Grounding Necessitation and Composition

Grounding orthodoxy holds that the grounds necessitate the grounded. That is, if the $x$s fully ground $y$, then, necessarily, if the $x$s exist, then $y$ exists. This paper examines the claim that the grounds necessitate. First, I will argue that grounding necessitation requires a commitment to a further thesis, internality. Internality holds that if the $x$s fully ground $y$, then, necessarily, if the $x$s exist and $y$ exists, then the $x$s fully ground $y$. This claim is important, because internality and necessitation are typically understood as separate theses. But something more important follows. For, I shall argue, internality is false. Given the relationship between necessitation and internality, this provides good reason to reject the claim that the grounds necessitate.

1. Grounding Necessitation

Here is how I will understand grounding. It is a non-causal relation of metaphysical dependence that holds between distinct entities. It is cross-categorical. That is, the grounding relation can hold between entities of different ontological categories. It is closely related to metaphysical explanation. The grounds metaphysically explain the grounded. I will assume all of this in what follows.

Here are two further claims about grounding:

**Necessitation:** If the $x$s fully ground $y$, then, necessarily, for any world or time, if the $x$s exist, then $y$ exists.

**Internality:** If the $x$s fully ground $y$, then, necessarily, for any world or time, if the $x$s exist and $y$ exists, then the $x$s fully ground $y$.

---

2 I follow Schaffer (2009), Bennett (2011), and deRosset (2013) here. An alternative approach takes the grounding relation to be a relation that holds solely between facts. See for instance, Rosen (2010) and Audi (2012).
3 I will remain agnostic as to whether the grounding relation is itself an explanatory relation, see Fine (2001) and Dasgupta (2014), or is a backing relation that underwrites explanation, see Audi (2012) and Schaffer (2012).
4 I will also assume a worldly conception of facts, where facts have individuals, properties, and relations as constituents. A fact, then, is something like an Armstrongian state of affairs.
Necessitation is the orthodox position. For instance, Gideon Rosen, Paul Audi, and Kit Fine all accept some version of necessitation.\(^5\) Internality, while more controversial, is also a popular thesis.\(^6\) What is important for the purposes of this paper, however, is that necessitation and internality are typically understood as independent.\(^7\) That is, a proponent of grounding could endorse necessitation while denying internality. But this, I will argue, is false. A commitment to necessitation requires a commitment to internality. I will show that a prominent argument for necessitation, due to deRosset (2010), relies on internality. That is, this case for necessitation succeeds only if it is a case for the combination of necessitation and internality. This provides good evidence that a commitment to necessitation requires a commitment to internality.

Call this argument the *Confounding Cases Argument*.\(^8\) The argument focuses on the explanatory role of grounding, and supposes that if grounded entities were not necessitated by their grounds, then grounding could not play the explanatory role it is meant to. Consider the following line of reasoning. An explanation of some facts should “trace how those facts are determined” (deRosset 2010, 8). As deRosset puts, “a good explanation of \(r\)'s having a certain feature \(F\) in terms of facts \(g_o, g_2, \ldots\) should show why \(r\) had to be \(F\), given \(g_o, g_3, \ldots\)” (8). There is something wrong with an explanation if there are cases in which something is just like \(r\) but fails to be \(F\). That is, if there is a “situation in which some individual \(i\) is just like \(r\) so far as the explanans goes, but fails to be \(F\)” (deRosset 2010, 9-10). Call such a situation a confounding case. A good explanation has no such confounding cases.

---

\(^5\) See Rosen (2010, 118), Audi (2012, 697), and Fine (2012, 2). There are also dissenters to this orthodoxy, see for instance Dancy (2004, 38-52), Leuenberger (2014), and Skiles (2015).

\(^6\) This thesis is adapted from Leuenberger (2014). See Litland (2015) for more on internality and a list of defenders (p 481).

\(^7\) For instance, Stephan Leuenberger, who refers to necessitation as Entailment, writes, “Entailment and Internality are logically independent claims about grounding...Accordingly, I will argue for their falsity separately” (2014, 155). Similarly, Jon Erling Litland, who also refers to necessitation as Entailment, writes “(Entailment) and (Internality) are independent principles. The counterexample below is a counterexample to (Internality) only; as far as the counterexample itself goes, one can keep (Entailment)” (2015, 487).

