Grounding and Omniscience

<u>Abstract</u>

I'm going to argue that omniscience is impossible and therefore that there is no God.[1] The argument turns on the notion of grounding. After illustrating and clarifying that notion, I'll start the argument in earnest. The first step will be to lay out five claims, one of which is the claim that there is an omniscient being, and the other four of which are claims about grounding. I'll prove that these five claims are inconsistent. Then I'll argue for the truth of each of them *except* the claim that there is an omniscient being. From these arguments it follows that there are no omniscient beings and thus that there is no God.

§1. Stage Setting

The best way to get a grip on the notion of grounding – or more exactly, for our purposes, the notion of *partial grounding* - is by considering examples. (By "partial grounding" I mean "at-least-partial grounding", just as mereologists mean "at-least-part of" by "part of".)

The first example hearkens back to Plato's *Euthyphro*. Suppose that a theorist claims that as a matter of metaphysical necessity, a given act is morally right if and only if it is approved of by God. At first blush at least, it is plausible that this theorist owes us an answer to following question: when acts are right, are they right *because* God approves of them, or does he approve of them *because* they are right? We all understand this question right away, right when we first hear it. In understanding it, we grasp the concept of grounding. The question of whether the act is right *because* God approves of it, or vice versa, is a question about grounding. Is the fact that

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[1] For a survey of alternative arguments about the possibility of omniscience, see Wierenga (2010). As for what omniscience ultimately amounts to, I explore that issue in the paper's final section.

an act is right *partly grounded by* the fact that God approves of it? Or is it is other way around, with the fact that God approves of the act being partly grounded by the fact that the act is right?

A second example concerns compound states and their constituents, in particular the compound state *true belief* and its constituent state *belief*. It is a fact that I truly believe that I have hands. It is also a fact that I believe that I have hands. The former fact is partly grounded by the latter fact, but not vice versa. The fact that I truly believe that I have hands is partly grounded by, obtains partly in virtue of, the fact that I believe that I have hands. But the fact that I believe that I have hands *is not* partly grounded by, *does not* obtain partly in virtue of, the fact that I truly believe that I have hands. The fact that I truly believe is partly grounded by the fact that I believe, but not vice versa.

A third example concerns facts that correspond to uniquely satisfied existential generalizations – facts of the form $\exists(x)\varphi$, where φ is a formula satisfied by exactly one object. For example, consider the fact that there is some number x such that x is an even prime: that is to say, the fact that some number or other is an even prime. Also consider the fact that 2 is an even prime. The former fact is partly grounded by the latter fact; the fact that some number or other is an even prime *is partly grounded by* the fact that 2 is an even prime. But not vice versa. The fact that 2 is an even prime is not partly grounded by, does not obtain partly in virtue of, the fact that some number or other is an even prime.

These three examples give us a fix on the *is partly grounded by* relation. By seeing that relation at work in these examples, we begin to recognize its nature. Of course, there is plenty of room for debate about the characteristics of the *is partly grounded by* relation: about its formal properties, about what its relata are, about which particular relata it relates to which others, and about the import of all of this to any number of philosophical issues. I intend to be fairly non-committal about these debates. I will make some claims about the formal properties of the *is partly grounded by* relation, but these claims are fairly uncontroversial. I will also assume (as I already have in the foregoing examples) that *facts* are among the relata of the *is partly grounded by* relation.

As I intend to use the notion of facts, to be a fact is to be something that is the case. This way of thinking about facts is very open-ended as to their nature. It is compatible with, but does not entail, the view that facts are *truthmakers*, the things that make true propositions true. It is also compatible with, but does not entail, the view that facts are true Russellian propositions, as well as the view that they are true Fregean propositions. I'm agnostic about whether facts are truthmakers, or true propositions of one sort or another, or something else compatible with their being whatever is the case. None of my arguments bring commitments about those issues, as far as I can tell.

Now, this view about facts – namely that they are whatever is the case – is not intended to be an illuminating analysis of them. It runs quite short of such an analysis. But I do not think this is a problem. We all use the notion of facts as I am invoking it when we utter phrases starting with "it is the case that…" or "it is not the case that…". And in uttering those phrases, we do not normally seem to be particularly confused. So I think the notion of facts is tolerably clear, as least as I'll be using it. Moreover, it seems plausible and natural to assume that facts are among the relata of the *is partly grounded by* relation. Witness, for instance, how plausible and natural it is to couch the three examples above in terms of facts.

In sum, I think there are good reasons to grant the assumption that facts are among the relata of the *is partly grounded by* relation. But those who disagree need not consign the current paper to the flames, at least not for that reason. For even though I will proceed under the assumption that facts are among the relata of the *is partly grounded by* relation, that assumption is inessential to the arguments I will make. Those arguments can be restated on several other views about the relata of the *is partly grounded by* relation. For instance, they can be restated on views that take certain property instantiations, in particular instantiations of the property *truth* by propositions, to be the only relata of the *is partly grounded by* relation (and that do not identify such property instantiations with facts). The relevant restatements translate "the fact that p is partly grounded by the fact that q" as "the truth of the proposition that p is partly grounded by the truth of the proposition that q". Similarly, they translate "for every fact F" as "for every true

proposition P". If you are uncomfortable with my fact-talk, then you might consider translating my arguments and claims into truth-talk throughout via this translation scheme (see the appendix for some examples). But as for myself, I think those arguments and claims find their most natural and plausible formulation in fact-talk, and I will use fact-talk throughout the paper.[2]

I need to add one more bit of stage setting. In particular, I need to add some further theoretical context by making some remarks about the role of the *is partly grounded by* relation in recent and historical philosophical theorizing.

In recent work the notion of grounding has begun to replace the notion of supervenience in certain bodies of thought focusing on *dependence*. For instance, consider the relationship between the mental and the physical. It is widely thought that mental facts *depend on* physical facts. For several decades philosophers developed this thought via the notion of supervenience. The dependence of the mental on the physical, it was thought, amounted to the supervenience of mental facts on physical facts. However, it is now widely believed that the notion of supervenience is inadequate for capturing the relevant kind of dependence. One way to see why is to observe that, on the notion of dependence often thought to hold between the mental and the physical, dependence is irreflexive and asymmetric. No fact can depend on itself, and no two facts can each depend on the other. Supervenience, however, has neither of those formal properties: it is neither irreflexive (witness e.g. that there can be no difference in mental facts without some difference in mental facts), nor asymmetric (witness e.g. that the facts about the surface area and the volume of a sphere each supervene on the other).

