never mind whether this answer is correct, the point is that no one would think that the answer is that it was F. Its being F might causally explain why it is later G, but it obviously does nothing to explain the causal connection itself. Similarly, it may be possible to metaphysically explain (i.e. ground) an action's being wrong in other terms, perhaps in terms of it failing to maximize utility. But when it comes to the explanatory connection itself the situation is different. If one tries to explain it without saying anything about wrongness, merely describing the distribution of physical quantities or utilities without saying anything about how those physical quantities or utilities are connected to wrongness, we can legitimately object that the question of why those naturalistic facts were responsible for the action having *this* moral property rather than another remains unaddressed.

To be sure, one might take the argument of the last section to show that it *must* be possible to explain (a) without mentioning wrongness. But the trouble is that as soon as we hear the proposed "explanation" in the flesh it seems deeply unsatisfying. To insist on the basis of the argument in the last section that the "explanation" *must* be right is to be blinded by potentially misleading theory.

It might be objected that the correct explanation is sometimes surprising. Five hundred years ago we would never have guessed that the solidity of a table is explained in terms of the electromagnetic forces between its microscopic parts, but we would have been foolish to reject the possibility at the outset. Am I not too hasty to reject my opponent's explanation of (a) out of hand just because it strikes me as implausible? I do not think so. For the problem is not that her explanation of why (a) obtains *could* be correct under certain conditions that are (as it happens) not satisfied. The problem is rather that her explanation does not address the question and so is not even a candidate explanation in the first place. Even before verifying the truth of electromagnetic theory, we could have seen that it counts as a candidate answer to the question of why the table is solid that should be

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<sup>21</sup>It is this sort of idea that drives the D-N model of causal explanation.

accepted under certain conditions (e.g. if the theory of electromagnetism turns out to be true).

My opponent might grant that it does not *seem* like her answer addresses the question of why (a) obtains, but point out that this fact about our psychology is perfectly consistent with the fact that (unbeknownst to us) it does. This is of course correct, and the lesson is that this discussion does not *prove* that she has not explained (a). But proof is not my aim. The point is just that it strikes us as deeply implausible that purely physical information would count as addressing the question of why (a) obtains; if you think that my explanation in terms of what wrongness is *does* address the question then that is (defeasible) reason to prefer my view. My opponent could of course insist (pounding the table) that her purely physicalistic account does in fact explain (a), it is just that our own limited capacities stop us from appreciating that fact.<sup>22</sup> But I take this to be a move of last resort. The intellectual activity of seeking explanations would be stymied if one could regularly say 'you may not be able to see that it is an explanation but (trust me!) it is'.

A more sophisticated response along these lines might question why we should take our *intuitions* about what is a candidate explanation as *evidence* about what in fact is a candidate explanation. The issue is especially pressing since the notion of ground is not a subjective or epistemic notion: if the Xs ground Y, this is supposed to be a fact about the world that is in some sense independent of my psychology or epistemic state. This is indeed a deep question about the epistemology of explanations, and a proper response is far beyond the scope of the current paper. So for now, let me claim innocence by association. As Hume pointed out there is a deep question about how we could ever come to know the causal structure of the world. We have not yet answered his question, but most would agree that it is perfectly reasonable for the natural sciences to muddle along as best they can. Similarly, we may have no developed epistemology of ground, but that does not excuse us from asking questions about what grounds what and answering them as best we can. And in doing so, our deep seated beliefs about what counts as a candidate grounding explanation are reasonable (albeit defeasible) guides. At any rate, this is our attitude in other cases: if you were to ask what grounds Europe's being at war and I were to answer that it is because  $2+2=4$ , it would be perfectly rational of you to complain that my answer does not address your question. Somehow—even if we do not yet know how—in grasping the fact that Europe was at war we seem to know something about what would

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<sup>22</sup>This is somewhat analogous to a move sometimes made in the philosophy of mind. It is sometimes argued that material facts about the state of my brain will never fully explain facts about the qualitative nature of my experiences. In response, some materialists argue that the problem lies in our own epistemic capacities: the materialist explanation itself is fine, it is just that we, due to our limited intellect, cannot appreciate it.

and would not count as a candidate explanation of it. I am just making the same kind of complaint of my opponent's explanation of (a).

Bennett and deRosset have independently proposed a view of ground on which if the the Xs ground Y, then this grounding fact is itself grounded in the Xs.<sup>23</sup> To use an example that deRosset discusses, suppose (as is customary) that a fact P grounds  $P \vee Q$ . Then their view is that P also grounds the fact that P grounds  $P \vee Q$ . Now on the face of it this is vulnerable to the same objection I have been developing, and in a particularly striking manner. For supposing (as is also customary) that P grounds  $\sim \sim P$ , it follows on their view that the explanation of why P grounds  $P \vee Q$  is *exactly* the same as the explanation of why P grounds  $\sim \sim P$ , i.e. P! And this is implausible: the correct explanations are intuitively different and will involve something about disjunction in the first case and negation in the second. It is because of the way *disjunction* works that P is a sufficient explanation of why  $P \vee Q$ ; while it is because of how *negation* works that P grounds  $\sim \sim P$ . The point is emphasized by noting that even if Q obtains, P does not ground  $P \& Q$ .<sup>24</sup> In virtue of what then is P a sufficient explanation for  $P \vee Q$  but not  $P \& Q$ ? Surely the explanation has something to do with how disjunction works.

In response to this kind of objection, deRosset agrees that it is very natural to say something about disjunction when explaining why P grounds  $P \vee Q$ . But he distinguishes those facts that explain a given fact from those that might make the explanation intelligible to an audience in certain contexts. He then claims that facts about disjunction play this latter "intelligibility" role in an explanation of why P grounds  $P \vee Q$  and are not part of the explanation proper.

But this claim is implausible. The distinction he makes is certainly important: even if some Xs fully ground Y, one might when explaining Y to a certain audience also cite extra background information that would help them "see" that the Xs ground Y (such as one's reasons to think that the Xs ground Y). But the distinction is not relevant to the current matter. For the above intuition—that it is because of something about how *disjunction* works that P is a sufficient explanation for  $P \vee Q$ —has nothing to do with what background material might be appropriate to tell certain audiences. Rather, it has to do with what seems to make it the case that (i.e. ground the fact that) P is a sufficient explanation of  $P \vee Q$ .

deRosset does provide an argument for his claim. His premise is that when explaining  $P \vee Q$  in terms of P one might say something about disjunction, and this reference to disjunction would merely be in aid of making the explanation of  $P \vee Q$  intelligible to an audience and not part of

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<sup>23</sup>See Bennett [1] and deRosset [6].

<sup>24</sup>Remember, I use 'ground' to mean full grounds:  $P \& Q$  is fully grounded by both P and Q but not by either one alone.

the ground. I agree. But he then concludes from this that when explaining why P grounds  $P \vee Q$  any reference to disjunction plays the same role. And this conclusion does not follow, for the fact about disjunction may play a different role in each case. Just think of the different roles that reference to disjunction can play in proof. When we prove  $P \vee Q$  from P, no reference to disjunction need be made in our premises: the fact that disjunction introduction is valid, for example, is not one of our premises (for reasons articulated by Lewis Carroll). But when we prove (in the metalanguage) that P implies  $P \vee Q$ , reference to disjunction is ineliminable: one's premises will include the fact that the introduction rule *for disjunction* allows one to conclude  $P \vee Q$  from P. Facts about disjunction therefore play a role in proving that P implies  $P \vee Q$  that they do not play when proving  $P \vee Q$  from P. My claim is that the same goes for metaphysical explanation: the fact that P grounds  $P \vee Q$  is (in part) grounded in a fact about disjunction even if the fact that  $P \vee Q$  is not. So deRosset's correct observation that any reference to disjunction when explaining  $P \vee Q$  to an audience is not part of the ground is no reason to doubt my claim.

Indeed, one might argue that my view better accounts for why it might be natural to cite facts about disjunction when explaining  $P \vee Q$  to certain audiences even if that fact about disjunction is not part of the ground. For let us define an *extended ground* of a fact Y to be (i) a collection of Xs that ground Y, together with (ii) a collection of Zs that ground the fact that the Xs ground Y. When one cites an extended ground of Y, one explains Y and then also explains why what one just said counts as an explanation. Now on my view the ground of  $P \vee Q$  contains no fact about disjunction but the extended ground does. So the fact that it might be natural to say something about disjunction when explaining  $P \vee Q$  to certain audiences is predicted by the plausible hypothesis that we sometimes aim in conversation to give extended grounds and not just grounds. But on deRosset's view even the extended ground of  $P \vee Q$  contains no facts about disjunction, so it is less clear why it might be natural to cite such a fact when explaining  $P \vee Q$ .

Of course, one might hold the view that  $P \vee Q$  itself is grounded partly in these facts about disjunction. Similarly, one might take the considerations earlier in this section to show that the fact that Oswald's action was wrong is in part grounded in a fact about the essence of wrongness, *contra* (a). I disagree: in my view this is to confuse the notions of ground and extended ground. One can fully explain why an action was wrong (rather than right) simply by stating that it did not maximize utility; it is when one wants to explain why those facts about utility make for a wrong action (rather than a right one) that one must say something about wrongness itself and its connection to utility. But there is no need to settle the matter here. For if one insists that Oswald's doing something wrong is explained (in part) by the essence of wrongness, then this is either a first order claim

about moral facts in particular or else a general view that follows from the nature of ground. If the former then the claim is irrelevant since I am not assuming that (a) is true but merely that our view of ground should not rule it out. If the latter then the problem about how to respect Ampliativity arises before we even consider how to ground facts about ground, and my proposal later on in the paper will be just as effective at solving this problem as it is at solving the one raised in the text.

