

# Ontology

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## 1 Introduction

Ontology is the study of being. This is what ‘ontology’ means. But this is not too informative. After all, what do we mean by ‘being’ and what is it to study being? Let’s say, to the dismay of Meinongians (those who think that something can be even though it does not exist), that by ‘being’ we mean existence.<sup>1</sup> So ontology is the study of existence. But what is it to study existence? As practiced by ontologists, it is at least this:

To tell us what, in a very general sense, exists; to provide us with a list of what, generally speaking, is.<sup>2</sup>

It would be good to say a little bit on what is meant by ‘general’ and ‘generally’. Consider the question ‘what exists?’ As Quine (1948) famously points out, one answers truly by saying ‘everything’. One will also answer truly by giving a list of all the things there are. But neither will do for the ontologist. The former is not informative enough and the latter is too informative (the ontologist is not seeking to tell us how many Bichon Frises, or simples arranged Bichon Frise-wise, there are). Where, between these, does the ontologist want us to land? Perhaps the best thing to do here is to take a look at the kinds of things that ontologists, in their capacity as ontologists, are concerned with.<sup>3</sup> There is a rough consensus on the kinds of things that will serve as an in-principle answer to our question. Here are some of the most general of them: abstracta, concreta,

composites, simples, events, facts, individuals, properties, particulars, universals, substances and modes.<sup>4</sup> We can expand by including less general, but still general enough, kinds. Some of these expansions involve things that ontologists regularly discuss: absences, the future, fictional objects, gunk, junk, hunk, holes, impossible objects, modal parts, necessary beings, numbers, the past, possible objects, possible worlds, propositions, sets, space-time, sums, and temporal parts. Others do not: deities, minds, souls, and value. For better or worse, I will in this paper lay content with this ostensive account of what is meant by ‘general’ in the above characterization of ontology.<sup>5</sup>

Consider now grounding, that relation whereby something depends on other things in, as it is often put, a non-causal, constitutive, way.<sup>6</sup> What does grounding have to say about ontology—about what, generally speaking, exists? In this paper, I will explore a number of ways the literature has said that grounding and ontology relate. To summarize: §2 concerns itself with grounding’s ability to *save* the ontology: to provide a safe and sane way of quantifying over certain kinds of things in our theories. §3 with its ability to *price* the ontology: to show how we should measure ontological simplicity. And §4 with its ability to *restrict* derivative ontology: to restrict what can be grounded from what.<sup>7</sup>

## 2 Saving the Ontology

In giving an ontology, and so in saying what there is, one must also say what is not (which can be done by saying what is and then saying that there is nothing more). Here are just some of the many things ontologists have put in the trash bin: properties, material things, temporal parts, the past and the future, space-time, composites, and proper parts of the universe. But not only is it counter-intuitive to deny that some of these things exist, there are also powerful reasons to think that some of them do (Hofweber 2005, 2007; Schaffer 2009: 356-62).

What does grounding have to do with any of this? Well, many seem to treat it as being able to *save the ontology* all while *preserving the primacy* of something else.<sup>8</sup> Take properties. You can be a nominalist and still ontologically commit to them. How? By grounding them in things that are not properties. For instance, if you think that sets are grounded in their members, you can identify properties with sets of individuals and then ground these non-empty sets in such individuals.<sup>9</sup> So there are individuals and properties, but individuals are more fundamental. So when nominalists say ‘The only real things are individuals’, it is open to them to understand ‘real’ as the ‘real’ of primacy or fundamentality and not the ‘real’ of existence. That is, it is open for them to think that properties are grounded in individuals and not vice-versa and that nothing, other than perhaps other individuals, ground individuals.

*Matter.* Consider idealism. Guyer and Horstmann (2018: §1) describe it as “something mental (the mind, spirit, reason, will) is the *ultimate foundation of all reality*, or even exhaustive of reality.” (italics mine) The second disjunct tells us that the first permits the ideal to play a role in grounding whatever the rest of reality is exhausted by. So when it comes to understanding idealism, we have two ways. One way says that matter does not exist; though there are apples, they are not material.<sup>10</sup> This is extreme. Better, at least as regards to what exists, to opt for the other and say that there is matter; there are apples, apples are material, and that apples, being material, are grounded in idea. This saves the ontology (there is matter) while giving primacy to something else (the ideal). (If saving matter is not a better candidate for saving “the ontology” than is saving apples, we should instead say that in saving matter, the second way does a better job of saving apples than does the first. The first way identifies apples with ideas and so does away with their material nature. The second grounds matter in ideas and so preserves that apples are material.)