Supervenience is therefore *not* the sort of dependence that is widely taken to hold between the mental and the physical, or at least not the most interesting such sort of dependence. The most interesting sort of dependence widely taken to hold between the mental and the physical is, instead of supervenience, *grounding*. Mental facts are *partly grounded by* physical

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[2] Towards the end of the paper there are a few exceptions where I switch to true-proposition-talk, which is more natural for capturing the issues there under consideration.

facts; they obtain *partly in virtue of* physical facts. And analogous points hold for other putative instances of philosophically interesting dependence, e.g. the dependence of the normative on the natural. When philosophers claim that dependencies in this ballpark hold, they are (typically) really after a claim about *grounding* - and not, or at least not *just*, a claim about supervenience.[3] These sorts of points have been recognized for quite some time now, and increasing attention has been (and continues to be) paid to the notion of grounding in attempts to capture various dependencies formerly thought capturable via the notion of supervenience.[4] This increasing attention constitutes one main use of the notion of grounding in contemporary philosophy.

Another such use of that notion appears in metaphilosophy, in particular metametaphysics. In recent years there has been renewed interest in what metaphysics is about. According to the view that most of us were philosophically raised on, metaphysics is about *what there is*. Are there material objects and nothing else? Or are there also such entities as space, time, numbers, properties, and so on? These Quinean questions are snappy and familiar, but a growing consensus has it that they are not the questions metaphysicians really want to ask. Answering them is *too easy*: "2 is a number, therefore there are numbers!".

Such answers are not what we are looking for when we are do metaphysics. We are looking for something *deeper*. As Cian Dorr puts it,

> What we debate in the ontology room is the question of what there is *strictly speaking* – what there *really, ultimately* is – what there is *in the most fundamental sense*.[5]

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[3] They can, and often do, use the term "supervenience" to state their dependence claims. But for the same reasons supervenience is not the relation philosophers of mind are most ultimately after, neither is it the relation meta-ethicists are most ultimately after.

[4] On these issues about supervenience and grounding see Kim (1993), Bennett and McLaughlin (2005), Comesana (2005), Correia (2008), Schaffer (2009), and Rosen (2010).

[5] Dorr (2005: 250). Italics come from the original. Also compare Fine (2001).

There are numerous attempts to clarify this idea of what there *really, ultimately* is. Some of those attempts contrast ordinary quantifiers with "thick" quantifiers, and claim that metaphysics is concerned with delineating the range of the latter as opposed to the former. But other attempts – the more interesting ones for our current purposes – theorize about what there *really, ultimately* is in terms of *grounding*. According to one proposal in this ballpark, there are fundamental entities and derivative entities. The fundamental entities are not grounded by anything, whereas the derivative entities are. Metaphysics is thus conceived as, not the theory of *what there is*, but the theory of *what is fundamental* – and of what is derivative, and of what grounds what among the fundamental and the derivative. Within this conception of metaphysics, the search for what there *really, ultimately* is can be viewed as the attempt to identify what is fundamental. This proposal is a metaphilosophical view that uses the notion of grounding to explain what metaphysics is about.[6]

These two examples - these discussions of the theoretical role of supervenience and the nature of metaphysics - bear witness to a more general point. Recent philosophy has seen a surge of attention to grounding. Actually, it would be more accurate to call it a *resurgence* of attention. The notion of grounding is there in Plato, who thinks universals ground particulars. And it is there even more clearly in Aristotle, whose central notion of *substance* roughly amounts to a notion of that which isn't grounded by anything else. In fact, we see the notion of grounding throughout the history of philosophy. In addition to the ancient and the contemporary work we've discussed so far, we can for instance see it in the debate between Newton and Leibniz about space: Leibniz thought that facts about space were partly grounded by facts about objects and their relations; Newton denied as much.

Further examples beyond these are legion. The notion of grounding is deeply embedded in both historical and contemporary philosophy. Hopefully I have adequately clarified that

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[6] The proposal is Schaffer's (2009); Rosen (2010: 112) considers a similar proposal.

notion by describing some of the discussions that turn on it, and by describing several examples of it at work.[7] I'll now apply the notion of grounding to the philosophy of religion, using it to argue that there cannot be an omniscient being and therefore that there is no God.

§ 2. The Grounding Argument

First a very rough sketch of the argument, designed solely to give the reader some idea of where I'm about to go. Suppose for *reductio* that someone is omniscient. Then his being omniscient is partly grounded by his knowing that he is omniscient (which is one of the knowings that helps make him *all*-knowing). And his knowing that he is omniscient is partly grounded by his being omniscient (for knowledge is partly grounded by the truth of what is known). Since partial grounding is transitive, it follows that his being omniscient is partly grounded by his being omniscient. But this result is absurd, for nothing can partly ground itself. Hence our *reductio* assumption is false. That is to say, it is false that someone is omniscient. But if God exists, then *he* is omniscient. Therefore, God does not exist.

That's the rough version of the argument. It is obviously far too brief and sketchy to be persuasive on its own. But persuasion is not its intended role. It is just intended to provide a useful preliminary glimpse of what is about to come.

Now for the real thing: the actual argument as opposed to a rough sketch of it. Let me start by clarifying some terminology. I'll be talking about "instances" of various "general facts". The latter I take to be facts whose adequate representation calls for the use of quantifiers and variables, for example the fact that some person exists (in symbols: $\exists x(x \text{ is a person})$). The "instances" of these general facts are simply the particular facts we express when we remove the

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[7] For discussions that help to further clarify the notion of grounding see Fine (1994), Correia (2008), Schaffer (2009), and Rosen (2010).

quantifiers and replace all the variables with constants (and we do so successfully, so that the resulting representation really does represent a fact).

For example, the instances of the fact that some person exists include the fact that I am a person and the fact that Bill Clinton is a person. And they also include every other fact we get by removing the quantifier "∃x" from "∃x(x is a person)", and replacing the variable "x" with a constant such that the resulting representation successfully represents a fact. (If, for instance, we replaced "x" with the constant "California", the resulting representation "California is a person" would not successfully represent a fact; and so "California is a person" does not represent an instance of the fact that there is a person.) The instances of the fact that there is a person, then, consist in the facts that I am a person, and that you are a person, and so on, for every particular person.

Now, I'll mostly be dealing with facts of the form ∃∀, as opposed to the simpler form ∃. For instance, suppose it is a fact that someone is loved by everyone. This fact has the form ∃∀; its adequate representation calls for a sentence like "∃x∀y(y loves x)", where the quantifiers range over people. Such facts (which we'll call "∃∀ facts") have instances no less than do simpler facts of the form ∃ (which we'll call "∃ facts"). The instances of ∃∀ facts, again, consist in the facts represented when we remove the quantifiers and replace all the variables with constants, in such a way that the resulting representation successfully represents a fact. For instance, if we assume that someone is loved by everyone, and that Igor is loved by everyone, and that Sam and Pat are among the people who exist, then the instances of the fact that someone is loved by everyone include the facts that Sam loves Igor and that Pat loves Igor.