## 5 The Challenge

We now face a puzzle. In section 3 I argued that the following is a working assumption for a grounding theorist:

*Ampliativity:* An adequate theory of ground must leave open the possibility that ampliative theses like physicalism are true when formulated in terms of ground.

I then assumed that physicalism implies that

(P) All facts are purely physical or are grounded in purely physical facts.

But all the theories of ground described in section 2—fundamentalism, necessitationism, essentialism and legalism—imply that (P) is false, in violation of Ampliativity. The only view of ground consistent with (P) is one on which facts that detail how moral facts are grounded in the physical are themselves be grounded in physical facts too. But we just saw that this view about what grounds the grounding facts is utterly implausible. So it appears that no plausible view of ground can respect Ampliativity. This is a real puzzle for the grounding theorist, for if no adequate view of ground can be found we may have to reject the notion altogether.

I propose that we question the assumption that physicalism requires the truth of (P). One obvious alternative suggestion is that these ampliative theses should be weakened by restricting them to facts that are not about what grounds what. Thus we might take physicalism to require just that

(P<sub>1</sub>) All facts *with the exception of facts about what grounds what* are either purely physical or are grounded in purely physical facts.

and similarly for other ampliative theses. Since fundamentalism is consistent with (P<sub>1</sub>), it would follow that fundamentalism is consistent with these ampliative theses after all, as Ampliativity requires. An analogous strategy might be used to defend necessitationism, essentialism or legalism.

My defense of essentialism will endorse this general strategy of weakening what these ampliative theses amount to (though I will not endorse (P<sub>1</sub>) specifically). But the strategy faces the serious challenge of saying

why the resulting theses are faithful to the initial ampliative vision. For consider

(P<sub>2</sub>) All facts *with the exception of the fact that all wrong actions should be discouraged* are either purely physical or are grounded in purely physical facts.

(P<sub>2</sub>) is clearly not faithful to the initial physicalist vision since it allows that a fact about wrongness is not explained by the underlying distribution of physical quantities. But (P<sub>1</sub>) also allows that some facts about wrongness are not explained by those underlying physical facts. So if (P<sub>2</sub>) is not faithful to the initial physicalist vision, anyone who takes physicalism to consist just in (P<sub>1</sub>) rather than (P) must say why (P<sub>1</sub>) is any better at capturing the physicalist vision than (P<sub>2</sub>).

Let me stress the importance of this challenge by reminding us what the initial physicalist vision is. First, physicalism is sometimes loosely described as the view that *the language of physics is complete*. Intuitively, a complete language is one in terms of which everything about the world can either be stated or explained. Thus part of the initial physicalist vision is that to describe the world in purely physical terms is to describe a realm of fact sufficient to explain everything about wars, norms, pain, and so on. (P<sub>2</sub>) clearly goes against this vision, but on the face of it so does (P<sub>1</sub>). For if facts about what grounds facts about wrongness are themselves groundless then it would seem to follow that a language is not complete unless it contains the term 'wrong'.

Second, the physicalist vision is often expressed with the metaphor of what God had to do when She made the world. The idea behind this metaphor is that when God made the world She did not have to busy herself with all its details, it was sufficient that she determined some limited part of it and the rest in some sense "followed" from that act of creation. But the metaphor admits of at least two readings. On one reading, the facts that God had to determine represent those that would be sufficient to *causally explain* the entire state of the world at subsequent times. On this reading, God was finished when She determined the initial conditions of the universe and the natural laws, for She could then let it evolve on its own in accordance with those laws. But on another reading, the facts that God had to determine represent those that would be sufficient to *metaphysically explain* the rest.<sup>25</sup> This latter reading of the metaphor is most relevant to our purposes. Put in terms of this metaphor, the physicalist vision is *that all God had to do when making the world was determine the physical facts*. (P<sub>2</sub>) clearly violates this vision, but on the face of it so does (P<sub>1</sub>). For if facts about what grounds moral facts are themselves groundless then they

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<sup>25</sup>Thanks to Ralf Bader for a helpful discussion on these two readings of the metaphor.

would appear to be facts that God had to determine them when making the world.

So here are two aspects of the physicalist vision that appear to be violated when we weaken the view by exempting certain facts about wrongness from its scope. I do not want to argue that a thesis only counts as 'physicalism' if it verifies both slogans, for this is a mere terminological matter. But I do claim that if one proposes an interpretation of physicalism that, like (P<sub>1</sub>) or (P<sub>2</sub>), appears to depart from these visions, one must explain why the departure is only apparent or else explain why it preserves what was of interest in the vision. (P<sub>2</sub>) clearly gives up on lots that was of interest in the vision; the challenge for anyone who wants to take physicalism to consist just in (P<sub>1</sub>) is to say why it is any better at capturing the physicalist vision than (P<sub>2</sub>). The same goes for any other proposed weakening of (P).

The challenge is not easily met. One cannot just say that (P<sub>1</sub>) does better because the exempted facts are "metaphysical", for the question is why their being metaphysical should privilege them with this exempted status. Nor should one simply say that (P<sub>1</sub>) does better because grounding facts are not really facts in the proper sense of the term. For my talk of facts is just a convenient shorthand for my official treatment of ground as the sentential operator 'because'. On this approach there is no presumption that there are facts in the first place and so a distinction between the "facts" and the "real facts in the proper sense of the term" is neither here nor there. Nor should one point out that physicalism is a technical term so that we can say that it means (P<sub>1</sub>) by stipulation. For while there may be technical aspects to its proper formulation, any such formulation is an attempt to capture the intuitive physicalist vision gestured at above. Any weakening of (P) will depart from that vision to *some* extent: we need to be told why the proposed weakening (whatever it is) is a departure that preserves what was important about that vision.

## 6 Autonomy

My defense of essentialism will involve weakening our conception of physicalism in something like this way, so I need to meet this challenge. To this end I propose that we distinguish between those facts that are in some sense "apt for being explained" and those that are not. The idea will then be that certain facts about the essences of things are not apt for being explained in the first place, and because of this they are legitimately exempted from our formulation of physicalism. The result will be a formulation of physicalism that is consistent with the essentialist idea that there are ungrounded facts about the essence of wrongness but which also preserves much of the initial physicalist vision. Essentialism will then

have been shown to respect Ampliativity, as required.

Let us start by describing the distinction between those facts that are apt for being explained and those that are not. I suspect that the distinction resists being defined in other terms, so I will try to communicate it with examples and analogies.

The distinction is particularly vivid in the case of *causal* explanation. For example, consider the fact that a particle  $p$  is located at a particular region  $r$  of space at a given time  $t$ . This is apt for being causally explained, in the sense that it makes perfectly good sense to ask what caused the particle to be located there and expect a sensible answer (perhaps that it was located at a nearby region 5 minutes ago and was caused to move by the presence of a force). Of course it may turn out that it has no causal explanation: if  $t$  is the beginning of time it may be a brute, causally unexplained fact that  $p$  is located at  $r$  at  $t$ . In this case the fact would be part of the initial condition of the universe or, more generally, what physicists call a boundary condition. Still, this is not to deny that it is the sort of fact that is apt for being explained. As we might loosely put it, it is the sort of fact that *can potentially be* causally explained or that *might have had* a causal explanation. It is just that, as it happens, it has none.<sup>26</sup>

In contrast, consider the fact that  $2+2=4$ . This does not have a causal explanation either but it would clearly be a mistake to class it, along with the fact that a particle  $p$  is located at  $r$  at  $t$ , as a causally brute, unexplained part of the universe's boundary condition. The physical fact and the mathematical fact may both lack a causal explanation but they do so for different reasons. It made perfectly good sense to ask what causally explained the physical fact, it just happened to lack one; in contrast, the mathematical fact lacks one because the question of what causally explains it should in some sense never have been raised in the first place. As I will put it, it is not apt for being causal explained. Similarly, consider a causal law. We do not normally take causal laws to themselves have causal explanations, but we do not take this to suggest that they are causally brute parts of the universe's initial condition in the same sense that the initial positions of particles are. Rather, one feels that the question of what causally explains them should not be raised in the first place, that they are not apt for causal explanation.

Our inclination to distinguish between facts that are apt for causal explanation and facts that are not shows up in our different attitudes to facts that have no causal explanation. In the one case we take this to imply—or at least to suggest—that the fact is “causally brute” and part of a boundary condition of our universe. In the other case we take it to suggest no such thing precisely because the question of what causally explains should

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<sup>26</sup>To be clear, I do not offer the modal locutions in italics as an analysis of the notion. They are just suggestive ways of communicating it.

never have been raised.

I believe that we should draw an analogous distinction in the case of metaphysical explanation. On the one hand, some facts are apt for metaphysical explanation: we may reasonably ask what explains them and expect a sensible answer. Let us call these facts *substantive*. For example, my laptop's being solid is plausibly a substantive fact since it seems perfectly apt for metaphysical explanation—indeed, it is plausibly grounded in facts about the electromagnetic forces between the molecules composing it. The fact that the particle  $p$  is located at the region  $r$  at the time  $t$  is also a substantive fact. On David Albert's view it is grounded in the undulations of a field in a massively high-dimensional Hilbert space.<sup>27</sup> One might of course reject Albert's view and consider the fact about  $p$ 's location to have no grounds. But this would not be to deny that it is a substantive fact apt for metaphysical explanation, it would just be to say that (as it happens) it has none. As we might loosely put it, it is the sort of fact that *can potentially* be grounded or *might have been* grounded; it just happens to be groundless. So on this view it plays the same role *vis a viz* metaphysical explanation as the un-caused boundary condition of the universe played *vis a viz* causal explanation.