*Temporal Parts.* Consider a way, suggested by Hawthorne (2006: 99-100, 2008: 271-3) and Fine (2012b: 42), of understanding the dispute between three and four-dimensionalists. What is at issue here are questions of ground. Do temporal parts of persisting objects ground those objects or is it rather that persisting objects, perhaps in conjunction with particular times, ground their temporal parts? This is a departure from the standard way of understanding this dispute, which hinges not on whether temporal parts ground or are grounded but, at least in part, on whether such parts exist.<sup>11</sup> This departure is also a way of preserving the spirit of three-dimensionalism (or enough of it, as both Fine and Hawthorne suggest) all while saving the ontology of temporal parts.

*The Past and the Future.* Baron (2015) has, in a manner friendly to the character of presentism, attempted to save the ontology of the past and the future by means of grounding. According to this new kind of presentism, the present grounds both the past and the future. So the past and the future are, but the present has primacy. Of course, this is to change the dispute between presentists and eternalists from issues of existence to issues of grounding. Still, it may be a good one. After all, perhaps the most serious worry with presentism (as seen in the truthmaker objection and the problem of cross-temporal relations) is that it posits too small an ontology in positing only the present.

*Space-time.* Schaffer (2009: 363), Dasgupta (2011), and North (2018) all reconceive the dispute between relationalists and substantivalists from issues of existence to issues of grounding.<sup>12</sup> North says

The traditional relational-substantival debate is about whether space—in modern terms, spacetime — exists. . . . The debate that I will present is not exactly the traditional one. But it is close enough in spirit that I think it is the best way of understanding that dispute . . . I will argue that, regardless of whether you are a relationalist or a substantivalist, you can be a realist about spatiotemporal structure. I do this by framing the debate in terms of fundamentality and ground, notions that have gotten lots of press recently in metaphysics. (4)

Given that, as she says, you can be a realist about spatiotemporal structure even if you are a relationalist, then we have a way of making sense of the dispute all while saving what to many seems obvious: that space-time (or spatiotemporal structure) exists. Indeed, as North (4) says, this way of putting the dispute allows us to “formulate the most plausible—if not entirely traditional—versions of the two main positions on it”.

*Wholes.* Moving to composite objects, Baker (2007: 192) says that mereological sums

come into existence automatically when their parts come into existence: there is a sum whose parts are your left eyebrow and Tony Blair’s favorite shirt, simply *in virtue of* the existence of your left eyebrow and Tony Blair’s favorite shirt. In this way, *sums are ontological free-riders.* (italics mine)<sup>13</sup>

The import of her statement is clear.<sup>14</sup> There should be no ontological scruples with sums over and above any such scruples with their parts — they are ontological free-riders, their existence is

automatic — since for any things, there are sums with those things as parts simply in virtue of those things existing.

*Parts.* Finally, consider existence monism, which says that there is only one concrete thing and that this thing is the universe (Horgan and Potrč 2000). Now this is a hard view to accept, banishing from existence the universe's proper parts. But Schaffer (2010a) has it that we can save these parts all while giving primacy to the universe if we think that what there is one of is not concrete things *per se*, but *fundamental* concrete things. Add to this that this fundamental concrete thing, the universe, grounds all other concrete things and we have priority monism. Now this kind of monism is, like existence monism, radical. But its radicality lies in the direction it has grounding going in (from whole to part) and not in the ontology it posits. Unlike existence monism, it retains the ontology of proper parts of the universe.

Because of the above work grounding can and does do, grounding is seen by some as providing us with a kind of ontological safe space. For things like properties, matter, temporal parts, the past and the future, space-time, sums, proper parts, and more, grounding is a shelter from the many (to some dubious) denials of existence ontologists have been prone to make. And grounding is seen as this shelter because although these things exist, they are not fundamental.<sup>15</sup>

It is worth relating the strategy of saving portions of ontology via grounding to an issue in metaontology. Schaffer (2009) has put forward a metaontology according to which the central questions and issues of ontology are not existence questions and issues but grounding ones. For him, the existence questions that have dominated contemporary ontology are, unlike grounding

questions, trivially answered in the affirmative. As he says “The deep questions about numbers, properties, and parts (*inter alia*) are not *whether* there are such things, but *how*.” (361-2)<sup>16</sup>

Schaffer’s metaontology is controversial. But it does go well with grounding’s ability to save the ontology. Why give up on the Fs, especially if we have independent and decisive reasons for accepting that there are Fs, if we can ground them in things we already accept?<sup>17</sup> Still, there is nothing about grounding that mandates that we be permissive with respect to what exists (and Schaffer is not saying that it does). Making it easier to be a permissivist about what exists is one thing. Demanding that we be permissive is another.