\(^8\) This argument is due to deRosset (2010). See also Skiles (2015, 741-745).
From here, the argument for necessitation is straightforward. Suppose that the $x$s fully ground $y$. Given the explanatory role of grounding, this means that the explanatory proposal ‘$y$ because of the $x$s’ is a good one. Now, suppose necessitation is false. If the grounds fail to necessitate, then there could be confounding cases for the explanatory proposal ‘$y$ because of the $x$s’. This is because there could be instances where the $x$s exist, but $y$ does not. However, if there are such confounding cases, then the explanatory proposal ‘$y$ because of the $x$s’ is a bad one. But we’ve already stipulated that it is a good explanatory proposal, because the $x$s fully ground $y$. Since grounding underwrites such explanatory proposals, the grounds must necessitate. Put another way, if the grounds did not necessitate then the full grounds would lose their connection with explanation. So, the grounds must necessitate.

This argument requires a commitment to internality. That is, if internality is false then the argument fails. For suppose that internality is false. Necessitation is compatible with worlds in which the $x$s exist and $y$ exists, but the $x$s do not ground $y$. So, there are worlds in which the $x$s exist and $y$ exists, but the $x$s do not fully explain $y$. But in such worlds the explanatory proposal ‘$y$ because of the $x$s’ is a bad one. Necessitation alone does not prevent such cases where explanation breaks down. So, if internality is false, then the confounding cases argument for necessitation fails. For the central inference in the argument is that necessitation is needed to prevent such explanatory breakdowns. But necessitation alone does not prevent such explanatory breakdowns.

However, if internality is true, all of the cases in which the $x$s exist and $y$ exists are cases in which the $x$s fully ground $y$. And so these are all cases in which the $x$s fully explain $y$. Since the existence of the $x$s and $y$ entails that the $x$s ground $y$, there is no world in which the $x$s exist and $y$ exists and the explanatory proposal ‘$y$ because of the $x$s’ is a bad one. So, the confounding cases argument can succeed only if internality is true. Or rather, the confounding cases argument is really an argument for both necessitation and internality.
The confounding cases argument only succeeds if it is an argument for both necessitation and internality. That is, if internality is false, then the confounding cases argument for necessitation fails. Furthermore, this argument relies on the claim that the explanatory role of grounding requires necessitation. Given the importance of the explanatory role of grounding, this provides good reason to suppose that a commitment to necessitation requires a commitment to internality. While they are logically independent theses, they go together given broader metaphysical assumptions about grounding. This also means that if internality is false, then one of the main arguments for endorsing necessitation fails. And this, I take it, would be good reason to reject necessitation. So, if internality is false, then we have good reason to reject necessitation. And, as it turns out, internality is false. Or so I argue in the next section of the paper.

2. Against Internality and Necessitation

The previous section began by outlining some assumptions about grounding. Here is a further assumption. Composite objects are grounded in their suitably arranged parts. A suitable arrangement of parts is best understood as a fact with objects and relations as constituents (Saenz 2015, 7). This assumption is warranted because composition is a paradigm case of grounding. For instance, mereological nihilism denies that there are any composite objects. That is, no two (or more) objects compose any further object. If nihilism is true, then there are no composite objects. But the nihilist shouldn't go in for grounding to begin with. For if nihilism is true, it seems that we have an ontology where each mereological simple is equally fundamental. That is, we give up entirely on the idea of a

---

9 Of course, there are other arguments for necessitation. See for instance, Rosen (2010, 118) and Trogden (2013). In the interest of space, I've focused on one argument here. However, I believe these other arguments also require a commitment to internality to succeed.

10 A number of philosophers explicitly endorse this claim. See, Saenz (2015, 7), Skiles (2015, 721-22), and Cameron (2014, 13).