In contrast, some facts are not apt for metaphysical explanation in the first place. Suppose, for example, that it is essential of wrongness that if an action is wrong if it fails to maximize utility. What explains this, in the metaphysical sense? In virtue of what, the question is, is it part of *what wrongness is* that an action is wrong if it fails to maximize utility? It is difficult to know how to respond. One is tempted to say that that is *just what wrongness is*. . . but this is just to repeat what we were trying to explain! In saying this one is most naturally heard not as trying to explain this fact about wrongness in any substantial sense but rather as deflecting the demand for explanation. So we seem to regard this fact about the essence of wrongness as not being apt for metaphysical explanation in the first place. I will call facts like this *autonomous*.

To take another example, suppose that it is part of what knowledge is that a state counts as knowledge if it is a true and justified belief. What explains this? Why is that part of *what knowledge is*? It is hard to say anything other than that that is just what knowledge is! Again, in saying this one is most naturally heard as questioning the need to explain it in the first place, suggesting that this too is autonomous.

Note that when we ask what grounds this fact about the essence of knowledge we are not asking what reasons we have to believe that it obtains. There may be good reasons to believe that it obtains and, if so, citing them is a good response to one way of hearing the question 'Why is it essential to knowledge that a state counts as knowledge if it is a true

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<sup>27</sup>See Albert GET REF.

and justified belief?’ But that is consistent with my claim that the fact is autonomous. More generally, the distinction between autonomous and substantive facts is not in itself an epistemic distinction. One might propose a link between the autonomous and some epistemic category, for example that a fact is autonomous iff it is apriori or conceptual.<sup>28</sup> But this would be a strong thesis in need of motivation and defense.

While the fact about the essence of wrongness may be necessary, not all necessary truths are autonomous. To take one example, the fact that Oswald’s action was either wrong or not wrong is necessary; but like any disjunction it is grounded in its true disjunct(s) (in this case the fact that it was wrong) and is therefore substantive.

Autonomous facts are not apt for metaphysical explanation, but they can metaphysically explain other facts. For example, consider the following disjunction

- (\*) It is essential of wrongness that an action is wrong if it fails to maximize utility, or it is essential of knowledge that a state counts as knowledge if it is a true and justified belief.

Since disjunctions are grounded in their disjuncts, (\*) is grounded in the fact about the essence of wrongness (and also in the fact about the essence of knowledge). The disjunction is therefore substantive. However, it is a substantive fact of a particularly interesting sort, since it is ultimately explained purely in terms of autonomous facts, i.e. facts that are themselves not apt for being metaphysically explained. This category of fact will be important later on, so let us call it the category of *derivatively autonomous* facts and inductively define it as follows:

1. All autonomous facts are derivatively autonomous.
2. For any fact Y, if for any collection of Xs that ground Y all the Xs are derivatively autonomous, then Y is derivatively autonomous.

Intuitively, the derivatively autonomous facts are those that are explicable only in terms of purely autonomous facts. The above disjunction (\*) is therefore substantive, but derivatively autonomous.<sup>29</sup>

In contrast, consider the fact that there is a book on my table. This is not autonomous, and moreover it is plausible that no explanation of it will appeal to anything derivatively autonomous. As we might put it, it has no foot in the autonomous at all. This category of fact will also be important, so let us say that a fact Y is *strongly substantive* iff (i) Y is substantive, and (ii) for any collection of Xs that ground Y, none of

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<sup>28</sup>Della Rocca appears to defend something like this view in his [5].

<sup>29</sup>It is not obvious whether an analogous category exists in the case of causal explanation. The fact that  $2+2=4$  is not apt for being causally explained, but nor (one might argue) does it causally explain anything.

the Xs are derivatively autonomous. Thus the fact that snow is white is, plausibly, strongly substantive; while the disjunction (\*) is substantive but not strongly substantive.

The strongly substantive and the derivatively autonomous facts are clearly exclusive, but they are not exhaustive. The conjunction of a derivatively autonomous fact and a strongly substantive fact, for example, falls into neither category. It straddles the divide, as it were, with one foot in the autonomous and another out. Let us call them *mixed*. It is clear that all mixed facts are grounded in some combination of derivatively autonomous facts and strongly substantive facts. That is, the collection of derivatively autonomous and strongly substantive facts is sufficient to ground all else.<sup>30, 31</sup>

## 7 Physicalism Regained

I will say more about the notion of autonomy later. But if facts about essence are autonomous we can argue that essentialism is consistent with ampliative theses like physicalism and therefore respects Ampliativity, contrary to what we thought earlier.

We previously said that physicalism requires the truth of

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<sup>30</sup>The distinctions here bear some resemblance to Fine's distinction between the worldly and the unworldly. He defined a sentence to be worldly if 'its truth will depend upon the circumstances or how things turn out', and unworldly otherwise (see Fine [12], p. 324). For example, 'Donkeys bray' is worldly since its truth depends on whether Donkeys bray; but 'Socrates is self-identical' is unworldly, says Fine, because there is nothing about the circumstances on which its truth depends. He then defined a fact to be worldly if it can be expressed by a worldly sentence, and unworldly otherwise. But I find this puzzling. If asked whether 'Socrates is self-identical' depends for its truth of the circumstances, what is wrong with the flat-footed response that it does, and in particular that it depends on the circumstance of Socrates' being self-identical? A similar issue famously plagued the conventionalist theory of necessity, according to which necessary truths such as 'All humans are humans' were said to owe their truth entirely to our linguistic conventions and not to the world. For this view was often met with the similarly flat-footed response that 'All humans are humans' surely depends in part for its truth on the fact that all humans are humans! (For developments of this sort of complaint, see Boghossian [2] and Sider [26].) This is not to say that I reject Fine's distinction, just to say that I find his characterization unhelpful. Insofar as I think I grasp his idea, I would characterize his category of unworldly facts as being those facts that are autonomous, or perhaps those facts that are derivatively autonomous. But whether the category of autonomous (or derivatively autonomous) facts can do the theoretical work that he wants his unworldly facts to do is a question for another time.

<sup>31</sup>The notions defined here are not the only notions definable in terms of autonomy that are worth thinking about. Consider for example the disjunctive fact that snow is black or it is essential of wrongness that an action is wrong if it fails to maximize utility. This is derivatively autonomous since its only ground is an autonomous fact, but it would be mixed were snow to be black. One might therefore wish to distinguish those facts that are derivatively autonomous contingently and those that are derivatively autonomous of necessity. But further distinctions like these will not be needed for our purposes.

(P) All facts are either purely physical or are grounded in purely physical facts.

and we saw that essentialism implies that (P) is false. We are now looking for a weaker statement of physicalism that is consistent with essentialism but which nonetheless preserves the initial physicalist vision. My suggestion is that physicalism requires just that

(P<sub>0</sub>) All *strongly substantive* facts are either purely physical or are grounded in purely facts.

Essentialism is clearly consistent with (P<sub>0</sub>). For suppose that a would-be physicalist endorses

(a) The fact that Oswald's action failed to maximize utility grounds the fact that it was wrong.

with an eye to further grounding those facts about utilities in purely physical facts. And suppose that as an essentialist she then says that (a) is at least partly grounded in

(b) It is essential of wrongness that an action is wrong if it fails to maximize utility.

which itself has no ground. True, the essentialist claims that the facts about wrongness (a) and (b) are not grounded in purely physical facts, in violation of (P). But if (b) is autonomous then neither (a) nor (b) are strongly substantive and there is no violation of (P<sub>0</sub>).

The important question is whether it is legitimate for a physicalist to exclude facts that are not strongly substantive from the scope of her thesis. Why, that is, is it OK for a physicalist to acknowledge that there are certain ungrounded facts about *wrongness*, just so long as they are not strongly substantive? This was the challenge we raised in section 5 for any view that proposes to weaken what physicalism amounts to, and the challenge is serious. After all, we saw that if a "physicalist" said that her view was

(P<sub>2</sub>) All facts *with the exception of the fact that all wrong actions should be discouraged* are either purely physical or are grounded in purely physical facts.

we could legitimately object that this has given up what was interesting about the initial physicalist vision. Why then can the physicalist ignore the non strongly substantive facts? My answer is that physicalism is an explanatory thesis (this is our working hypothesis from section 2), and facts that are not strongly substantive play a particular role in the structure of explanations that falls outside the scope of the kind of explanatory thesis that physicalism is.

To argue for this, it helps to warm up by motivating the idea that at least *some* facts should be excluded from the scope of ampliative theses like physicalism by virtue of their role in the structure of explanations. Autonomous facts are a prime example. For our working hypothesis is that physicalism is an explanatory thesis, a thesis about how facts *are explained*. But if a fact like (b) is autonomous then it is not apt for being explained in the first place. In that case, it is entirely appropriate for a thesis about how facts are explained to exclude (b) from its scope.

The point is supported by our analogy with causal explanation. Imagine that a cosmologist proposes the thesis that everything is causally explained by the state of the universe at the big bang. If it turned out that a particle's location at a later time had no causal explanation, this would be a counterexample to the thesis. But, intuitively, it is no counterexample to the intended thesis that there is no causal explanation of the fact that 2 is even, for this latter fact is not apt for causal explanation in the first place. Just imagine how absurd it would be for someone to raise this counterexample at a conference on the cosmologist's views! The point is that the initial thesis was, at least when interpreted charitably, a thesis about how things are causally explained, a thesis to the effect that everything *that is apt for causal explanation* is ultimately explicable in terms of that initial state. Likewise, insofar as the physicalist makes a claim about how facts are metaphysically explained, we should take her claim to apply only to those facts that are apt for metaphysical explanation. Autonomous facts simply lie outside the scope of her thesis.