Now that this terminology is clarified, it can be used to precisely formulate our argument against the possibility of omniscience and thus for atheism. The argument starts by laying out the following five claims:

OMNISCIENCE: There is some fact O such that O = <there is some being x such that for every fact f, x knows f>.

(This is just the claim that it is a fact that someone knows everything. We'll introduce "G" as a name for one of those individuals who does know everything, according to OMNISCIENCE.)

Using "↢" as an abbreviation of "is partly grounded by", the remaining four claims are these:

TRANSITIVITY: For all facts X, Y, and Z: if X ↢ Y and Y ↢ Z, then X ↢ Z.

(For example, suppose that the fact that I have a body is partly grounded by the fact that I have arms. Also, suppose that the fact that I have arms is partly grounded by the fact that I have forearms. Then TRANSITIVITY tells us that the fact that I have a body is partly grounded by the fact that I have forearms.)

IRREFLEXIVITY: For every fact F, it is not the case that F ↢ F.

(For example, consider the fact that you exist. IRREFLEXIVITY tells us that the fact that you exist is not partly grounded by the fact that you exist. And similarly for every fact: every fact fails to partly ground itself, according to IRREFLEXIVITY.)

TRUTH GROUNDS KNOWLEDGE: For every fact F of the form *S knows that K*, F ↢ K.

(For example, consider the fact that I know that I have hands. TRUTH GROUNDS KNOWLEDGE tells us that this fact is partly grounded by the fact that I have hands. And similarly *whenever* someone knows something: the knowing of any fact is partly grounded by that known fact itself, according to TRUTH GROUNDS KNOWLEDGE.)[8]

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[8] It might be objected that true propositions are the things we know when we have "knowledge-that", and that true propositions are not identical to facts. But this objection should not give us pause. For one thing, there are reasons to believe that, contrary to contemporary orthodoxy, the objects of knowledge-that are indeed facts; see Vendler (1972) and Harman (2003). And in any case, we need not adjudicate the issue of whether knowledge-that takes facts or true propositions (or both) as its objects. Nor need we adjudicate the issue of whether facts are distinct from true propositions. For recall that all of my claims, including TRUTH GROUNDS KNOWLEDGE, can be translated into true-proposition-talk. For more on this point, see the appendix.

∃∀ GROUNDING: Every ∃∀ fact ↢ each of its instances.

> (For example, suppose that it is a fact that someone is loved by everyone: ∃x∀y(y loves x). Call that fact "L". Suppose, again, that Igor is loved by everyone, and that Sam and Pat are among the people who exist. Then ∃∀ GROUNDING tells us that L is partly grounded by the fact that Sam loves Igor, and partly grounded by the fact that Pat loves Igor. That is to say, it tells us that L is partly grounded by both of these two instances it has – these two as well as any others.)

As it happens, these five claims are jointly inconsistent. Here's the proof[9]:

1. <G knows O> is an instance of O   (by OMNISCIENCE)

2. O ↢ <G knows O>   (by 1 and ∃∀ GROUNDING)

3. <G knows O> ↢ O   (by OMNISCIENCE and TRUTH GROUNDS KNOWLEDGE)

4. O ↢ O   (by 2, 3, and TRANSITIVITY)

5. ¬(O ↢ O)   (by IRREFLEXIVITY)

Contradiction (4, 5)

Since 4 and 5 contradict one another, we must drop at least one of the five claims that jointly entail them. The question is: which one? I'll now discuss each of them in turn, and I'll argue that each except OMNISCIENCE is worth keeping.

TRANSITIVITY and IRREFLEXIVITY are the easiest cases: they're *obviously* true, in the way that it is obviously true that the *better than* relation is transitive and irreflexive. To be sure, philosophers are sometimes driven to deny obvious truths. Some have even been driven (by the

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[9] I owe the structure of this proof to Fine (2010), a paper featuring similarly structured proofs connecting grounding to other topics. Fine's paper considers numerous potential theoretical reactions to its own proofs. It would be worthwhile to inquire into how far those reactions plausibly apply to my proof here; but I leave that project aside.

paradoxes of population ethics) to deny the transitivity of the *better than* relation.[10] But this position, flying as it does in the face of obviousness, should be a last resort. Similarly with denying the transitivity and irreflexivity of the *is partly grounded by* relation.   Those principles are obvious enough that denying them should be a last resort.

We might, of course, try to offer more substantive arguments for these principles.   For example, we might point out that the *is partly grounded by* relation is an explanatory relation - that to partly ground a fact is to partly explain it - and that explanatory relations are irreflexive and transitive. But such arguments fail to reach the heart of the issue. They are like arguments that the *better than* relation is transitive and irreflexive: almost certainly, the view argued for is at least as obviously true as the premises used to argue for it, and more importantly, that view itself is likely among our main reasons for believing those premises in the first place. In this sort of scenario we might as well just be honest with ourselves and admit that the given view's obviousness is the basis on which we ought to hold it. We should believe in TRANSITIVITY and IRREFLEXIVITY because they are obviously true.

What about ∃∀ GROUNDING? This principle is, admittedly, less obviously true at first pass than TRANSITIVITY and IRREFLEXIVITY. But I think this is largely because it is more complicated and thus harder to initially understand. I'll therefore spill some ink elaborating the content of ∃∀ GROUNDING, both by describing it at work in several different cases, and by raising and responding to objections to it.   This discussion should bring about a better understanding of the principle and, with that understanding in hand, the plausibility of the principle should come to be more apparent than it is initially. (This discussion will be longer than the discussions of any of the other four claims. This should not, however, be taken to imply that ∃∀ GROUNDING is more important to the overall argument than the other claims. The

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[10] Temkin (1987), Rachels (1998).

claims are all equally important; I just give more space to ∃∀ GROUNDING because it is the hardest principle to understand, and a slower discussion can help ease our way with it.)

To start to better understand ∃∀ GROUNDING, observe that some ∃∀ facts have multiply satisfied existential quantifiers. For example, suppose that someone is loved by everyone, and that *many* people are loved by everyone. What does ∃∀ GROUNDING tell us about this sort of case?