### **3 Pricing the Ontology**

Other relations have been put to the task of saving the ontology. Chief among these is reduction (others include supervenience and translatability). But attempted reductions of one kind of entity to another (for e.g., the mental to the physical, the moral to the natural, the whole to the parts) have struck many as implausible. One potentially nice thing about grounding’s ability to save the ontology is that it need not require reducing what we are trying to save to something else that, on the face of it, looks rather different. Not only can it save the ontology, but it can, at least in principle, do so while preserving what seems true of it. Still, some might not see in this much comfort. After all, is not a theory with just individuals simpler than a theory with individuals and properties? And if simpler, then should we not, on grounds of simplicity, prefer it?

The problem here is perhaps significant. If grounding can do saving work only at the expense of inflating the ontology, then perhaps this work of grounding is not worth it. But a number of grounding theorists disagree. They think that one can inflate the ontology without incurring a cost. Here is their thought.

Orthodoxy has it that *ontological* simplicity should be measured in terms of the number of entities or kinds of entities a theory quantifies over.<sup>18</sup> We can express this in the following principle of ontological simplicity

$T_x$  is simpler than  $T_y$  if and only if  $T_x$  has less entities than  $T_y$ .<sup>19</sup>

Here, when it comes to ontological simplicity, the price of an ontology should be measured in, and only in, the number of entities. Given then that ontological simplicity is a guide to truth, this principle supports the following maxim

**The Razor.** Do not multiply entities without necessity!

But a number of philosophers are now questioning the above principle and the maxim it supports (Schaffer 2009, 2015; Cameron 2010: 250, 2014: 100; Sider 2013: 240; Bennett 2017: 220-9).

According to them, the following principle of ontological simplicity does better

$T_x$  is simpler than  $T_y$  if and only if  $T_x$  has less *fundamental* entities than  $T_y$ .

If we say that to be fundamental just is to be ungrounded, then this principle amounts to

$T_x$  is simpler than  $T_y$  if and only if  $T_x$  has less *ungrounded* entities than  $T_y$ .<sup>20</sup>

So when it comes to ontological simplicity, the price of an ontology should be measured in, and only in, the number of ungrounded entities. And this, coupled with the claim that simplicity is a guide to truth, supports another maxim (this is Schaffer's name for it)

**The Laser.** Do not multiply ungrounded entities without necessity!

The Laser is attractive. But we want reasons to accept it. Here are four:

*Reason 1.* Schaffer (2015: 648) argues that The Laser gets cases concerning ontological simplicity right. In order to convince us of this, he provides us with the following thought-experiment

Esther posits a fundamental theory with 100 types of fundamental particle. Her theory is predictively excellent and is adopted by the scientific community. Then Feng comes along and — in a moment of genius — builds on Esther's work to discover a deeper fundamental theory with 10 types of fundamental string, which in varying combinations make up Esther's 100 types of particle. This is intended to be a paradigm case of scientific progress in which a deeper, more unified, and more elegant theory ought to replace a shallower, less unified, and less elegant theory. Feng's theory is evidently better in every relevant methodological respect.

In spite of having more overall entities, Feng's theory does better when it comes to ontological simplicity than does Esther's *because it has less ungrounded ones*. We thus have reason to think

that The Laser, and not The Razor, is the preferable maxim (see Bennett (2017: 220-1) for a similar argument).

*Reason 2.* Schaffer (2015: 648-651) gives us the following argument by analogy. When it comes to conceptual simplicity, all that matters are one's undefined notions. Once you have FEMALE and UNMARRIED in your conceptual toolbox, adding to it BACHELORETTE does not count against conceptual simplicity. Given that "it is defeasibly reasonable to treat ontological economy and conceptual economy as relevantly analogous" (649), we have reason, in the above fact about how to measure conceptual simplicity, to prefer The Laser over The Razor.

*Reason 3.* Schaffer (2015: 651-3) focuses again on conceptual simplicity. He begins by noting that the more useful concepts we can define from our stock of undefined ones, the more powerful our theory will be. We should therefore go in for

**Conceptual Bang for the Buck.** Optimally balance minimization of primitive (undefined) concepts with maximization of defined concepts (especially useful ones).

Given the analogy between conceptual and ontological simplicity, we should therefore accept

**Ontological Bang for the Buck.** Optimally balance minimization of fundamental (ungrounded) entities with maximization of derivative entities (especially useful ones).