What we now need to argue is that in addition to autonomous facts, any fact that is at least partially grounded in autonomous facts—i.e. any fact that is not strongly substantive—also lies outside the scope of ampliative theses like physicalism. This might already be plausible, but to argue for it I will try to show that (P<sub>0</sub>) is consistent with the physicalist slogans described in section 5.

One of those slogans was that “all God had to do when making the world was determine the purely physical facts”. Earlier I said that there were two interpretations of this metaphor, one on which the facts that God has to determine represent facts that would be sufficient to *causally explain* the entire state of the world at subsequent times, and another on which the facts that God has to determine represent facts that are sufficient to *metaphysically explain* (i.e. ground) all else. On this second interpretation, the essentialist view that (b) is groundless implies that God had to determine some facts about wrongness, in violation of the physicalist slogan. But we can now distinguish a third interpretation of the metaphor on which the facts that God has to determine represent a (perhaps minimal) class of *strongly substantive* facts that are sufficient to ground the other strongly substantive facts. When God made the world, on this third interpretation of the metaphor, the autonomous facts and the derivatively autonomous

facts that flow from them “came for free”, and all God had to concern Herself with were the strongly substantive ones.

What then is the appropriate interpretation of the metaphor if we wish to use it to express a thesis like physicalism?<sup>32</sup> I believe it is the third. For the metaphor of “what God had to do” obviously derives from the theistic view that there really is a God who created the world. Insofar as we take ‘created’ to mean metaphysically explained, the theistic view from which the metaphor is derived is that the world is ultimately metaphysically explained in terms of God. But what does ‘the world’ mean here? God obviously does not explain autonomous facts since they are not apt for such an explanation in the first place. And since derivatively autonomous facts are all fully explained in terms of autonomous facts, God has no role in explaining them either. When creating the world, then, God’s task did not include creating the derivatively autonomous facts at all. As we might put it, they were “already there” when God started Her act of creation. What then *is* ultimately explained by God, on this theistic view? Just the strongly substantive facts. They are all that God created, and then they along with the derivatively autonomous facts that were already in place were sufficient to explain all the other facts (i.e. the mixed facts). “The world” that God explains on this theistic view should therefore be equated with the class of strongly substantive facts.<sup>33</sup> So in the metaphor of “what God had to do when making the world” that derives from this theistic view, the facts that God had to make represent some class of strongly substantive facts that themselves are sufficient to ground all other strongly substantive facts, and thereby (along with the derivatively autonomous facts that came for free) ground all else. This is our third interpretation of the metaphor.

Of course, the point is that (P<sub>0</sub>) is consistent with this third interpretation of the physicalist slogan that “all God had to do when making the world is determine the physical facts”. True, (P<sub>0</sub>) allows that the non-physical fact (a) is at least in part grounded in the non-physical fact (b), the latter of which is groundless. But since neither (a) nor (b) are strongly substantive, this is not contrary to the physicalist slogan on this third interpretation.

(P<sub>0</sub>) is also consistent with the other physicalist slogan that “the language of physics is complete”. Remember, the intuitive idea was that a complete language is one in terms of which everything about the world can either be stated or explained. Earlier we worried that essentialism cannot respect this vision, since it follows from her view that she cannot

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<sup>32</sup>Note that the question is not: What is the correct interpretation of the metaphor? That is an empty question, since we are surely free to interpret it as we please.

<sup>33</sup>To be clear, I am not arguing that this is the only possible theistic view. I am just arguing that it is the theistic view from which our metaphor of “what God had to create” derives, insofar as we use that metaphor to characterize theses like physicalism.

state or explain (a) or (b) without using the word ‘wrong’. But now we can see that this was too quick. For what is this thing, “the world”, about which the slogan says that everything can be stated or explained in terms of the language of physics? Our earlier worry implicitly assumed that it is the collection of all facts, but we have just seen that there is another conception of the world as the collection of all *strongly substantive* facts. If we understand the slogan in this latter way, it is the claim that every strongly substantive fact can be stated or explained in terms of the language of physics. (P<sub>0</sub>) is then consistent with the slogan, since (a) and (b) are then not part of “the world” in the first place.

Why do I put such weight on arguing that (P<sub>0</sub>) is consistent with these slogans? The reason is that physicalism is in the first instance an intuitive vision and so any attempt to explicitly formulate the view in terms of ground should be careful to respect that vision. But the vision finds its natural expression in these slogans, so it is by understanding the slogans properly that we understand what the initial vision consists in. Thus if (P<sub>0</sub>) is consistent with the slogans, that is reason to think that (P<sub>0</sub>) is all that our initial vision requires.<sup>34</sup>

I have argued that the initial physicalist vision does not require the truth of (P) and only requires the the truth of (P<sub>0</sub>). My argument is that facts that are not strongly substantive play a particular role in the structure of explanations that falls outside the scope of the kind of explanatory vision that physicalism is. The notions of autonomy and substantivity are crucial to the argument. It may turn out that a fact is not strongly substantive if and only if it is at least partly grounded in a certain kind of essentialist fact. But even if that is so, their being partly grounded in that kind of essentialist fact is not why it is reasonable to exclude them from our statement of physicalism. For if I merely said that physicalism required that all facts *except those that are partly grounded in a certain kind of essentialist fact* are grounded in purely physical facts, the question would remain why excluding these kinds of facts is any more faithful to the initial physicalist vision than excluding workaday moral facts such as that wrong actions should be discouraged. Crucial to my answer is that the non strongly substantive facts all play a certain role in the structure of explanations, a role defined in terms of the explanatory notions of autonomy

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<sup>34</sup>One might object that now we have seen what these slogans are consistent with (P<sub>0</sub>) they should no longer be taken to express physicalism since physicalism is a word that should only apply to (P). I suspect that this objection is fueled by a sentimental attachment to (P) rather than a careful consideration of what physicalism really is, since (P) is admittedly the natural way to express physicalism if one has not yet been introduced to the concept of a strongly substantive fact. Still, I am happy to concede the term ‘physicalism’. For what I have shown is that there is an explanatory thesis in the vicinity, namely (P<sub>0</sub>), that is ampliative in an interesting and non ad hoc sense, a sense that is definable in terms of the explanatory notions of autonomy and substantivity. If that is not the perfect conception of physicalism that one had hoped for, so be it; at least it is something.

and substantivity. It is because they have *that* feature that they do not fall within the scope of the physicalist vision.

Of course, the same goes for other -isms like normative naturalism and phenomenalism. I said earlier that the truth of any of these -isms implies that the hierarchy of ground is “ampliative”, in the sense that as one moves up the hierarchy one encounters genuinely novel aspects of the world like wars and norms and pains that were not found at the lower levels. The moral of the above discussion is that these views, properly understood, only require that the hierarchy of *strongly substantive* facts is ampliative in this sense. And essentialism is consistent with this possibility.

Can essentialism’s competitors replicate this approach? I do not think that they can. Consider necessitarianism, the view that (a) is grounded in a necessary connection between utility and wrongness. To show that this view is consistent with (P<sub>0</sub>) one would have to show that the necessary connection is not strongly substantive. But it seems to be substantive: it makes good sense to ask what explains the necessary connection and expect a sensible answer. So one would have to show that it is grounded at least partly in derivatively autonomous facts; that is, that it is ultimately grounded (once one has traced down the chain of grounds) at least partly in autonomous facts. But what autonomous facts could they be? One potential answer is that they are facts about the essences of things.<sup>35</sup> But then the view has collapsed into essentialism. To defend an interestingly different view, the necessitarian must find some domain of autonomous fact *other* than essentialist facts that might (at least partially) ground her necessary connections. And I do not know what that other domain of autonomous fact might be. The same goes for the legalist on which grounding facts are grounding in metaphysical laws, and the fundamentalist view that grounding facts are ungrounded. So essentialism appears to be uniquely placed to solve the problems raised earlier in the paper. That is reason to think that it might be true.

When I argued that physicalism only requires (P<sub>0</sub>) I was arguing that (P<sub>0</sub>) is just a necessary condition on physicalism, not a sufficient condition. One might hold a view on which all facts are derivatively autonomous, perhaps if one thought that all facts are grounded in autonomous facts about the essence of God. This is one interpretation of Spinoza’s view. On this kind of view there are no strongly substantive facts, in which case (P<sub>0</sub>) and the analogous claims corresponding to the other -isms are all trivially true! But still, the question of physicalism versus phenomenalism might arise for the Spinozist, and the issue will presumably be whether the chain of grounds towards God’s essence passes first through the phenomenal and then the physical, or vice versa. The Spinozist might therefore deny

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<sup>35</sup>This answer follows from the general thesis that necessity is grounded in essence (see Fine [7]).

physicalism while endorsing  $(P_0)$  as a trivial truth. My claim is just that physicalism implies  $(P_0)$  but not  $(P)$ , so that the fact that essentialism is inconsistent with  $(P)$  is no reason to think that essentialism is inconsistent with physicalism.

## 8 Essence and Autonomy

My proposal depends on a tight relationship between essence and autonomy. Let me say more about how they relate.

For clarity it might help to regiment our talk of essence and autonomy. A statement of something's essence is, remember, a statement of what that thing is in certain core respects. Following Fine, let us take the logical form of a claim about essence to be

It is essential of  $x$  that  $\phi$

where  $x$  is an item of any ontological category and  $\phi$  is a sentence.<sup>36</sup> To say that it is essential of  $x$  that  $\phi$  is then to say that it is part of what  $x$  is that  $\phi$ , or that it is in the nature or essence of  $x$  that  $\phi$ . Note that it may only be *part* of what  $x$  is that  $\phi$ , so we should not presume that  $\phi$  uniquely specifies  $x$ . Nor should we presume that there is a collection of such  $\phi$  that does uniquely specify  $x$ . It might be that the only answer to the question of what canary yellow is, is that it is a determinate shade.