We can start to see what it tells us by introducing some terminology. Call each person who is loved by everyone a "universally loved" person. What ∃∀ GROUNDING tells us, then, is that for *each* universally loved person x, the fact that someone is loved by everyone is partly grounded by *each* particular fact of the form *y loves x*. A specific case can help illustrate the point. Suppose that there are exactly two universally loved persons (call them L1 and L2), and exactly three persons in existence (call them L1, L2, and P). Then ∃∀ GROUNDING tells us that the fact that someone is loved by everyone is partly grounded by each of the following six facts:

> that L1 is loved by L1
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> that L1 is loved L2
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> that L1 is loved by P
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> that L2 is loved by L1
>
> that L2 is loved by L2
>
> that L2 is loved by P

And more generally, what ∃∀ GROUNDING tells us is this: every ∃∀ fact is partly grounded by each of its instances, even if those instances differ in the objects satisfying the ∃∀ fact's existential quantifier. In our case of the two people each loved by everyone, the ∃∀ fact is partly grounded by each of the six particular facts having it that, of a particular universally loved person, some particular person loves him. In other cases, the ∃∀ fact might involve an existential quantifier that is *uniquely* satisfied. For example, suppose it is a fact that some even prime is everyone's favorite number. Since there is only one even prime, the existential

quantifier in this fact is uniquely satisfied. If we suppose that Q and R are among the people who exist, then ∃∀ GROUNDING tells us that the fact that some even prime is everyone's favorite number is partly grounded by each of the following two facts:

> that 2 is Q's favorite number

> that 2 is R's favorite number

These various cases are designed to bring out the content of ∃∀ GROUNDING, and thus to eventually bring out that principle's plausibility. Now let me bring out the content of ∃∀ GROUNDING in another way: by considering and responding to an objection.

It might be objected that ∃∀ GROUNDING is implausible because it yields mistaken verdicts about ∃∀ facts whose existential quantifiers are multiply satisfied. The principle takes *those* kinds of facts to be partly grounded by each of their instances, even though these instances feature differences in the objects satisfying the relevant existential quantifier. In our case of the two people each loved by everyone, for example, ∃∀ GROUNDING tells us that particular facts about L1, *and* particular facts about L2, *both* partly ground the general fact that someone is loved by everyone. It might be claimed that this upshot is mistaken - and therefore that ∃∀ GROUNDING is mistaken as well.

However, this objection does not hold water. We can see why it does not hold water by considering the simpler phenomenon of ∃ facts. Whatever we say about ∃ facts having unique instances (and therefore having uniquely satisfied existential quantifiers), it seems clear that such facts are partly grounded by their unique instances. For example, it seems clear that the fact that some number is an even prime *is partly grounded by* the fact that 2 is an even prime. However, it is less clear, at least initially, what to say about ∃ facts with *multiple* instances. For example, consider the fact that there is some person, that is to say the fact that ∃x(x is a person). It is a fact that I am a person, and a fact that you are a person, and there are many other such facts, each of them an instance of the fact that there is a person. Do *all* of these facts partly ground the fact that there is a person? Do *some* of them partly ground it, while others do not? Do *none* of them partly ground it?

Here the answers are not immediately obvious. But there is a plausible case to be made for one of them as opposed to the others. In particular, there is a plausible case to be made that every ∃ fact having multiple instances is partly grounded by *each* of those instances. So, for example, the fact that I am a person, and the fact that you are a person, *both* partly ground the fact that there is some person – and so does every other particular fact of the form *x is a person*.

Why is this plausible? Well, either it is true, or one of two other initially tenable options is true – those other two options being that ∃ facts having multiple instances are partly grounded by some of those instances but not others, and that such facts are not partly grounded by any of their instances. On reflection, both of these two further options are implausible.

Here's why it is implausible on reflection that ∃ facts having multiple instances are partly grounded by some of those instances but not others. Such a view would require that the instances which *do* ground their multiply-instanced ∃ facts are somehow special, having a property that suits them for the role but is lacked by the other instances. However, there does not appear to be any such property.

Here's why it is implausible on reflection that ∃ facts having multiple instances are not partly grounded by any of their instances. Such a view would render it mysterious what *does* partly ground ∃ facts having multiple instances. Moreover, it would break the connection, obviously tight no matter what it ultimately amounts to, between those facts and their instances.

The only option left, among our three, is the view that ∃ facts having multiple instances are partly grounded by each of their instances. And those three options exhaust the space of initially tenable views about the relationships between grounding, multiply-instanced ∃ facts, and the instances of those facts.[11] Thus, there is a plausible case for the view that ∃ facts having multiple instances are partly grounded by each of their instances.[12]

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[11] Why the space of "initially tenable" views instead of the entire space of views? Well, because one might in principle hold e.g. that some ∃ facts with multiple instances are partly grounded by each of their instances, but *other* such facts are partly grounded by only some of their instances. Such mixes of our original three views, however, are less initially tenable than those three views themselves. Thus I leave the mixed views aside.

[12] Rosen (2010: 117) calls the partial grounding of multiply-instanced ∃ facts by each of their instances "a harmless form of metaphysical overdetermination". The description seems apt.

Why am I belaboring this point about what grounds multiply-instanced ∃ facts? Because it is a short step from the view that every ∃ fact (even if its existential quantifier is multiply satisfied) is partly grounded by each of its instances, to the view that *every ∃∀ fact* (even if *its* existential quantifier is multiply satisfied) is partly grounded by each of *its* instances. That is to say, it is a short step from the view that

Every ∃ fact ↤ each of its instances

to the view that

Every ∃∀ fact ↤ each of its instances.

And the latter view is of course none other than ∃∀ GROUNDING. We should believe the former view because, as I just argued, it is the best element of an exhaustive set of initially tenable options for what we should say about the grounding of ∃ facts, regardless of whether their instances are unique or multiple. And, if we are willing to believe in the multiple grounding of every ∃ fact by each of its instances, then we should *also* be willing to believe in the multiple grounding of every *∃∀ fact* by each of *its* instances. Multiply satisfied existential quantifiers show up in both cases, and there do not seem to be any important differences in the ways they show up. Thus, since it is acceptable for ∃ facts to be partly grounded by each of several instances differing in the objects satisfying their existential quantifiers, it is also acceptable for ∃∀ facts to be partly grounded by each of several instances differing in the objects satisfying *their* existential quantifiers.

In conclusion, then, we should not be swayed by the objection according to which ∃∀ GROUNDING is implausible because it yields mistaken verdicts about ∃∀ facts whose existential quantifiers are multiply satisfied.

Now let me consider a second objection to ∃∀ GROUNDING.[13] This objection relates to the literature (tracing back at least to Wittgenstein and Russell) about whether general facts are

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[13] Thanks to … for suggesting this objection.

in some sense reducible to the combinations of their instances. If it is a fact that everyone is mortal, then is this fact wholly grounded by the combination of the facts that I am mortal, and that you are mortal, and so on for every particular person? Or is more required? Some theorists believe that more *is* required, in particular an additional fact to the effect that "and that's all the persons there are". According to this sort of view, universal facts are not wholly grounded by the combinations of their instances; they are also grounded, in part, by further "and that's all the instances" facts.[14]

According to our second objection, these issues raise trouble for ∃∀ GROUNDING. Don't ∃∀ facts *also* require among their grounds "and that's all the instances" facts? And isn't this trouble for ∃∀ GROUNDING?