Given this, which “pressures one to minimize fundamental entities” (653), we have reason to think that it is the number of ungrounded entities that matters when it comes to simplicity and not the number of entities *tout court*.

*Reason 4.* Bennett (2017: 223) provides us with an argument on the basis of considerations of modality and probability. Consider theories T- and T+, which differ only in the number of grounded entities they posit: T+ posits some while T- posits none and both posit the same ungrounded entities. Now if we make a modal assumption, it turns out that T- is no more likely to be true than is T+. Here is the assumption: grounds necessitate what they ground.<sup>21</sup> So the grounded entities T+ posits are necessitated by those ungrounded entities that T+ and T- share. Given the following theorem of the probability calculus

If  $A \vdash B$ , then  $\Pr(A) = \Pr(A \& B)$ ,

it follows that the probability of T+ is the same as the probability of T- on account of the entities T- posits entailing, in T+, the entities T+ posits. Bennett concludes that “T+’s extra ontological commitments do not tell against its simplicity in a way that makes it less likely to be true” (223). And since this notion of simplicity is the notion of simplicity at work, it follows that The Razor, but not The Laser, gets it wrong when it comes to ontological simplicity.

Worries have been raised with The Laser, some of which are anticipated by Schaffer (2015: 654-64) and Bennett (2017: 223-6). Some are also taken up and extended on by Turner (2016: 382-5), Baron & Tallant (2018), and Fiddaman & Rodriguez-Pereyra (2018).<sup>22</sup> I will not describe

these worries here. My aim has only been to show that according to grounding enthusiasts, saving the ontology need not come at a price. For they can say that the ontological price of a theory is measured in terms of the number of ungrounded entities. Since what is being saved is being grounded, then, unless saving these entities requires that we expand on our ungrounded base, what is being saved will come for free.

## 4 Restricting the Ontology

Up to this point, we have said next to nothing about what it takes to ground something, and so to ground something that we hope to save. What I want to do in this section is discuss a number of principles of grounding that restrict, in some manner or other, what can ground what.<sup>23</sup>

*Modal Restrictions.* Where the necessity at work is metaphysical necessity, consider the following much talked about modal principle

**Necessitation.**  $x_1, \dots, x_n$  ground  $x \rightarrow \Box(x_1, \dots, x_n \text{ exist} \rightarrow x \text{ exists})$ .

That is, if some things ground something, then necessarily, if the former exist, then so does the latter.<sup>24</sup>

Necessitation tells us that we cannot posit in our ontology grounded things that are not necessitated by what grounds them. Though not usually made explicit, this thought plays an important role in arguments against non-reductive physicalism from the possibility of zombies. Borrowing from Kripke (1972), consider what Kirk (2015: §2) says

Imagine God creating the world and deciding to bring into existence the whole of the physical universe. Having created this purely physical universe, did he have to do any more work to provide for consciousness? ... Physicalists ... are committed to answering no. *They have to say that by fixing the purely physical facts, God did everything that was needed to fix the mental facts about the organisms thereby created, including their thoughts, feelings, emotions, and experiences.* (italics mine)

In saying “God did everything that was needed to fix the mental facts”, it is assuming that if the physical grounds the mental, then once we have the physical, we have the mental. In other words, if the physical grounds the mental, then given Necessitation, there can be no worlds just like this one in all physical respects with no accompanying mental phenomena.<sup>25</sup> But if zombie worlds are possible, then there are. And if there are, then we cannot ground the mental by means of the physical. We must, if we are to have the mental at all, have it at the fundamental level (as seen in physicalism’s chief rivals: property and substance dualism).<sup>26</sup>

Consider the following modal principle, advanced by Saenz (2018), which requires making explicit the structure of the facts related by grounding

**Sensitivity.**  $F(x_1, \dots, x_n)$  grounds  $G(x_1, \dots, x_n) \rightarrow$  if the  $x_1, \dots, x_n$  were to exist but not be  $G$ , they would not be  $F$ .