What about autonomy? One can regiment talk of autonomy as a sentential operator or as a property of facts. On the first approach, one introduces the sentential operator 'it is autonomous that  $\phi$ '; while on the second approach one would introduce the predicate ' $x$  is autonomous' that applies to facts. Following my treatment of ground I officially think of autonomy in the former way, but will talk in terms of a property of facts as a shorthand if convenient.

Earlier I suggested that the fact

- (b) It is essential of wrongness that an action is wrong if it fails to maximize utility.

is autonomous. But what is the status of the fact that (b) is autonomous? In virtue of what is this fact about the essence of wrongness autonomous? One is tempted to say 'Well, because it is just a statement about what something *is!* But in saying this, are we giving some substantive explanation of why (b) is autonomous, or are we deflecting the need for explanation? I am inclined to say the latter. On this view, the fact that a given fact is autonomous is itself autonomous.

Grant for the moment that (b) is autonomous. Are all facts about the essences of things autonomous? This depends on what notion of essence

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<sup>36</sup>This is how Fine regiments talk of essence in his [9] and [8].

is at issue. Start with the notion of something's *constitutive* essence: a statement of what  $x$  is in the most direct and immediate sense. If one accepts (b), one would likely consider it a statement of constitutive essence. Following Fine, we can then extend this notion in a number of ways. We can take its closure under logical consequence to get the notion of *consequential* essence: if it is part of the the constitutive essence of  $x$  that  $\phi$ , and  $\phi$  logically implies  $\psi$ , then it is part of the consequential essence of  $x$  that  $\psi$ . We can also chain together constitutive definitions and get the notion of a *mediated* definition. For example, if it is part of the constitutive essence of wrongness that an action is wrong if it fails to maximize utility, and if it is part of the constitutive essence of utility that a state has a high utility if it contains much happiness, then it is part of the mediated essence of wrongness that an action is wrong if it fails to maximize happiness. The resulting statement of essence does not say what wrongness is in the most immediate sense, but rather indirectly through an account of what utility is.<sup>37</sup>

A plausible hypothesis is that facts about the consequential and mediated essences of things are grounded in constitutive essences. If it is part of the mediate essence of wrongness that an action is wrong if it does not maximize happiness, it is natural to think that this is *because* of the two statements of constitutive essence mentioned above. Similarly, if it is part of the constitutive essence of  $x$  that  $\phi$  and only part of the consequential essence of  $x$  that  $(\phi \vee \psi)$ , then it is plausible that the fact about consequential essence obtains *because* of the constitutive one. Thus in the generic use of 'essence' that includes constitutive as well as consequential and mediated essence, it is plausible that many facts about essence are grounded and therefore are not autonomous.

But are all facts about *constitutive* essence autonomous? It is not clear. One might hold that it is part of the constitutive essence of {Socrates} to contain Socrates as a member, but nonetheless hold that this is grounded in its being part of the constitutive essence of the relation of membership that for all  $x$  and  $y$ , if  $y$  is a member of  $x$  then it is part of the constitutive essence of  $x$  to have  $y$  as a member.

I do not intend to settle the matter here. For what is important to essentialism is not that the facts about essence that ground the grounding facts are autonomous but rather that they are derivatively autonomous. For in that case neither they nor the grounding facts that they help ground will be strongly substantive and so essentialism will be consistent with ampliative theses like physicalism as described in the last section.

Still, essentialism requires that there are some autonomous facts about essence and (b) seems as plausible an example as any. Assume then that

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<sup>37</sup>For more on the distinction between constitutive and consequential definitions, and between mediate and immediate definitions, see Fine [8] and [9].

if there are autonomous facts about essence then (b) is one of them. An objector might then deny that (b) is autonomous and therefore deny that there are autonomous facts.

The objection can be developed in a number of ways. One is to argue is that while there is something interesting about (b) it is not that it is autonomous but rather that it grounds itself. Now it should be noted that even if the objection is correct my justification of essentialism can largely be mimicked. In place of my autonomous facts we could instead take the class of self-grounding facts, and we could then define the class of strongly substantive facts just as I did above with the one difference that we appeal to self-grounding facts in the definition instead of autonomous facts. Since autonomous and self-grounding facts both play a unique role in the structure of explanations, I expect that one could then argue that it is legitimate to restrict a thesis like physicalism to the class of strongly substantive facts so defined.

Still, I am inclined to prefer the view that (b) is autonomous. Some might argue against the objector's position by pointing out that she must deny the principle that ground is irreflexive, a principle that many theorists take to be central to the notion of ground. But I do not assume irreflexivity: if ground is transitive, the assumption of irreflexivity precludes the possibility of closed circles of ground and I see no reason to preclude such possibilities at the outset. Such cases are the analogue of closed causal loops: odd perhaps, but a way that the world could (for all we know) turn out. But while I have no objection to a closed loop in which a fact *mediately* explains itself, I find it hard to understand how a fact could *immediately* explain itself in the same sense that facts about utilities can explain facts about wrongness. Yet that is what the objector is asking me to believe about (b). I therefore find my characterization of (b)'s status more plausible.<sup>38</sup>

An objector might instead deny that (b) is autonomous by arguing that any essentialist fact is grounded in an iterated essential fact. For consider the following principles:

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<sup>38</sup>I imagine that even Jenkins would agree. This might be surprising as she has recently defended the view that a fact can immediately ground itself in her [16]. But on closer inspection she concedes that there are no true sentences of the form ' $x$  grounds  $x$ '; what she argues for is that there can be true sentences of the form ' $x$  grounds  $y$ ' where  $x = y$ . On her view, then, ground is a hyperintensional predicate. Now I officially treat ground as a sentential operator, and it is agreed by all parties that the operator is hyperintensional (i.e. that substitution of necessarily equivalent sentences does not always preserve truth). So in this regimentation my objector's claim that a fact explains itself cannot just be the claim that there are true sentences of the form ' $S$  because  $T$ ' where  $S$  and  $T$  are necessary equivalents, since all grounding theorists (even those who endorse irreflexivity) agree with this claim. Instead, the objector's claim must be that there are true sentences of the form ' $S$  because  $S$ '. And this is likely to be the kind of claim that even Jenkins concedes can never be true.

(E4) If it is essential of  $x$  that  $\phi$ , then it is essential of  $x$  that it is essential of  $x$  that  $\phi$ .<sup>39</sup>

(EG) If it is essential of  $x$  that  $\phi$ , then  $\phi$  because it is essential of  $x$  that  $\phi$ .<sup>40</sup>

where the ‘because’ in (EG) is the because of ground. Then consider any essentialist fact, i.e. a fact of the form ‘it is essential of  $x$  that  $\phi$ ’. By (E4), there is an iterated essentialist fact according to which the original essentialist fact is essential of  $x$ . And by (EG), the original essentialist fact is grounded in the iterated fact. So the two principles imply that any essentialist fact is grounded in an iterated essentialist fact and therefore that no essentialist fact is autonomous.<sup>41</sup>

If this objection is correct then my justification of essentialism would fall apart. The reason is that on this view the role that an essentialist fact plays in the structure of explanations is merely that of having an infinitely descending chain of ground, and it is not at all clear why this would justify leaving them out of the scope of ampliative theses like physicalism. So the essentialist must deny (E4) or (EG).

I am inclined to question (E4). Admittedly, it is a theorem of the system developed in Fine’s *The Logic of Essence*. By that system governs the notion of *consequential* essence, and I believe that (E4) is false when interpreted as governing constitutive essence. To see this it might help to consider the axiom scheme governing iterated essence that Fine uses to prove (E4), an instance of which is

(\*) If it is not essential of Socrates that he drank the hemlock, then it is essential of Socrates that it is not essential of him that he drank the hemlock.<sup>42</sup>

Our question is whether this is plausible when understood as governing constitutive essence, and it seems to me that it is not. For as I understand it, a statement of something’s constitutive essence is a statement of what the thing is in the most direct and immediate sense. Think of it as the “essential core” of the thing from which extended claims about essence such as consequential and mediated essence can be derived (and perhaps grounded). To state the constitutive essence of Socrates might require stating that he is human, that he had certain parents, and so on. But it would be odd to add to this description of what he is *in the most direct and immediate sense* that it is not essential of him that he drank the hemlock.

<sup>39</sup>I have used the label ‘(E4)’ out of respect for the axiom of modal logic that it resembles.

<sup>40</sup>I have used the label ‘(EG)’ as a shorthand for Rosen’s label ‘Essential Grounding’ used in his [22].

<sup>41</sup>I am extremely grateful to Jon Litland for bringing this objection to my attention and indeed for many enlightening conversations on the topic of this paper.

<sup>42</sup>This is an instance of the axiom scheme (II)(iii) in Fine [10], p. 247.

This is not to deny that there is an interesting link between his constitutive essence and the fact that it is not constitutively essential of him that he drank the hemlock. For it is tempting to say this: that if it is not constitutively essential of  $x$  that  $\phi$ , then this is grounded in (i) all the facts of the form 'it is constitutively essential of  $x$  that  $\psi$ ' and (ii) a totality fact to the effect that those are all the true claims about the constitutive essence of  $x$ . Intuitively: the fact that  $\phi$  is not a member of the set of all true claims about the constitutive essence of  $x$  is what makes it the case that (i.e. grounds the fact that) it is not constitutively essential of  $x$  that  $\phi$ .<sup>43</sup> Given this interesting link, we can define another extended notion of essence alongside consequential and mediated essence: it is *derivatively* essential of  $x$  that  $\phi$  iff the fact that  $\phi$  is grounded in the facts (i) and (ii) described earlier in this paragraph.