The answer is: no, it is not trouble for ∃∀ GROUNDING, which is a principle about what *partly* grounds what instead of what *wholly* grounds what. As far as ∃∀ GROUNDING is concerned, the totality of the instances of an ∃∀ fact *either may or may not* wholly ground that fact. The principle does not, and need not, speak one way or another on this issue. It claims that the instances of ∃∀ facts partly ground those facts, and it is silent on what else might or might not *also* partly ground those facts. As a result of this, our second objection to ∃∀ GROUNDING is not persuasive.

Here, then, is what I think. ∃∀ GROUNDING is not as initially plausible as TRANSITIVITY and IRREFLEXIVITY. But that is largely because it is initially harder to understand. Once we do understand it, we see that it is a very plausible principle, indeed a principle worth retaining.

TRUTH GROUNDS KNOWLEDGE is worth retaining too. It would be very unorthodox to deny that principle; almost all contemporary epistemologists hold it at least tacitly.

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[14] For relevant discussion see Rosen (2010: 118-121).

Moreover, it is very plausible (and almost universally held)[15] that knowledge is a compound state whose constituents include belief and truth.

Now, facts about compound states are partly grounded by facts about the constituents of those states. For instance, the fact that I truly believe that I have hands is partly grounded by the fact that I have hands. Similarly with knowledge. The fact that *I know that I have hands* is partly grounded by the fact that I have hands, in the same way in which the fact that *I truly believe that I have hands* is partly grounded by the fact that I have hands. Knowledge is partly grounded by truth for the same reason true belief is partly grounded by truth: they are both compound states having truth as a constituent. TRUTH GROUNDS KNOWLEDGE is therefore a principle we ought to retain, and in this respect it falls in line with TRANSITIVITY, IRREFLEXIVITY, and ∃∀ GROUNDING.

Among the five principles in our inconsistent tetrad, only one is left: OMNISCIENCE. I conclude that we ought to reject that principle. In rejecting it we come upon a new argument for atheism. Philosophical and theological tradition tells us that if God exists then he is omniscient. It is the God of this tradition with which I am concerned, so I will take the tradition at its word. I'll take it that, if God exists, he is omniscient.[16] Now: omniscient beings do not exist, well nigh *cannot* exist, for as we just saw, their existence is incompatible with the nature of grounding. Hence there is no God. Call this "the grounding argument" for atheism.

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[15] One notable exception is Williamson (2000).

[16] The conception of God as omniscient traces through such theologians and philosophers as Augustine, Boethius, Bonaventure, Avicenna, Anselm, Maimonides, and Aquinas. That conception is still held by the heirs of that "perfect being theological" tradition today – heirs including Alvin Plantinga, Peter van Inwagen, William Rowe, and many others. This conception of God as omniscient is so prominent that it is usually just *taken for granted* in contemporary philosophical discussions. Surely then, it is fair to say that the God of philosophical and theological tradition is omniscient if he exists.

§3. Defining Omniscience

When I've presented the grounding argument to theists, their most common reaction has been to suggest that it presupposes a mistaken definition of omniscience. Whatever omniscience ultimately amounts to, they suggest, it amounts to something that does not require knowing every fact (or knowing every "true proposition", for those who've been translating my fact-talk into truth-talk). This suggestion is worth exploring in some detail.

To start exploring it, notice that the grounding argument presupposes a certain definition of omniscience, namely

D1: To be omniscient is to know every fact.

Our proof above shows that there is an inconsistency between some claims about grounding, and the claim that there exists some being who is omniscient according to D1. But what about *other* definitions of omniscience?   Do any such definitions rescue theism from the grounding argument? As a first attempt to locate such a definition, we might try changing D1 to

D2: To be omniscient is to know every knowable fact.

D2 seems at first pass to rescue theism from the grounding argument. For the central point of the grounding argument is that it is impossible to know *every* fact. And given D2, this point is perfectly consistent with the view that there exists an omniscient being.[17]

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[17] Thanks to … and … for suggesting this line of thought.

There is considerable initial appeal in the attempt to rescue theism from the grounding argument by replacing D1 with D2. And the replacement is independently motivated. For D2 has, on more than one occasion, been conjectured in attempts to solve independent problems about freedom and foreknowledge.[18] D2 has even been suggested as an all-purpose resource for defending the possibility of omniscience, a resource that can be automatically invoked whenever there is a fact that no being could possibly know.[19] In sum, D2 has *bona fide* credentials as a rescuer of theism from the grounding argument. But despite its credentials, D2 does not do the job. Let me point out two reasons why.

First of all, D2 renders the existence of omniscient beings compatible with particularly strong forms of skepticism that it actually ought to rule out. For instance, D2 renders the existence of omniscient beings compatible with the view that no beings whatsoever can ever know anything. Given D2, one might even consistently think that God exists and is omniscient and has no knowledge whatsoever. This shows that D2 does not capture the notion of omniscience. At any rate, it doesn't capture the notion of omniscience that theists have traditionally been interested in. That is the first reason why D2 fails to rescue theism from the grounding argument.

The second reason, this one more dialectically significant, is that the grounding argument is sound *even if* we replace D1 with D2. More exactly, *a version* of the grounding argument is sound given the replacement of D1 by D2, and that version differs from the original in that its inconsistency proof makes one more assumption.

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[18] Or at least, definitions importantly similar to D2 – similar because they allow omniscient beings to lack knowledge of unknowable truths - have been conjectured in attempts to solve independent problems about freedom and foreknowledge. See Swinburne (1998: 133-134) and van Inwagen (2006: 223). For critical discussion of these definitions see Pruss (forthcoming).

[19] See Mavrodes (2010: 253).

To see the version of the grounding argument that is sound given the replacement of D1 by D2, consider the claim that it is a fact that some being is omniscient according to D2. Call this claim OMNISCIENCE$_2$.

OMNISCIENCE$_2$: there is some fact O_2 such that O_2 = <there is some being x such that for every knowable fact f, x knows f>.

Assume that OMNISCIENCE$_2$ holds, and introduce "G_2" as a name for some being who is thus all-knowing. Additionally, assume that O_2 is knowable. Then it follows that

6. <G_2 knows O_2> is an instance of O_2.