11 For a defense of this strict characterization of nihilism see Dorr (2002, 2005). Merricks (2001) and van Inwagen (1990) defend restricted forms of composition that are similar to the nihilist view.
leveled reality. This suggests that composition is a paradigm case of grounding, for denying the existence of composites fits uncomfortably with the grounding project.\footnote{Indeed, even some who don’t go in for grounding still accept that if there was a grounding relation, then composition would be a paradigm case (Wilson 2014, 539).}

I will assume that composite objects are grounded in their suitably arranged parts.\footnote{Denying this assumption would be one way to resist the argument that follows. One way to do so would be to endorse priority monism, the thesis that the maximal concrete whole, the cosmos, fully grounds its parts (Schaffer 2010, 31). If priority monism is true, then the parts are grounded in their wholes, and so the monist could deny my assumption. So priority monism would be one was to save internality and necessitation. But while most proponents of grounding endorse at least necessitation, few endorse priority monism. So, even taking this escape route would show that the orthodoxy is not so orthodox after all.} And this assumption is warranted, because composition is a paradigm case of grounding. This assumption is important, for if composite objects are grounded in their suitably arranged parts, then internality is false. And as I argued in the previous section, this provides good reason to reject necessitation as well.

Here is the argument:

(1) At $t_1$, the composite object $y$, is fully grounded in its suitably arranged parts, the $xs$ (Ass)

(2) At $t_2$, $y$ loses a part, so the composite object $y$, is fully grounded in its suitably arranged parts, the $xs-1$ (Ass)

(3) The suitably arranged $xs-1$ exist at $t_1$ (Ass)

(4) The suitably arranged $xs-1$ do not fully ground $y$ at $t_1$ (1,3)

Therefore, (5) Internality is false (2, 4)

Suppose that the $xs$ fully ground $y$. Internality is false if there is a world or time where the $xs$ exist and $y$ exists, but the $xs$ do not ground $y$. The combination of (2) and (4) generates such a counterexample. So, they entail the falsity of internality.

The argument is valid. (4) follows from (1) and (3). One way to deny this inference would be to maintain that $y$ has multiple full grounds at $t_1$. So, both the $xs$ and the $xs-1$ fully ground $y$ at $t_1$. Now, some entities do have multiple full grounds. For instance, disjunctive facts are fully grounded in their disjuncts. If both disjuncts obtain, then the disjunctive fact is fully grounded in each disjunct.
But this option is unattractive in the case of composition. For instance, if \( y \) had multiple full grounds at \( t_1 \), then the \( \times \) would seem entirely irrelevant. After all, the \( \times -1 \) are a subset of \( \times \). If the \( \times -1 \) are capable of doing all of the explanatory work at \( t_1 \), then it renders the \( \times \) superfluous. It is better to hold that if the \( \times -1 \) are doing any explanatory work at \( t_1 \) as a part of the \( \times \). The \( \times -1 \), in other words, are merely partial grounds at \( t_1 \).

So, the argument is valid. It is also sound. (1), (2), and (3) are all true. Objections to (1) and (2) will run together. Here is one such objection. Suppose perdurantism is true.\(^{14}\) Then, objects perdure through time. Objects are four-dimensional, with different temporal parts at different times. In slogan form, objects are spread out in time just as they are spread out in space. So, for instance, I change from sitting at \( t_1 \) to standing at \( t_2 \) by having a temporal part that sits and one that stands. The combination of perdurantism and grounding would yield something like the following picture: a perduring object is fully grounded in its temporal parts, suitably arranged.\(^{15}\)

The combination of perdurantism and grounding render (1) and (2) false. \( y \) is not wholly present at \( t_1 \) or \( t_2 \). Rather, there are temporal parts of \( y \) at those times, and those temporal parts are grounded in the suitably arranged parts the \( \times \) and \( \times -1 \), respectively.\(^{16}\) In fact, (2) is doubly false. For it is not the case that \( y \) loses a part at \( t_2 \). Rather, the temporal part of \( y \) at \( t_2 \) differs from the temporal part of \( y \) at \( t_1 \). Furthermore, if the argument is modified such that the premises are put in terms of temporal parts, then it is invalid. A situation in which the \( \times -1 \) fully ground a temporal part of \( y \) at \( t_2 \), but fail to fully ground a temporal part of \( y \) at \( t_1 \) is not a counterexample to internality. So, the

---

\(^{14}\) The most prominent defender of perdurantism is Lewis (1986). See, Hawley (2015) for an overview of the debate about temporal parts.