So I claim that (\*) is false when understood to govern constitutive essence. But I acknowledge a grain of truth to it, since I concede that it is true when the second occurrence of 'essential of' is understood to express the notion of derivative essence instead.<sup>44</sup>

Indeed, once the distinction between constitutive essence and these other extended notions of essence is in clear view, (E4) should have been dubious from the outset if taken to govern the former notion. For even if it is part of the "essential core" of Socrates that he is human, it is odd to think that his essential core would also have to include the fact that it is part of the essential core that he is human. This latter, iterated claim of essence seems to be something that follows from (or is grounded in) that former claim and not part of his essential core.

## 9 Essentialism in Action

So far I have been defending the essentialist view of ground without developing it in any detail. This is partly because it can be developed in many ways and it is not my aim here to settle which is best. But it is worth outlining some salient options.

Consider again

- (a) The fact that Oswald's action failed to maximize utility grounds the fact that it was wrong.

I said that essentialism is the view that (a) is *at least partly* grounded in

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<sup>43</sup>This is analogous to the popular view that negative facts in general are grounded in the positive facts plus a totality fact.

<sup>44</sup>This response to the objection might be amended slightly. I started by asking whether (\*) is plausible, but it might be complained that this is a vague question since the notion of constitutive essence has not been spelt out with enough precision. If so, then my claim is that *there exists* a notion of constitutive essence, described briefly above, for which (\*) fails.

- (b) It is essential of wrongness that an action is wrong if it fails to maximize utility.

The qualifier 'at least partly' is important, for (b) is not the full grounds of (a). One reason to think this is that (b) does not metaphysically necessitate (a): it is possible for (b) to obtain and yet for Oswald to not have acted in the way he did. Those who believe that a ground always metaphysically necessitates what it grounds should therefore deny that (b) grounds (a). Even those who deny that a ground always necessitates what it grounds will agree that a ground determines what it grounds in some sense of the term, and it is implausible that (b) determines (a) in any such sense.

What then must be added in order to fully explain (a)? A plausible candidate is

- (c) Oswald's action failed to maximize utility.

The resulting explanation has a plausible ring: Why is it the case that Oswald's doing something wrong is grounded in the fact that his action did not maximize utility? Because his action failed to maximize utility, and it is part of what wrongness is that an action is wrong if it fails to maximize utility.

For another example, consider a ball that is canary yellow. It follows that the ball is yellow. What grounds its being yellow? A plausible view is

- (d) The fact that the ball is is canary yellow grounds the fact that it is yellow.

(This is an instance of the general claim that an object's having a determinable property is grounded in its having a determinate property). But now what explains (d)? Why does its being canary yellow make it the case that it is yellow? Following the above template we might explain (d) by saying (i) that the ball is canary yellow, and (ii) that it is part of what yellow is that something is yellow if it is canary yellow.

Both these explanations of ground exhibit a common form: some Xs ground Y, and this is explained partly by the Xs and partly by a fact about the essence of a constituent of Y that implies that the Xs are materially sufficient for Y. The essentialist might then claim that all cases of immediate ground admit of a canonical explanation of this same form. This description of the canonical form slurs over some details, not least over the notion of implication involved. And it does not determine which constituent of Y is the thing whose essence implies that the Xs are sufficient for Y. But the basic idea is clear enough for current purposes so I will defer a more precise characterization of the view to Appendix B.

One virtue of this canonical form is that it neatly predicts the principle that a ground metaphysically necessitates what it grounds. For suppose that some Xs ground Y. According to the canonical form above, it follows

from the essence of a constituent  $y$  of  $Y$  that the  $X$ s are materially sufficient for  $Y$ . But it is independently plausible that if it is essential of  $y$  that  $\phi$  then it is metaphysically necessary that  $\phi$ .<sup>45</sup> It then follows that it is metaphysically necessary that the  $X$ s are materially sufficient for  $Y$ , as required.

The canonical form iterates: the fact that (b) and (c) ground (a) will then be explained partly by (b) and (c), and partly by the essence of ground itself. [A picture would help at this point! I couldn't put one into this document but I recommend that you draw one yourself.] Following the above canonical form, this last fact will be

- (e) It is essential of ground that for any  $X$ s and any  $Y$ , if the  $X$ s obtain and if a fact about the essence of a constituent of  $Y$  implies that the  $X$ s are materially sufficient for  $Y$ , then the  $X$ s ground  $Y$ .

For (e) implies that if (b) and (c) obtain then (a) obtains. But (e) is a fact about the essence of ground, i.e. a fact about the essence of a constituent of the fact that (b) and (c) ground (a). So by our canonical form, the fact that (b) and (c) ground (a) will be grounded in (b), (c), and (e). It may be hard to parse, but the proposed explanation has a plausible ring. In words, the question is: 'If it is part of what wrongness is that an action is wrong if it fails to maximize utility, and if Oswald's action did not maximize utility, why does this ground the fact that his doing something wrong is explained by his failing to maximize utility?' And the proposed answer is: 'Because that is just part of what ground is. Given that he did not maximize utility and given the essence of wrongness, it follows from what ground is that what Oswald did and the essence of wrongness ground why his doing something wrong is explained the way it is'. On the next iteration, the question is why (b), (c) and (e) ground the fact that (b) and (c) ground (a), and the answer will be that it is because (b), (c), (e), and (e). Here (e) performs double duty: in terms of the above canonical form it is one of the  $X$ s and it is also the fact about the essence of a constituent of  $Y$ . Whether we should seriously take (e) to be part of the ground "twice over" or just once is something I will not discuss here.

We started with the one grounding fact (a). We now have infinitely many grounding facts: that some  $X$ s ground (a), that some  $Y$ s ground the fact that the  $X$ s ground (a), that some  $Z$ s ground the fact that the  $Y$ s ground the fact that the  $X$ s ground (a), and so on. Is this problematic? I do not think so. Note that this is not an infinite descending chain of ground. There would be an infinite descending chain if (a) is grounded in the  $X$ s, and the  $X$ s are grounded in the  $Y$ s, and the  $Y$ s are grounded in the  $Z$ s. . . .<sup>46</sup>

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<sup>45</sup>Indeed, one might add that its being metaphysically necessary that  $\phi$  is grounded in the fact that it is essential of something that  $\phi$ . This is one interpretation of Kit Fine's thesis that metaphysical necessity flows from the essences of things. See his [7].

<sup>46</sup>When I say that the  $X$ s are grounded in the  $Y$ s this can be understood in the distributive

But that is not the situation: it is not *the Xs* that are grounded in the Ys but rather *the fact that the Xs ground (a)* that is grounded in the Ys. So it remains open that the Xs, the Ys, the Zs, . . . are all ungrounded and there are no infinitely descending chains of ground. One might instead object that on this view one grounding fact implies the existence of infinitely many grounding facts. But even if that is true, I do not see why it is problem. For one thing, *any* fact A implies the existence of infinitely many facts A&A, A&(A&A), and so on. For another thing, notice that the Xs, the Ys, the Zs. . . are intimately related to each other. In our example above, the Xs are (b) and (c), the Ys are (b), (c) and (e), and the Zs are (b), (c), (e) and (e) (I am leaving it open whether (e) is taken twice over or just once). So it is not that each of the infinitely many grounding facts appeals to new facts as the grounds that now need to be accounted for anew. Rather, each of the infinitely many grounding facts claim that something is grounded in some combination of (b), (c), and (e). Finally, remember that I officially treat ground as a sentential operator and remain neutral on the existence of facts in the first place. So on my official view there is no explosion of an ontology of facts: at worst the situation is that one true ‘because’ claim implies the truth of infinitely many ‘because’ claims, but I do not see what is problematic about that.<sup>47</sup>

The canonical form discussed so far is only one possibility. Another view is that the essentialist facts that help ground facts about ground are richer than those described above. For example, Rosen considers the view that (a) is partly grounded not in (b) but rather in

(b\*) It is essential of wrongness that an action is wrong if it fails to maximize utility and moreover that it’s being wrong is grounded in it’s failing to maximize utility.

Along with (c), says Rosen, (b\*) grounds (a).<sup>48</sup> To settle on the correct canonical form, we would have to ask what kind of essentialist facts there are (i.e. (b) or (b\*)) and, if there are both, which is best suited for being the canonical ground of various grounding facts.

But I do not want to settle the issue here. Instead, let me point out some interesting implications of both views for first-order metaphysics. For one thing, they raise the bar on what it takes to endorse ampliative theses like physicalism and normative naturalism. For as Rosen points out,

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sense in which each one of the Xs has a ground amongst the Ys. There is also a non-distributive notion of some Xs being grounded together in some Ys even though none of the Xs has a ground on its own. I discuss this latter notion in my [3] but I do not rest anything on it here.

<sup>47</sup>Thanks to Tom Dougherty for an enlightening conversation on the last two paragraphs.

<sup>48</sup>See Rosen [22]. To be clear, Rosen uses a different example and there is no reason to think he accepts the toy theory of wrongness I have been working with throughout the paper. Fine [13] proposed a view that is in this respect closer to Rosen’s view than to the canonical form outlined in the text.

essentialism rules out so-called “Moorean” versions of these ampliative theses on which (say) my being in pain is grounded in my being in a certain physical state even though there is no analysis of what pain is in those physical terms. For if my being in pain is to be grounded in my being in a certain physical state S, then according to essentialism about ground it must be part of *what pain is* that my being in state S is sufficient for my being in pain. This might be somewhat disappointing for the grounding theorist. For she might have hoped that by formulating these ampliative theses like physicalism in terms of ground their truth would not require tight connections of essence or analysis between the higher and lower level entities. But if essentialism is correct, this hope is dashed.