By ∃∀ GROUNDING and (6), we get

7. O_2 ↞ <G_2 knows O_2>.

By OMNISCIENCE$_2$ and TRUTH GROUNDS KNOWLEDGE we get

8. <G_2 knows O_2> ↞ O_2

Combining 7, 8, and TRANSITIVITY we get

9. O_2 ↞ O_2

Which contradicts

10. ¬(O_2 ↞ O_2)

Which itself follows from IRREFLEXIVITY.

Since 9 and 10 contradict one another, at least one of the claims used to derive them is false. There are six such claims: ∃∀ GROUNDING, TRUTH GROUNDS KNOWLEDGE, TRANSITIVITY, IRREFLEXIVITY, OMNISCIENCE$_2$, and "O_2 is knowable". As a result, we must drop at least one of these six claims. As I argued above, we should not drop any of the first four of them. That leaves us with OMNISCIENCE$_2$ and the claim that O_2 is knowable. Those who would respond to our original grounding argument by replacing D1 with D2 would, in denying OMNISCIENCE$_2$, claim that there are no omniscient beings. That is one option to take; but it is an option that requires atheism because God is omniscient he exists. Those who defend theism by appeal to D2 must therefore deny that O_2 is knowable. As a result, they must claim that God exists, and that he is omniscient, but that they do not know that God is omniscient, and

neither does he. To hold this position is to advocate a Moorean absurdity – a claim of the form "P and I do not know that P". It is also to take God, despite his omniscience, to have some *necessary* ignorance: to be such that *necessarily* if he exists then there are facts he does not know.

D2 thus has several important drawbacks. It *allows* omniscient beings to lack *all* knowledge, *requires* that they lack *some* knowledge, and brings one to advocate Moorean absurdities if one is a theist. In order to avoid these drawbacks, theists might try a different re-definition, for instance the following:

D3: To be omniscient is to believe all the true propositions.

But this definition allows an omniscient being to believe all or many of the false propositions, as well as believing all the truths. Such a being isn't what traditional theists want to call "God". Perhaps, then, they'd be better off with

D4: To be omniscient is to believe all the truths and none of the falsehoods.

But this is suboptimal as well. It allows the possibility of omniscient beings who believe things for bad reasons. And again, that is not the sort of being traditional theists want to call "God".

One might object by claiming that our reasons simply consist in our beliefs, and that true beliefs cannot be bad reasons, and therefore that D4 precludes the possibility of omniscient beings who believe things for bad reasons. However, this objection is unconvincing. For one thing, it is not at all obvious that our reasons consist in our beliefs. But let us grant as much for the sake of argument. Even granting this, the objection is still unconvincing, because a true belief can function as a bad reason for another true belief. For example, a being might base his true belief that Mars is a planet on his true belief that 1+1=2. Such a being would base a belief on a bad reason, even though that reason amounts to another true belief. As far as D4 is

concerned, such a being could count as omniscient. But such a being would not be the sort of thing traditional theists want to call "God".

Nor would it help to amend D4 by adding the claim that omniscient beings *essentially* believe all the truths and none of the falsehoods. For there could exist beings who *essentially* believe all the truths for bad reasons, and *essentially* believe none of the falsehoods. Such beings could count as omniscient according to such amended versions D4, but they are not the sort of beings traditional theists want to call "God".

D4 is thus a suboptimal definition of omniscience – or at least, a definition that is suboptimal from a theistic point of view. But its shortcomings suggest a new and perhaps better definition:

D5: To be omniscient is to have a maximally justified belief in every true proposition.

This definition has four nice virtues. First, it entails that omniscient beings cannot have false beliefs. To see why, suppose for *reductio* that some being X who is omniscient according to D5 has a false belief that p. Since p is false, not-p is true. Now, X either believes not-p, or he doesn't. If X doesn't believe not-p, then there is a true proposition in which he does not have a maximally justified belief; which contradicts our *reductio* assumption. If X does believe not-p, then he believes it without maximal justification, because he also believes p; this too contradicts our *reductio* assumption. Hence the *reductio* assumption is false; which is to say that if a being is omniscient according to D5, then he does not have any false beliefs. This establishes that D5 has it as a consequence, indeed an "organic" consequence as opposed to an *ad hoc* extra amendment, that omniscient beings cannot have false beliefs. That is a virtue of D5.[20]

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[20] It is also a virtue of definitions that take omniscience to require knowing every fact: knowing every fact is incompatible with having any false beliefs, given the plausible assumption that one cannot know that P if one falsely believes not-P.

The second virtue of D5 is that, unlike D4, it precludes the possibility of omniscient beings who believe things for bad reasons. For suppose that a being believes p for bad reasons. Then, his belief that p is not maximally justified. He thus does not have maximally justified beliefs in every true proposition; thus D5 does not take him to be omniscient.[21]

The third virtue of D5 is that, unlike D2, it renders the existence of omniscient beings incompatible with skepticism. Or at least, it renders their existence incompatible with the kind of skepticism against which it is most naturally opposed, namely skepticism about maximal justification. According to that kind of skepticism, it is impossible for any being to have a maximally justified belief in any proposition. D5 entails that omniscient beings have maximally justified beliefs in some of the propositions, namely the true ones. And so D5 entails that if omniscient beings exist then skepticism about maximal justification is false. Insofar as it renders the existence of omniscient beings incompatible with the kind of skepticism against which it is most naturally opposed, then, D5 is superior to D2.

The fourth (and most dialectically significant) virtue of D5 is that, again unlike D2, it blocks the grounding argument. To see why this is so, recall that the grounding argument, both in the original version applying to D1, and in the altered version applying to D2, appeals to the plausible claim TRUTH GROUNDS KNOWLEDGE. Any version of the grounding argument applying to D5 would need to replace TRUTH GROUNDS KNOWLEDGE with an analogous claim about maximally justified belief, a claim to the effect that whenever a proposition P is true and a person has a maximally justified belief that P, the fact that he has a maximally justified belief that P *is partly grounded by* the fact that P. But this D5-analogue of TRUTH GROUNDS KNOWLEDGE is quite implausible. The truth of a maximally justified belief is not what *makes* that belief maximally justified. What makes a belief maximally justified is simply the having, to a maximal degree, of whatever makes beliefs justified to any degree. That thing may amount to

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[21] Could a being base his belief that p on the strongest possible reasons for p, *and also* some other reasons that are *bad* reasons to believe P? Would such a being have a maximally justified belief that P? The answers here are not clear. It *is* clear, though, that such a being would not be epistemically perfect. (I'll say more in a moment on epistemic perfection and its relevance to our discussion.)

reliable production, or virtuous production, or coherence with other beliefs, or a basis in strong evidence, or something else. But whatever makes beliefs justified, it is not *truth*. So even if maximally justified beliefs happen to all be true, it is not *in virtue of* their truth, not even partly in virtue of their truth, that they are maximally justified. Truth grounds knowledge, but it does not ground maximally justified belief. Any version of the grounding argument applying to D5 would have to appeal to the claim that truth *does* ground maximally justified belief. Versions of the grounding argument applying to D5 would thus appeal to a falsehood, namely the false D5-analogue of TRUTH GROUNDS KNOWLEDGE. The grounding argument is blocked.