That is, if that some things are F grounds that they are G, then if these things were to exist but not be G, they would not be F. Saenz argues in favor of Sensitivity by showing that without it, we cannot infer (or infer in the right kind of way) certain plausible counterfactuals.<sup>27</sup>

Now Saenz claims that Sensitivity rules out mereological sums given the following:

1. If  $y$  is a sum of some things, then that these things compose  $y$  is grounded in their existence.

This is supposed to express the thought that for mereological sums, once you have got the parts, you have got all you need in order to explain why those parts compose a whole. Now putting the consequent of 1 in the antecedent of Sensitivity yields:

2. If these things were to exist but not compose  $y$ , then these things would not exist.

This, however, is false. If these things were to exist but not compose  $y$ , then of course they would exist!<sup>28</sup> So given 1 and Sensitivity, 2 follows given the existence of sums. But since we should keep Sensitivity, then either sums or 1 must go. Either way, composition cannot be had so cheaply. That the parts exist does not, on its own, give us composition and so does not give us wholes composed of these parts. If we want composition, we need something more than that the parts exist.

*Determination Restrictions.* Consider a view of the world according to which reality comes in levels with the things at higher levels existing and having the natures they do because the things

at lower levels exist and have the natures they do. To put this in terms of grounding, consider a view according to which the existence and nature of various kinds of things (macroscopic) is completely grounded in the existence and nature of other kinds of things (microscopic). There is something intuitive about this hierarchical picture. But deRosset (2010) raises a problem with it. Here is a constraint on explaining some phenomenon:

**Determination.**  $Fx$  because  $\phi(x_1, \dots, x_n) \rightarrow \forall y_1, \dots, y_n \forall y (\phi(y_1, \dots, y_n) \rightarrow Fy)$ .<sup>29</sup>

That is, if  $x$  is  $F$  because  $x_1, \dots, x_n$  collectively satisfy  $\phi$ , then for any objects  $y_1, \dots, y_n$  and any object  $y$ , if  $y_1, \dots, y_n$  collectively satisfy  $\phi$  (that is, if they collectively satisfy the explanans clause), then  $y$  is  $F$ . The thought here is that something is a bad explanation of  $x$ 's being  $F$  if there is some  $y$  that is just like  $x$  with respect to what explains that  $x$  is  $F$  but where  $y$  is not  $F$ .

Now suppose that we have a transparent raindrop  $r$ , a tectonic plate  $t$ , and that  $r$  is transparent in virtue of facts about its microstructure  $m_1, \dots, m_n$ . So where  $R$  stands for some relation,  $r$  is  $F$  because  $m_1, \dots, m_n$  satisfy  $R$ . Now Determination has it that this explanation is good only if

$$3. \forall y_1, \dots, y_n \forall y (R(y_1, \dots, y_n) \rightarrow Fy),$$

which say that for any things and any thing, if the former things collectively satisfy  $R$ , then the latter thing is  $F$ . But this is logically equivalent to

$$4. \exists y_1, \dots, y_n R(y_1, \dots, y_n) \rightarrow \forall y Fy,$$

which says that if some things collectively satisfy R, then everything is F. Now if  $r$  is F because  $m_1, \dots, m_n$  satisfy R, then some things satisfy R. Assuming then that  $r$  is F, some things satisfy R. So the antecedent of 4 is satisfied. But then everything is F. Assuming that 'F' denotes being transparent, it follows falsely that our tectonic plate  $t$  is transparent! Something must go. Since we should not reject Determination, then what we should reject is that  $r$  is F because  $m_1, \dots, m_n$  satisfy R. But that  $r$  is F because  $m_1, \dots, m_n$  satisfy R follows from the above hierarchical view that the existence and nature of certain things (in our case, macroscopic things) is completely grounded by the existence and nature of other things (microscopic things). So this view must go.

An implication of this argument from Determination is that certain facts about  $r$  must be fundamental. As deRosset (83-4) says,

not every qualitative fact involving  $r$  can be completely explained solely in terms of the properties of other things ... the determination argument ... shows that some of the facts involving  $r$  are fundamental.

For anyone attracted to a view of grounding according to which macroscopic things like raindrops are not part of fundamental reality, something must be said in response to the present restriction on grounding.<sup>30</sup>

Wilson (2012) has raised a problem for thinking that determinables are grounded in determinates. She says the following

So if determinables are to be grounded in determinates — if all facts about (instances of) determinable properties are to be fixed by facts about (instances of) determinate properties — some more complex determinate must be doing the grounding. (15)

Now what principle is being assumed here? Perhaps it is the following

If  $x$  grounds  $y$ , then all facts about  $y$  are to be fixed (that is, grounded) by facts about  $x$ .

But most will reject this. Suppose that  $p$  is true but  $q$  is false. Then  $p$  grounds ( $p$  or  $q$ ). But it's false that all facts about ( $p$  or  $q$ ) are fixed by facts about  $p$  alone. Perhaps we should restrict the quantifiers in this principle to entities (individuals and properties)? In trying to undermine that determinate *properties* ground determinable ones, this fits well with Wilson aim. We thus have

If entity  $x$  grounds entity  $y$ , then all facts about  $y$  are to be fixed (that is, grounded) by facts about  $x$ .