Essentialism also implies that the disagreement between (say) a physicalist and a dualist is not what one might naturally think it is. The natural thought is that they both agree on what pain is and disagree only with respect to its relation to the body. But according to essentialism the disagreement is about what pain is in the first place, i.e. whether it is part of the nature of pain that someone is in pain if they are in a certain physical state S. For essentialism implies that physicalism stands or falls with this claim about what pain is.

As a corollary, it follows that physicalism is necessarily true if true at all. It is not that there are two possibilities: one in which my being in state S grounds my being in pain and one in which it does not, the disagreement being which possibility is actual. Rather, if the physicalist is right then the latter is not a possibility after all. More generally, essentialism implies that other ampliative theses such as normative naturalism and phenomenalism are necessarily true if true at all.<sup>49</sup>

Finally, essentialism implies that the truth of various ampliative theses depends on things having a particular kind of existence entailing essence. To see this, consider the reductivist view of set theory according to which all (strongly substantive) facts about sets are grounded in facts about other things. On this view sets have the status that the physicalist assigns to pains: there are such things, but the (strongly substantive) facts about them are to be explained in terms of facts that do not involve pains or sets at all. Now consider the fact that {Socrates} exists. In what does the reductivist ground it? The most obvious candidate is the existence of Socrates:

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<sup>49</sup>My anecdotal impression is that the assumption that these kinds of theses are necessarily true if true at all is more common in some areas than in others. For example, meta-ethicists seem to make this assumption about normative naturalism; correctly in my view. In contrast, in discussions about the nature of spacetime or the nature of individuals in the metaphysics literature, it seems to be more common to say something to the effect that the question is just what our world is like, never mind other worlds. But this is just my anecdotal impression.

(e) The fact that Socrates exists grounds the fact that {Socrates} exists.<sup>50</sup>

And according to the kind of essentialist view described above, (e) itself is grounded partly in the fact that Socrates exists and partly in

(f) It is essential of {Socrates} that {Socrates} exists if Socrates exists.<sup>51</sup>

Now (f) is an example of what Rosen has called an “Anselmian” or “existence entailing” essence.<sup>52</sup> These are essentialist claims of the form ‘it is essential of  $x$  that  $\phi$ ’ in which  $\phi$  states either that  $x$  exists or else that  $x$  exists conditional on facts about other things. Clearly, according to essentialism the reductivist view of sets requires that there be Anselmian essences.

The point generalizes. Suppose one wanted to endorse the physicalist view that all (strongly substantive) facts are grounded in facts that concern the basic physical particles such as quarks. Then the existence of a given hydrogen atom will be grounded in the fact that various basic physical particles are propertied and related thus-and-so. According to essentialism, it must then be essential of that hydrogen atom to exist if those basic physical particles are propertied and related in that way. Thus the physicalist view requires, according to essentialism, that there be Anselmian essences.

I point this out because some theorists deny that there can be Anselmian essences. On their view all essences are “Anti-Anselmian” and do not imply the existence of the thing in question, not even conditional upon facts about other things. Perhaps the most natural way to deny that there are Anselmian essences is to claim that all essentialist claims take the form

It is essential of  $x$  that for all  $y$ ,  $y = x \_ \phi(y)$ .

where the underscore can be filled in with ‘if’, ‘only if’, or ‘iff’.<sup>53</sup> On this view, to state something’s essence is to state sufficient and/or necessary conditions under which something is identical to that thing. If one thought that all essences took this form then one will deny (f) and instead say that the essence of {Socrates} consists in facts like

(g) It is essential of {Socrates} that for all  $y$ ,  $y = \{Socrates\}$  if  $y$  is a set containing just Socrates as a member.

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<sup>50</sup>You might think that the reductivist should say that {Socrates}’s existence is grounded partly in Socrates’ existence and partly in the fact that given any  $x$  there exists a set containing  $x$  as its sole member. But this latter fact involves the notion of a set so the reductivist would then have to say what grounds it. In any event, the issue under discussion will arise for either of these reductivist approaches so let us just consider (e) for simplicity.

<sup>51</sup>The following discussion applies just as much to the view that grounding facts are grounded in “enriched” essences like (b\*).

<sup>52</sup>See Rosen [21].

<sup>53</sup>See for example Kment [17].

It is clear that Anti-Anselmian essences like (g) will never generate reductive theories of the kind discussed above; at least, not if essentialism about ground is true. For the most that (g) could ground (according to essentialism) is the fact that  $x$ 's being identical to {Socrates} is grounded in  $x$ 's containing just Socrates as a member. But this is not reductivism about sets since it merely explains one fact about sets (that  $x$  is identical to {Socrates}) in terms of another (that  $x$  contains Socrates as a member).

Is this a reason to reject essentialism? It is if there is a straightforward reason to think that Anselmian essences in general are problematic. For in that case essentialism would immediately rule out many interesting ampliative theses like the reductive view of sets, in violation of Ampliativity. To be clear, there may or may not be Anselmian essences: it is no problem for essentialism if it turns out for reasons of first order metaphysics that (f) is false of {Socrates} and therefore that the reductive theory of sets is false. The question is whether there is reason to think that there cannot be Anselmian essences prior to considering the particular cases—that is, independent of any considerations of first-order metaphysics—for in that case we would violate Ampliativity.

But I do not think that there is. An objector might try pointing out that analytic truths cannot be existence entailing: it cannot be analytic of '{Socrates}', on this view, that it exists if Socrates exists. But of course the reply is that essentialist claims need not be analytic. Even if we grant that the conventions of language can never ensure that existence entailing claims are true, it remains open that there are certain things in whose nature it is to exist under certain conditions.

A more serious objection is that a nominalist who denies that there is such a thing as {Socrates} nonetheless knows what it is that she denies. Surely Hartry Field, the objector insists, knows what sets are; he simply denies that there are such things. But then it cannot be in the nature of {Socrates} to exist if Socrates does, for this conditional is something that Field denies. In response, we should question the assumption that Field knows what sets are. We have already seen that essentialism implies that the disagreement between the physicalist and the dualist amounts to a disagreement as to what pain is. Similarly, the disagreement between Field and the reductivist about sets will amount to a disagreement about what sets are. The reductivist asserts that they are things in whose nature it is to exist when various other things exist and Field disagrees. One of them is right and one is wrong. I cannot settle their dispute here, my point is just that the assumption that both parties know the very nature of the items under dispute is unwarranted according to the essentialist. When the objector thought it was obvious that Field knows what sets are, the nearby obvious truth is that he knows what 'set' means. But one can know what 'set' means without knowing what sets are, just as one can know what 'water' means without knowing what water is.

## 10 Conclusion

Many philosophers are tempted by the thought that many core “ampliative” theses in philosophy are properly understood in terms of ground. But there is a serious problem with understanding the theses in that way. For on the one hand, it appears that in order for those theses to be true the grounding facts must themselves be grounded in the lower level facts. But on the other hand, it seems to be utterly implausible that they are so grounded.

The solution is to distinguish a particular role that certain facts play in the structure of ground. I argued that the so-called derivatively autonomous facts “come for free” in the structure of explanations since they are explained purely in terms of facts that themselves need no explanation in the first place. And they, along with the strongly substantive facts are sufficient to explain everything. So I concluded that ampliative theses can reasonably be restricted to apply only to the strongly substantive facts. In that case, the grounding facts need not be grounded in the lower level facts so long as one can show that they are not strongly substantive. And according to the essentialist view of ground, they are not. That is reason to think that the essentialism is true.

## Appendix A: Ampliativity and Purity

In section 2 I used

*Ampliativity*: An adequate theory of ground must leave open the possibility that ampliative theses like physicalism are true when formulated in terms of ground.

to argue against the theories of ground discussed in section 2, i.e. fundamentalism, necessitationism, essentialism, and legalism. But the general idea behind Ampliativity has been explored by a number of authors recently so it is worth saying how Ampliativity relates to their work.

The first expression of this idea in the recent literature was Sider’s principle of Purity, which states that ‘every truth that involves at least one nonfundamental notion holds in virtue of some truth that involves only fundamental notions’.<sup>54</sup> Substituting our notion of ground for his notion of “in virtue of” and translating his talk of truths into our talk of facts, Purity becomes the principle that every fact about something nonfundamental is grounded in facts that are only about fundamental things. If we assume that wrongness is nonfundamental, Purity implies that all the theories of ground considered in section 2 are false.<sup>55</sup> Why then not just

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<sup>54</sup>Sider [27].

<sup>55</sup>This is what Sider does when arguing against the view that grounding facts are brute in his [27], pp. 166–7.

use Sider's principle of Purity?

To see why not, note that Sider's notion of fundamentality is a primitive notion not analyzable in terms of ground. It is not, for example, defined to apply to things iff they are constituents of groundless facts. As a result, facts about which things are fundamental are, in principle, entirely independent of facts about what grounds what. Purity is then a substantive claim about how the distinct notions of fundamentality and ground interact; indeed, it is the only connection between the notions that Sider offers. In contrast, if an ampliative thesis like physicalism is true then that is an "intrinsic" fact about the pattern of grounding relations that has nothing to do with how ground interacts with other notions. So Purity and the hypothesis that the hierarchy is ampliative are different kinds of claims; indeed they are logically independent.<sup>56</sup>

Given these differences, Ampliativity is preferable for our purposes. For one thing, one can only endorse Purity if one recognizes Sider's primitive notion of fundamentality, and I am not sure that I do. But more importantly, even if one recognizes the notion Purity is much harder to motivate than Ampliativity. The considerations I offered in favor of Ampliativity in section 3 serve only to motivate the possibility of certain patterns of grounding relations. In contrast, to motivate Purity one would have to say what this primitive notion of fundamentality amounts to and explain why it plausibly interacts with ground in the way that Purity states. This latter task sounds trivial if one mistakes Sider's notion of fundamentality with the notion of something's being a constituent of an ungrounded fact. But that is not what Sider means by the term: being fundamental is a feature that something has independently of whether it is part of ungrounded facts. So the latter task is by no means obvious: what exactly is it about the notion of ground and the notion of fundamentality, such that there is something wrong with a chain of grounds that does not bottom out in facts that concern purely fundamental things? Answering this question is a reasonable project if, like Sider, you are interested in developing the distinct notion of fundamentality for independent reasons. But for us, asking (as we are) just about the status of grounding facts, it would be a somewhat perverse exercise.