\(^{15}\) This picture may not be quite right. For defenders of perdurantism often take the perduring object to be the sum of its temporal parts, see Sider (2001, 140) and Merricks (2001, 22) for discussion. If this is a relation of identity, then grounding can't do the job. For the grounding relation is not a relation of identity, see Rosen (2010, 122-126) for discussion. But this is no threat to the argument, for it simply eliminates the perdurantist option.

\(^{16}\) Just for ease of use, I won't refer to the temporal parts of the \( \times \) and the \( \times -1 \).
combination of perdurantism and grounding renders (1) and (2) false. And if the argument is modified in light of this combination, then it is invalid.

However, the perdurantist response fails. There are modal versions of the argument that succeed even if perdurantism is true.\(^{17}\) For suppose that there is a perduring object, call it Statue, that is fully grounded in its suitably arranged parts, the \(\text{tp}_s\). But Statue might not have existed for as long as it did. So, it is possible that Statue is fully grounded in a subset of the \(\text{tp}_s\), the \(\text{tp}_s\)-1. Possibly, the \(\text{tp}_s\)-1 fully ground Statue. But actually, Statue is not fully grounded in the \(\text{tp}_s\)-1. So, both Statue and the \(\text{tp}_s\)-1 exist, but Statue is not grounded in the \(\text{tp}_s\)-1. Since there is a world in which the \(\text{tp}_s\)-1 fully ground Statue, this is a counterexample to internality. So, even if perdurantism is true, internality is false.\(^{18}\)

(1) and (2) are true. This leaves (3) as the only premise in need of defense. (3) is only false if the suitably arranged \(\text{xs}\)-1 did not exist at \(t_1\). Now, of course those parts exist at \(t_1\). The question is whether they are suitably arranged. That is, the question is whether there is a suitable arrangement fact at \(t_1\) that has the \(\text{xs}\)-1 and the relations and properties instantiated by those entities as constituents. And it seems as if the defender of necessitation and internality had better think they are. For at \(t_2\) \(y\) is fully grounded in the suitably arranged \(\text{xs}\)-1. So, at \(t_2\) the suitably arranged \(\text{xs}\)-1 fully explain the existence of \(y\). In order for the \(\text{xs}\)-1 not to be suitably arranged at \(t_1\), then, it would have to be the case that some facts about the suitably arranged \(\text{xs}\)-1 did not obtain at \(t_1\) but do at \(t_2\). But the only change from \(t_1\) to \(t_2\) is the elimination of a part that has nothing to do with the arrangement fact involving the

---

\(^{17}\) Note, this argument is not a version of the modal argument against perdurantism, see van Inwagen (1990b) and Sider (2001, 218-224). First of all, this is not an argument against perdurantism. Second, nothing in this argument relies on temporal parts being modally inductible, where a temporal part is modally inductible iff it could not have existed longer than it did (Sider 2001, 219). As such, counterpart theory is not able to come to rescue, as it might in the case of the modal argument against perdurantism.

\(^{18}\) One way to avoid this argument is to endorse mereological essentialism, the thesis that for any composite object, \(O\), that object is composed of its parts \(o_1, \ldots, o_n\) in every world (and at every time) in which \(O\) exists (Merricks 2001, 24). I will assume mereological essentialism is false. And this assumption is warranted, as the defender of grounding seems to have good reason to reject the thesis. After all, the orthodoxy holds that the grounds necessitate the grounded, but not vice versa.
xs-1. So it is difficult to see what facts about the nature of the arrangement change from \( t_1 \) to \( t_2 \). And without any such change, we should take the \( \text{xs-1} \) to be suitably arranged at \( t_1 \).

Here is an objection to this line of reasoning. Perhaps the arrangement includes certain extrinsic features. And it is change in those extrinsic features from \( t_1 \) to \( t_2 \) that makes the arrangement of the \( \text{xs-1} \) sufficient to ground \( y \) at \( t_2 \) but not at \( t_1 \). Here is an example. Peter van Inwagen thinks that some \( \text{xs} \) compose some \( y \) iff the activity of the \( \text{xs} \) constitutes a life (1990, 90). So, a human organism would be grounded in its arranged parts, the \( \text{xs} \), and the fact that the activities of the \( \text{xs} \) constitute a life. A life, though, is a jealous event. As van Inwagen puts it, “Lives...are jealous. It cannot be that the activities of the \( \text{xs} \) constitute at one and the same time two lives” (1990, 89). So, if the activity of the \( \text{xs} \) constitutes a life, then the activity of any subset of the \( \text{xs} \), such as the \( \text{xs-1} \), do not themselves constitute a life.