Though controversial, there others who accept something like this principle (Schaffer 2010b: 345; deRosset 2013, 4). Assuming then that this principle is what Wilson has in mind, we now have reason to think that determinates such as crimson do not ground determinables such as red. Here is why. It is a modal fact about red that it is of a type whose instances might be differently determined (even if red is determined by crimson, it need not have been). However, no determinate

of red is such that facts about it are suited to ground the above modal fact about redness. After all, how could a fact about crimson ground that red is of a type whose instances might be differently determined given that crimson necessarily excludes other possible determinates of red (such as maroon)?<sup>31</sup> So,

it may be that determinate instances metaphysically ground certain nonmodal facts about their associated determinable instances. But modal facts and features about entities at a world are also part of the world's inventory! A supposed "ground" for some entity which failed to provide a metaphysical basis for modal facts constitutive of the entity would be an *incomplete* ground, at best. (Wilson 2012: 12)

Given that there is no fact about crimson that could ground why it is that red is of a type that could have had been differently determined (since many other determinate instances of red are such that crimson necessarily excludes them), it follows, by means of the above principle, that crimson does not ground redness.

The implications of this style of argument are far from trivial. Notice that the above principle makes saving the ontology by means of grounding it very hard. If we are idealists who want to save matter by grounding it in the ideal, then it had better be that all facts about material objects are grounded in facts about ideal objects. Or if the priority monist wants to save the parts from the existence monist by grounding them in the universe, then it had better be that all facts about the parts are grounded in facts about the whole. But that these claims are true is by no means obvious. Saying, and even providing arguments in favor of thinking, that matter is grounded in the

ideal is one thing. Ensuring that every fact about matter is grounded in facts about the ideal is something else (as we saw with Wilson, modal facts here seem to be particularly problematic).

In light of this, perhaps the right thing to do is to reject the principle under consideration. Maybe, as Wilson mentions, what should be claimed is that if entity  $x$  grounds entity  $y$ , then all *non-modal* facts about  $y$  are to be fixed by facts about  $x$ . Or as Schaffer says, if entity  $x$  grounds entity  $y$ , then all *non-relational* facts about  $y$  are to be fixed by facts about  $x$ .<sup>32</sup> But if either of these is the way to go, then we need reason to think that modal or non-relational facts should be excluded. Barring this, these restrictions on the above principle seem ad hoc.

## 5 Closing

This paper described three ways grounding has been used when it comes to ontological matters. The first was to retain portions of controversial ontology by means of grounding. The second was to provide an account of ontological simplicity in terms of grounding. And the third was to restrict, by means of principles of grounding, what portions of ontology can be grounded.

Let me close this paper by suggesting a promising direction for future research. When it comes to grounding and ontology, more attention needs to be given to the kind of work we saw being done in §4; work that restricts, by means of principles of grounding, what can be grounded from what. What kind of grounding claims are appropriate to make is not always clear and yet a cursory glance at the literature reveals that it is filled with all sorts and kinds of grounding claims. Now on account of this liberalism, some think that we ought to abandon grounding (see especially Hofweber 2009).<sup>33</sup> But the solution to unbridled use of grounding is not to abandon it, but to put constraints on it. We need to know what kinds of grounding claims we can make. Like theories of mereology, which involve a whole host of principles that significantly constrain what models of

proper parthood we can accept, we need theories of grounding which appeal to principles that significantly constrain what models of grounding we can accept. Then and only then will we be in a position to know, or know better, what grounds what. Then and only then will we be in a position to know whether or not we can ground properties in individuals, matter in idea, temporal part in persisting object, the past and the future in the present, space-time in facts about material bodies, sums in their summands, and parts in wholes.

## Cross-References

Dependence; Explanation; Fundamentality; Modality; Necessity, Physicalism; Truth-making

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## **Biographical Note**

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<sup>1</sup> Meinongianism is an important position in ontology and metaontology (Meinong 1904; Parsons 1980; Zalta 1983; Fine 2009; von Solodkoff and Woodward 2013). In spite of this, I must limit myself here and stick to the more orthodox view that being and existence cannot come apart.

<sup>2</sup> It is perhaps also about this

To tell us what the general nature of the general kinds of things is.

van Inwagen (2001: 1-2) calls much of what goes under this ‘B-ontology’ and Fine (2017: 98) calls it ‘metaphysics proper’. But whatever one wants to call it, I mention it because ontologists *qua* ontologists are very much concerned with it and often times use ‘ontology’ to refer to it. Be that as it may, in this paper I will not concern myself with this aspect of ontology (though issues concerning how things are do play a role in this paper).