So D5 has some significant virtues. But it also has some significant vices. First of all, there are reasons to doubt that *there is* a maximal degree of justification, and these reasons amount to reasons to doubt that there can exist beings who are omniscient according to D5. Perhaps there is a higher degree of justification for any degree we might pick as the putatively highest, just as there is a larger natural number for any natural number we might pick as the putatively largest. If justification increases without end in this way, then there *is no* maximal degree of justification. Furthermore, some beliefs may be incomparable to others justification-wise. That is to say, it may be the case that there are beliefs A and B such that A is neither more, nor less, nor equally as justified as B. If there is a set of such beliefs each element of which is more justified than every element outside the set, then there *is no* maximal degree of justification. There are thus two reasons for thinking that there is no maximal degree of justification and therefore that no beings are omniscient according to D5: degrees of justification may increase without end, and they may rise until reaching a certain level at which different beliefs are incomparable justification-wise. For all we know, one of these two structural conditions on justification holds; and so, for all we know, D5 entails atheism.

And D5 has another vice as well, this one a bit less abstract. In order to appreciate this second vice, it helps to take a step back and consider why one would be motivated in the first place to think that God is omniscient. Traditionally, the idea that God is omniscient has been part of the more general view that he is a perfect being. This general view ("perfect being

theology") takes the perfections to come in several kinds, including (at least) moral perfections, perfections in abilities to do things, and cognitive or epistemic perfections.[22]   As a first pass gloss, it is often said that beings with all of these perfections are "omnibenevolent, omnipotent, and omniscient".   These triple-O labels are attempts to start filling in the details about God's nature by specifying what his various perfections are.

However, there may well be epistemic perfections not captured simply by having maximally justified beliefs in every true proposition. For example, numerous theorists think that knowledge has epistemic value over and above the value of justified belief.[23]   D5 would not require omniscient beings to have knowledge. But the perfect-being-theological motivation for taking God to be omniscient in the first place *does* require omniscient beings to have knowledge. Or at least, it requires as much if knowledge amounts to an epistemic perfection over and above justified belief, which many theorists think it does. Moreover, there may also be other epistemic perfections, in addition to knowledge-that, which are not captured simply by having maximally justified beliefs in all of the truths. For instance, some theorists believe in *knowledge by acquaintance* and *knowledge of what it is like* as epistemic perfections not captured by having propositional states like maximally justified belief.[24]   Similarly, some theorists take *understanding* to be a particularly important epistemic perfection not captured by having maximally justified beliefs.[25]   In sum, there may well be several epistemic perfections one does not have, simply by having maximally justified beliefs in every true proposition. D5 therefore inadequately serves its motivation, namely the motivation to specify God's epistemic perfections.

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[22] Perfect being theology is no peripheral position; it is quite central and important theologically and philosophically. See Morris (1987) and the philosophers referenced in footnote 16.

[23] Sosa (1988 and 2003), Zagzebski (1996), Riggs (2002), Greco (2003 and 2010).

[24] Zagzebski (2006), Roberts and Wood (2007).

[25] Zagzebski (1996, 2001, 2007: 268-269), Grimm (2010).

These reflections point to a more general problem, indeed a problem for all the definitions of omniscience we have discussed so far. There may well be epistemic perfections (such as knowledge by acquaintance, knowledge of what it is like, and understanding) that outstrip any sort of belief-that or knowledge-that. To the extent that one is motivated to think that God is omniscient in the first place, one should be motivated to take omniscience to include all the epistemic perfections. One should therefore not hold *any* of the definitions of omniscience we have considered so far.

The point can be illustrated by comparing omniscience to omnibenevolence, on the standard definitions of those terms. Perfect being theologians do not standardly define omnibenevolence as *maximal benevolence*. The notion of omnibenevolence is supposed to capture moral perfection, and moral perfection may outstrip mere benevolence. It may include other characteristics as well, for instance compassion and justice. And for that very reason, perfect being theologians standardly define omnibenevolence not as *maximal benevolence* but as *moral perfection*.

Now, just as there are moral perfections that outstrip maximal benevolence, there may well be epistemic perfections that outstrip maximal knowledge. Yet perfect being theologians do not standardly define omniscience as epistemic perfection. They standardly define it as maximal knowledge, and fill in the details of that idea in one way or another.

Isn't this just a mistake? Isn't it as mistaken to define omniscience as maximal knowledge, as it would be to define omnibenevolence as maximal benevolence? Don't the compelling reasons to define omnibenevolence as *moral* perfection transfer over into equally compelling reasons to define omniscience as *epistemic* perfection? For perfect being theologians at least, there is significant pressure to answer these questions in the affirmative and to offer up yet another definition of omniscience, to wit

D6: To be omniscient is to be epistemically perfect.

This definition, unlike the others, is faithful to its perfect-being-theological motivations.[26] Moreover, it coheres with several promising proposals in the literature on the nature of omniscience. Let me point out three such proposals.

First, consider Peter van Inwagen's proposal that omniscience requires *essentially* knowing certain things – those things being, roughly, all the knowable truths.[27] To see why D6 coheres with this proposal, compare two beings, one of whom *essentially* knows every knowable truth, and the other of whom *contingently* meets the same description. There is some plausibility in the view that if other things are equal, then the first of these beings, who not only *does not* but also *cannot* fail to know a knowable truth, is more epistemically perfect than the second of these beings, who *can* fail to know the knowable. Plausibly, then, van Inwagen's proposal takes omniscience to require a certain epistemic perfection. Since D6 requires that omniscient beings have *every* epistemic perfection, it coheres with this proposal of van Inwagen's.

Next, consider William Alston's proposal that all of God's knowledge is non-inferential.[28] This is another promising proposal that coheres with D6. An epistemically perfect being wouldn't sit around thinking and inferring in order to know things, any more than a perfectly powerful being would sit around making baby steps that jointly add up to get things done. A perfectly powerful being would just do whatever he wanted to *automatically*. Similarly, an epistemically perfect being would just know everything automatically, without needing to make any inferences. Alston's proposal thus takes omniscience to require a certain epistemic perfection. Again, D6 coheres with this proposal since it takes omniscience to require *every* epistemic perfection.

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[26] Thanks to … for suggesting it to me.

[27] van Inwagen (2006: 221-222).