Finally, since Sider does not define fundamentality in terms of ground, the assumption that there are nonfundamental things (that one needs if

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<sup>56</sup>Proof: Suppose that all facts are either groundless physical facts, or else are grounded in groundless physical facts. But suppose further that pain and some of the constituents of the groundless physical facts that ground facts about pain are nonfundamental. In this case an ampliative thesis (i.e. physicalism) is true but Purity is not. In the other direction, note that if everything is fundamental then Purity is trivially satisfied even if no ampliative thesis like physicalism is true. These examples might sound nonsensical if one defines the notion of fundamentality in terms of ground, but remember that Sider's notion of fundamentality is primitive so the examples are perfectly meaningful.

one is to use Purity to refute the theories of ground discussed in section 2) is far stronger than it might have first appeared. For even if all facts about, say, wrongness are grounded in facts about other things, it does not follow that wrongness is nonfundamental on Sider's usage of the term. So the claim that there are nonfundamental things becomes, in Sider's system, a reasonably strong thesis of first-order metaphysics, and I am trying to avoid first-order assumptions.

deRosset also formulates a related constraint, this time using a Schafferian notion of ground that relates entities of any ontological category. To avoid confusion, let us call this Schafferian notion 'ground\*'. deRosset stipulatively defines an entity to be *derivative* iff it is grounded\* by other entities, and *fundamental* otherwise. His constraint is that there are derivative entities. But how does this talk of ground\* relate to ground? deRosset provides the following link: that ' $e_1, \dots, e_n$  are the entities that ground\* entity  $e$  only if  $e$ 's existence and features are all explicable [i.e. grounded, in the sense that I use the term in this paper] solely by reference to the existence and features of  $e_1, \dots, e_n$ .'<sup>57</sup>

The status of his constraint on ground then depends on the status of this link. On one reading, he might be taking ground\* to be stipulatively defined in terms of ground in such a way that the link follows from this definition. His constraint would then by definition amount to the idea that there are things whose existence and features are grounded in terms of facts about other things. This is very similar to Ampliativity, with the exception that while deRosset's constraint asserts that there are such things (a first order view), Ampliativity merely asserts that an adequate theory of ground should not rule them out. But on a second reading, he might be treating ground\* as an independent notion not definable in terms of ground. This is the natural reading, since his link only states a necessary condition on some entities grounding\* another and therefore suggests that there is more to being grounded\* in some entities than merely having one's existence and features grounded in facts about them. On this reading, his link states a substantive connection between two distinct notions, ground and ground\*. Like Purity, then, it follows that his link—and consequently his constraint on ground—needs much more motivation than I have provided here (and, I believe, more than he gives himself).

For these reasons I prefer to work with Ampliativity, the constraint that our theory of ground must allow that certain explanatory claims like physicalism are possible.

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<sup>57</sup>deRosset [6]. I added the "\*" to his prose in this quote.

## Appendix B: The Canonical Form

In Section 9 I briefly outlined a canonical form of explanations of grounding facts. I started with certain examples like

- (a) The fact that Oswald's action failed to maximize utility grounds the fact that it was wrong.

being grounded in the fact that Oswald's action failed to maximize utility, and in the fact

- (b) It is essential of wrongness that an action is wrong if it does not maximize utility.

The question was whether we could abstract from examples like this a general canonical form of explanations of ground. The general idea was that

- (C) If some Xs ground Y, then there is a constituent  $y$  of Y such that the fact that the Xs ground Y is grounded in (i) the Xs, and (ii) a fact about the essence of  $y$ , i.e. a fact of the form 'it is essential of  $y$  that  $\phi$ '.

The interesting question is then whether there is anything general to say about  $\phi$ . In Section 9 I said that  $\phi$  should in some sense imply that the Xs are materially sufficient for Y, but the question is what this means.

The idea cannot be that the fact about the essence of  $y$  logically implies that the Xs are materially sufficient for Y. For consider a fact P and a fact P&Q. It is a logical truth that if P&Q then P. So the essence of any constituent  $y$  of P logically implies that if P&Q then P. But then since the ground metaphysically necessitates what it grounds, it follows from the above canonical form that P&Q grounds P. But P&Q does not ground P.<sup>58</sup>

Could we avoid this talk of implication and simply require that it is essential of  $y$  that the Xs are materially sufficient for Y? No, for we would then have to say that it is essential of wrongness that Oswald's action is wrong if it failed to maximize utility. This is implausible, for surely it is possible to say what wrongness is without having to mention Oswald. To use a phrase of Kit Fine's, the essence of wrongness "knows nothing of Oswald".

A more plausible suggestion is that  $\phi$  must be a universal generalization an instance of which is the claim that the Xs are materially sufficient for Y. One can develop this idea in the material or the formal mode. Start with the former. If X is a fact then let  $\langle X \rangle$  be a sentence that expresses X. And let us introduce the sentential connective ' $\supset^*$ ' that behaves just like the material conditional with the exception that it takes arbitrarily many

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<sup>58</sup>I am being sloppy about use and mention here but I will attend to it below.

sentences in its first position. Thus it is used to construct sentences of the form

$$A_1, A_2, A_3, \dots \supset^* B.$$

where there may be infinitely many  $A_i$ . A sentence of this form is then true iff one of the  $A_i$  is false or else  $B$  is true. Then one way to develop the current idea is to say that  $\phi$  must be a universal generalization of which ' $\langle X_1 \rangle, \langle X_2 \rangle, \dots \supset^* \langle Y \rangle$ ' is an instance. This makes good sense of the example above, but it struggles with others. Consider

The fact that Snow is white or grass is purple is grounded in the fact that snow is white.

This will be grounded in part by the fact that snow is white, and in part by the fact that it is essential of disjunction that  $\phi$ . But what is  $\phi$ ? According to the current suggestion,  $\phi$  must be a universal generalization an instance of which is 'if snow is white then snow is white or grass is purple'. So it looks like  $\phi$  must be 'for all  $S$ , if  $S$  then  $S$  or  $T$ '; but this quantifies into sentence position and I do not know what it means.

A similar problem arises if we develop the idea in the formal mode. On this second approach, we say that  $\phi$  must be a universal generalization an instance of which is the sentence 'the  $X$ s are materially sufficient for  $Y$ '. So  $\phi$  will quantify over facts: the essentialist fact that partially grounds (a) will not be

(b) It is essential of wrongness that an action is wrong if it does not maximize utility.

but rather

(b\*) It is essential of wrongness that for any fact  $Y$  of the form ' $x$  is wrong' and any fact  $X$  of the form ' $x$  does not maximize utility', if  $X$  obtains then  $Y$  obtains.

This is the kind of approach Rosen took in his [22]. Perhaps it is the best we can do, but this quantification over facts is not ideal. The problem is not just that it would be better, all else being equal, to remain neutral on the existence of such things. The problem is rather that it is hard to see why reference to them is needed to state what wrongness is. Just as the nature of wrongness knows nothing of Oswald, one might argue that the nature of wrongness knows nothing of abstract entities such as facts.

Do these problems disappear if we give a theory of ground without reference to facts and stick to the sentential operator approach? They do not. On this approach we would restate the canonical scheme (C) as:

(C\*) If  $S$  because  $\Gamma$ , then ' $S$ ' is about something  $y$  such that ( $S$  because  $\Gamma$ ) because (i)  $\Gamma$ , and (ii) it is essential of  $y$  that  $\phi$ .

But what is the sentence  $\phi$ ? Again, the natural thought is that it should be a universal generalization an instance of which is ' $T \supset^* S$ '. This is straightforward enough if the essentialist claim is like (b). But we run into problems again in the case of disjunction. For again, the sentence 'if snow is white then snow is white or grass is purple' is not an instance of any right kind of universal generalization.

The problem arises because we are trying to state a canonical form of how the essentialist fact relates to the grounding fact that covers all cases, no matter whether the essentialist fact concerns the essence of an object, a property, or a connective. So one solution is to give up on the attempt to provide this kind of general theory and instead offer different canonical forms for these different cases. This would be a little disappointing, but perhaps it is the best we can do.

A more radical idea would be to let  $\phi$  be a sentential form rather than a universal generalization, and in particular require it to be a form of which ' $T \supset^* S$ ' is an instance. On this approach we would say

It is essential of disjunction that if S then (S or T).

It is essential of wrongness that  $a$  is wrong if  $a$  does not maximize utility.

where S, T and  $a$  are dummies that serve to indicate the sentential form. These are not schemes: the idea is not that any replacement of these letters by a sentence or name yields a true essentialist claim about disjunction or wrongness respectively, else Oswald would end up being part of the essence of wrongness. The idea is rather that a certain "form" is essential to disjunction, and similarly for wrongness. But now we have to re-think what the notion of essence is. In the paper I was working with the idea that to state something's essence is to say what something is, but now our essentialist claims are not even claims in the first place! Whether this approach can be sustained is a question I leave for another time.

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