<sup>3</sup> As I tell my students, if one wants to know what the subject matter of ontology is, one should simply do and read some ontology. For someone who goes further and tries to define what this subject matter is, see van Inwagen (2012).

<sup>4</sup> These kinds are not mutually exclusive. There is much overlap. It may also be that some of these can be culled. Perhaps individuals, particulars, and substances are extensionally equivalent, as are, perhaps, properties, universals, and modes.

<sup>5</sup> Note that physicists also want to know what, in general, exists. What this shows us is that there is more to doing ontology than asking and answering questions of a sufficiently general type. There is also an epistemic component (Fine 2012a: 9). Whether or not there are fictional objects can be investigated *a priori*. Whether or not there are electrons should not be.

<sup>6</sup> This description is controversial in at least three respects. Not everyone thinks of grounding as a relation (Correia 2010; Fine 2012b; Dasgupta 2014; Litland 2017). Not everyone thinks of it in terms of dependence, favoring instead its explanatory aspect (Fine 2001; Litland 2013; Dasgupta 2014). And not everyone wants to distinguish it entirely from causation (Schaffer 2016; Wilson forthcoming). To the first, we can, in most cases and with some modifications, substitute talk of grounding in terms of a predicate (‘grounds’) with talk of it in terms of an operator (‘because’). To the second, at least when what grounding relates are facts, no harm will be done in speaking of it as an explanatory relation (see §4, where I express a grounding principle in terms of ‘because’). And to the third, even those who think

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that grounding and causation are closely related grant either that it is distinct from causation or that it is a type of causation to be contrasted with the type typically referred to in cases involving the breaking of windows and the hitting of billiard balls.

On how grounding relates to dependence, see Schnieder's contribution. On how grounding relates to explanation, see Glazier's. And on how grounding relates to causation, see Wang's.

<sup>7</sup> Notice that we can also ask what ontology has to "say" about grounding. This can be divided into two. We can ask about the ontology of grounding: does grounding exist? But we can also ask about what an ontology has to say about grounding: given a preferred ontology, how should we think about grounding? Since we need to assume that grounding exists in order to discuss its import on ontology, and since this chapter is devoted to applying grounding to ontology and not ontologies to grounding, I will not address these questions here.

<sup>8</sup> In what follows, I will be neither endorsing nor repudiating the various proposed grounding claims. My aim here is only to describe what some have said with respect to what grounds what.

<sup>9</sup> This involves making two moves. First a *reduction* from properties to sets and then a *grounding* from sets to members. For work on the relationship between reduction and grounding, see Rosen (2010: 122-6), Audi (2012: 704), and Dorsey (2016).

<sup>10</sup> Berkeley (1710) seemed to have held this view. He says in §1 of the Principle of Human Knowledge

It is evident to any one who takes a survey of the objects of human knowledge, that they are either ideas actually imprinted on the senses, or else such as are perceived by attending to the passions and operations of the mind, or lastly ideas formed by help of memory and imagination, either compounding, dividing, or barely representing those originally perceived in the aforesaid ways.

This, coupled with the belief that things like apples are the objects of human knowledge by means of being imprinted on the senses (something Berkeley believed), entails that things like apples are not material but ideal. See also Bradley (1893: 144) and McTaggart (1934: 273), whom Guyer and Horstmann (2018: §8) call 'spiritual monists' on account of their thinking that reality is exclusively spirit.

<sup>11</sup> For example, van Inwagen (2000: 442-48) argues against four-dimensionalism by arguing that there are no such things as temporal parts. And Wiggins (1980: 25) says that three-dimensional continuants are "things with spatial

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parts and no temporal parts”. Even Sider (2001: 64-7), who argues that three-dimensionalism cannot be defined as the denial of persisting objects having proper temporal parts, grants that three-dimensionalism permits the possibility of persisting objects with no proper temporal parts.

<sup>12</sup> To be strict, North frames it in terms of spatiotemporal facts about the world, or spatiotemporal structure, and not in terms of space-time.

<sup>13</sup> Armstrong (1997: 120) says something similar when he says of sums that “they are no increase of being beyond that of their parts” and that they have “no real metaphysical consequences”. But whether he has in mind grounding here or something else is unclear. For a discussion on understanding what Armstrong may have in mind here that does not appeal to grounding, see Sider (2015).