[28] Alston (1989). It is of course quite traditional to hold that God's knowledge is non-inferential. All of the major medieval theologians advocated that view, or at least something very close to it, by claiming that God's knowledge is not "discursive".

Finally, consider Linda Zagzebski's proposal that omniscience entails "omnisubjectivity", the knowing of what it is like to be any being in any situation.[29] This proposal of Zagzebski's is outside the contemporary philosophical mainstream, but it is not without historical precedent. Consider the following remark made by Berkeley's mouthpiece Philonous in the *Third Dialogue*:

> That God knows and understands all things, and that he knows, among other things, what pain is, even every sort of painful sensation, and what it is for His creatures to suffer pain, I make no question.[30]

This suggests that perhaps Berkeley thought, with Zagzebski, that God knows what it is like to feel pain.[31] In any case, it seems clear that "knowing what it is like" is an epistemic perfection. And D6 tells us that every such perfection is a characteristic of omniscient beings. It thus tells us that omniscient beings have knowledge of what it is like, indeed maximal knowledge of what it is like, that is to say "omnisubjectivity". D6 thus coheres with Zagzebski's proposal as well as Alston's and van Inwagen's. Each of these proposals has it that omniscience requires some particular epistemic perfection; since D6 has it that omniscience requires *every* such perfection, D6 coheres with all of them.

In sum, D6 has numerous virtues. It is well motivated by perfect being theology, and it coheres with several promising proposals in the literature on the nature of omniscience. Nonetheless, it has significant drawbacks, at least for theists. I'll explore two of these drawbacks.

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[29] "Knowing what it is like to be any being in any situation" is a simplified gloss of Zagzebski's notion of omnisubjectivity. She writes that "Omnisubjectivity is, roughly, the property of consciously grasping with perfect accuracy and completeness the first-person perspective of every conscious being" (Zagzebski 2006: 232).

[30] Berkeley (1954: 88)

[31] Of course, "God knows what it is like to feel pain" and "omniscience requires knowing what it is like to fell pain" are not the same view. But the context of the above quotation suggests that Berkeley may have held the latter view as well as the former. In any case, I don't want to get into detailed Berkeley scholarship. I just want to point out that Berkeley's writings hold some hints in the direction of Zagzebski's thesis that omniscience entails omnisubjectivity. Perhaps the hints are weak, but they are hints nonetheless.

First, there are reasons for thinking that epistemic perfection is impossible and therefore that D6 entails atheism. One such reason is that the more facts one knows, the more epistemically perfect one is - and the grounding argument establishes that it is impossible to know every fact. This shows that there are levels of epistemic perfection that cannot be reached, and therefore that there cannot be an epistemically perfect being. The best a being could do, epistemically, falls short of perfection because it falls short of knowing every fact. Knowing every fact may not be sufficient for epistemic perfection, but it *is* necessary for it. And this means that given D6, the grounding argument shows that omniscient beings can't exist.

Moreover (as I began to point out above with the special case of justification), it may hold that for every level of epistemic perfection there is another greater level, or that there is a non-singleton set of levels of epistemic perfection each element of which is both incomparable to the others and superior to every level outside the set. If either of these structural conditions holds – and for all we know, one of them does hold – then there cannot exist beings who are omniscient according to D6. For all we know about the structure of epistemic perfection, then, D6 entails atheism, given that God is omniscient if he exists. In sum, there are numerous reasons for thinking that epistemic perfection is impossible and therefore that D6 entails atheism. That is a drawback of D6 – or at least, it is something that might draw *theists* back from adopting D6.

The second drawback of D6 is that it is less informative than the other definitions we have considered. It is less informative, because we have a much more detailed grasp of the nature of knowledge-that, belief-that, truth, and justification, than we have of the nature of epistemic perfection. As happens so often, the problems with the more detailed views have been solved by removing the details. Unobjectionability is purchased at the price of uninformativeness.

Of course, details can be added to D6, details about what it is to be epistemically perfect. To the extent that theists can do as much, they can render D6 more informative and thus remove one of its drawbacks. In filling in those details, theists might even come across good reasons for thinking that epistemic perfection does not increase without end and does not have an apex at

which we find incomparability. If these projects were successfully carried out, then theists would solve almost all the problems with D6. But they would not solve *all* of the problems. The grounding problem would remain, showing as it does that epistemic perfection is impossible because it is impossible to know every fact.

And this brings us to the larger point: the grounding argument cannot be refuted by redefining omniscience. All the redefinitions we've explored have significant problems. And there do not seem to be any other more promising redefinitions in the offing. The upshot is that we should not react to the grounding argument by re-defining the notion of omniscience. Nor should we react to it by rejecting one of the claims in our inconsistent tetrad *other than* the claim that there is an omniscient being. How *should* we react to the grounding argument? The answer is: by accepting it as sound.[32]

Appendix: A Translation Manual

Those who are uncomfortable with my fact-talk may perhaps be appeased by translating my arguments into truth-talk. The best way to do so, I think, is to translate my claims of the form *the fact that p is partly grounded by the fact that q* as claims of the form *the truth of the proposition that p is partly grounded by the truth of the proposition that q*. Thus the claim that

> the fact that there is some even prime is partly grounded by the fact that 2 is an even
> prime

gets translated as the claim that

> the truth of the proposition that there is an even prime is partly grounded by the truth of
> the proposition that 2 is an even prime.

This translation scheme generates the following truth-theoretic translations of the claims in our inconsistent tetrad, again using "$\hookleftarrow$" to abbreviate "is partly grounded by":

OMNISCIENCE$_T$: There is some true proposition O such that O = <there is some being x such that for every true proposition P, x knows P>.

TRANSITIVITY$_T$: For all true propositions X, Y, and Z: if the truth of X $\hookleftarrow$ the truth of Y and the truth of Y $\hookleftarrow$ the truth of Z, then the truth of X $\hookleftarrow$ the truth of Z.

IRREFLEXIVITY$_T$: For every true proposition P, it is not the case that the truth of P $\hookleftarrow$ the truth of P.

TRUTH GROUNDS KNOWLEDGE$_T$: For every true proposition P of the form *S knows that K*, the truth of the proposition that P $\hookleftarrow$ the truth of the proposition that K.

∃∀ GROUNDING$_T$: For every true proposition P of the form ∃∀, the truth of P ↢ the truth of each of its instances. (The "instances" of true propositions are what we express when, starting with sentences that adequately express those propositions themselves, we remove the quantifiers and replace the variables with constants in such a way that the resulting sentence successfully expresses a true proposition.)

The inconsistency proof for these claims proceeds in the same manner as with the fact-theoretic formulations. As for rendering the rest of the paper into truth-theoretic terms, I leave that as an exercise for readers who find my fact-talk wanting.

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