If suitable arrangements are jealous in this way, then there is a change from \( t_1 \) to \( t_2 \) that makes a difference. That is, there is a change in the facts such that the \( \text{xs-1} \) are not suitably arranged at \( t_1 \) but are so arranged at \( t_2 \). This means that (3) is false. The parts of the \( \text{xs-1} \) could exist at \( t_1 \), but would not be suitably arranged. In the case of a human organism, for instance, they would not constitute a life.

But not all suitable arrangements are jealous. A statue, for instance, is grounded in its parts being arranged statuewise. But surely a statuewise arrangement is not jealous in van Inwagen’s sense. It doesn’t make a difference to whether certain parts are arranged statuewise if subsets of those parts are also arranged statuewise. Statuewise arrangements, then, are not jealous. So, since there are instances where arrangements are not jealous, there are instances where (3) is true.

Furthermore, there is nothing in this claim about statuewise arrangements that implies that there are multiple statues. There is one statue, \( y \), at \( t_1 \) that is fully grounded in the \( \text{xs} \), even though there may be other suitable arrangements, such at the \( \text{xs-1} \). Perhaps this means we should accept that the property of being a statue is maximal, where a property like being a statue is maximal just in case parts
of the statue are not themselves statues. Such a maximal property is extrinsic, but it is a property instantiated by the grounds not the grounded. So, even if being a statue is a maximal property, the instantiation of which is grounded in the xs, this does not imply that the xs-1 are not a suitable arrangement at t₁. So, again, there are instances where (3) is true.

This completes the defense of (3). The argument is sound, so internality is false. Furthermore, if internality is false, then we have good reason to reject necessitation. So, we have good reason to reject necessitation. The orthodox view that the grounds necessitate should be rejected.

3. Concluding Remarks

Necessitation is the orthodoxy. So, showing there is good reason to reject necessitation is an important result. Furthermore, in rejecting necessitation we learned some interesting things about the case for necessitation. Namely, the case for necessitation is also a case for internality.

The rejection of necessitation and internality has further implications. For instance, rejecting necessitation may undermine the idea that the grounded is an ‘ontological free lunch’ (Schaffer 2009, 353). After all, if the grounds did not necessitate, then we cannot claim that the grounded is nothing ‘over and above’ the grounds. Since it is possible that the grounds exist but not the grounded, positing the grounded would be an additional ontological commitment. Here is another implication. Answering the Special Composition Question (SCQ) has long been a central focus of the debate about composition (van Inwagen 1990, 31). An answer to the SCQ would provide the necessary and sufficient conditions for composition. However, if composite objects are grounded in their suitably arranged parts and the grounds do not necessitate, then the search for such necessary and sufficient conditions is misguided.

---

19 This is the notion of maximality defended by Sider (2001b).
20 Note, rejecting this piece of the grounding orthodoxy does not mean claiming that the grounds never necessitate. For instance, conjunctive facts are certainly necessitated by their conjuncts. Rather, rejecting necessitation means that there are some instances where the grounds do not necessitate. Composite objects are one such case.
After all, if the grounds do not necessitate, then a suitable arrangement of parts might be sufficient for there to be a composite object in one case, but not in another. Given the centrality of the SCQ, this alone is an important point. But it is also important in that it may open new ways of thinking about composition. Rather than searching for general principles of composition, we should instead turn our focus to explanations of particular instances of composition. That is, the question is not whether there are general, necessary and sufficient principles according to which there are tables, but whether there are instances of tables grounded in their suitably arranged parts. An in depth exploration of this suggestion, however, is work for the future.

References


Cameron, Ross. 2014. “Parts generate the whole but they are not identical to it.” In A. Cotnoir and D. Baxter, eds. Composition as Identity. Oxford: Oxford University Press.