<sup>14</sup> In spite of the import of her statement being clear, her statement is not. Is it saying that that these things are parts of the sum in virtue of existing or that the sum exists in virtue of these things existing? In the first case, what is being grounded is a relational fact — that these are parts of that — and in the second case, an existential fact — that the sum exists. Now either way, sums come for free, and this is the part her statement makes clear. Still, we have a difference which makes a difference. For some focus their attack on the ontology of sums (Koslicki 2008) while others on the ontology of parthood (Sider 2013, though he phrases it in term of the ideology, and not ontology, of parthood).

<sup>15</sup> It is an implication of this that grounding cannot help to save, in the manner presently discussed, entities deemed to be fundamental (unless, of course, you give up on that entity’s being fundamental). On how grounding relates to fundamentality, see Bliss’s contribution.

<sup>16</sup> Grounding also relates to views of ontological commitment, another metaontological issue. On grounding and a Quinean view of ontological commitment, see Schaffer (2009: 366-73). On discussion of grounding and ontological commitment by way of truthmaking, see Cameron (2008, 2010) and Schaffer (2008). And for a nice overview of various metaontological positions one can take on grounding, fundamentality, and ontological commitment, see von Solodkoff and Woodward (2013).

<sup>17</sup> Of course, this is a big ‘if’. It might turn out that grounding something in something else will prove quite hard (see §4). It might also turn out that even if we can ground something in something we already accept, doing so incurs a cost (see §3).

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<sup>18</sup> Ontological simplicity is to be contrasted with theoretical elegance (Baker 2016; Bennett 2017, 227-8) and ideological simplicity (Sober 2001, 14; Cowling 2013). The former has to do with the complexity of the explanations being given and the latter with the primitive notions a theory makes use of.

<sup>19</sup> Whether we should count in terms of entities or kinds of entities is a matter of some dispute (Lewis 1973: 87; Nolan 1997). Though I will talk in terms of the number of entities, feel free to interpret what I say in term of kinds. Nothing of import hangs on this.

<sup>20</sup> For more on fundamentality, see Bliss's contribution to this volume.

<sup>21</sup> On grounding and necessity, see Skiles' contribution to this volume.

<sup>22</sup> Baron & Tallant and Fiddaman & Rodriguez-Pereyra also seek to show that Schaffer's arguments for The Laser fail and, in Baron & Tallant's case, that two common reasons to accept The Razor do not amount to reasons to accept The Laser.

<sup>23</sup> I have expressed a number of these principles using standard logical notation. However, in order not to require that the reader be familiar with such notation, I have also expressed these principles in a way that requires little to no familiarity with logical notation.

<sup>24</sup> For discussion of this principle, see Skiles' contribution to this volume,

<sup>25</sup> The kind of saving done by physicalism here is not so much saving what others have banished. It is rather saving what almost everyone accepts in such a way that no ontological costs are incurred (see §3).

<sup>26</sup> In a similar vein, Necessitation tells us that we cannot posit truths that are not necessitated by what grounds them, their truthmakers (on how grounding and truthmaking relate, see Trogdon's contribution to this volume). For more on this when it comes to making true past-tensed truths, see Caplan & Sanson (2011) and Ingram & Tallant (2018: §6). For more on this when it comes to universal and negative truths, see Russell (1918: Chapter 5) and Armstrong (2004: Chapters 5 & 6). And on whether truthmakers ground what they make true, see Saenz (forthcoming).

<sup>27</sup> But see Kappes (forthcoming) for a reason to think that we can secure these counterfactuals without appealing to Sensitivity.

<sup>28</sup> Saenz (2018, 108-9) assumes that counterpossibles have non-trivial truth-conditions.

<sup>29</sup> There are some syntactic differences here between how deRosset formulates this principle and how I formulate it. But these differences are, for our purposes, immaterial.

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<sup>30</sup> One very natural response is to require that some intimate relation hold between  $x_1, \dots, x_n$  and  $x$  such that the consequent of Determination holds only when this requirement is met (deRosset (2010: 83) considers such a response but argues that it will not do). For another kind of response, see von Solodkoff (2012).

<sup>31</sup> Wilson here seems to be relying on this principle of grounding:

If a fact about entity  $x$  grounds that entity  $y$  could have been F, then this fact about  $x$  is consistent with  $y$  being F.

Is this principle true? I will leave deciding this to the reader.

<sup>32</sup> Schaffer says this by way of personal correspondence with deRosset. See deRosset (2010: 74).

<sup>33</sup> But see Raven (2012) for a response to Hofweber.