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Grounding Relation(s): Introduction

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Metaphysics has witnessed a dramatic shift of late. While questions about existence, possibility, and necessity still matter to the discipline, the focus now rests on questions about essence, grounding, naturalness, fundamentality, and structure. Metaphysicians have gone from asking merely what there is, could be, or must be, to asking about features of things, and connections among things, that may not be describable merely in terms of existence, possibility, and necessity; for example: what grounds what?

From the perspective of a logical empiricist, the transition from ontology and modal metaphysics to essentialist metaphysics is a passing from dark to still darker days. But Aristotle might see things differently. In fact, one might be tempted to dub this transition “The Aristotelian Turn”. This issue features papers illuminating one of the central notions enabling this recent turn, the notion of grounding.

deRosset

Louis deRosset's paper focuses on a notion used by Kit Fine in an important recent study of formal, or broadly logical, features of grounding (2012). Fine's treatment distinguishes between “strict” and “weak” notions of grounding; deRosset's paper discusses five interpretations or explanations of the notion of weak grounding.

While Fine suggests that the “strict” notion is more familiar, the “weak” one, he suggests, has important and useful formal features, and can even be used to define the strict one. (These formal features become especially important, according to Fine, when one considers “partial,” as opposed to “full” or “complete” grounding; we might want to say that one fact

partly, but not wholly, grounds or explains another, and Fine's paper addresses this distinction as well.)

At a superficial level, Fine's distinction between strict and weak grounds looks like the distinction, commonly made in discussions of mereology, between proper and proper-or-improper part. It is usually assumed, in effect, that it is an analytic truth that nothing is a proper part of itself. But one might, for some purposes, want to work with a notion of part on which a thing is counted as a part of itself, as a kind of limit case. In fact, theorists have found such a notion useful in formalizing theories of the part-whole relation, and so it has been common to work with a notion of "proper-or-improper part."

Let us say, for the moment, that something is a "weak part" of a thing if (and only if) it is either a proper or improper part, and say that something is a "strict part" if (and only if) it is a proper part. Then, the classical assumptions amount to this, that we take as given that (1) x is a weak part of y if and only if either $x = y$ or x is a strict part of y ; and (2) nothing is a strict part of itself. We then have usage close to Fine's usage of "weak" and "strict" grounds.

Roughly speaking, Fine takes it to be characteristic of, if not analytic of, his notions of strict and weak ground that nothing strictly ground itself, that everything weakly grounds itself, and that every weak ground is also a strict ground. But this is only roughly right, since Fine's notion of ground is not, like the notion of part, a notion that relates a thing to a thing. Rather, it is a notion expressed with a variably polyadic sentential operator, so that we might say something more like "that it is snowing and that it is cold (together) ground that it is both snowing and cold." Schematically: p, q ground ($p \& q$).

The polyadicity makes for an important formal difference between strict and weak ground, on the one hand, and proper and proper-or-improper part, on the other. More than one "thing" is allowed on the left-hand side of a grounding claim, and so the situation with "ground(s)" is unavoidably grammatically and logically more complicated than with the classical dyadic-relation grammar of "is part of."

Moreover, Fine seems to have had something more in mind with his distinction than what is conveyed by the comparison with proper and proper-or-improper part. But what exactly? This is the question deRosset addresses. His clear and careful discussion includes illustrative test cases of grounding, and thus sheds light on the notion of ground taken more generally, as well as on Fine's ideas specifically.

Litland

Assume for ease of exposition that grounding is a one-one relation between facts. Then *transitivity* is the principle that if the fact that p grounds the fact that q , and q grounds the fact that r , then p grounds r . Transitivity (or its operator-friendly, polyadic-friendly variants) is a tenet of orthodoxy in the literature on grounding, but one that has recently been called into question by Jonathan Schaffer, who poses a new family of counterexamples (2012). Jon Litland's paper is a response to Schaffer's counterexamples, and an explanation of what grounding might be, in light of their consideration.

Schaffer observes that grounding is "something like metaphysical causation", and since there are well-known counterexamples to the transitivity of causation, it would not be surprising if there were be analogous counterexamples to the transitivity of grounding as well (2012, 122). One of the classic counterexamples to the transitivity of causation is due to Michael McDermott (1995). A right-handed man sets out to detonate a bomb by pressing a button. Before he can do so, a dog bites off his right forefinger, so when he pushes the button, the man uses his left forefinger instead. The dog's bite causes the man to press the button with his left forefinger, and this left-forefinger button pressing causes the bomb to detonate. But the dog bite presumably does not cause the bomb to detonate. If anything, the bite is an impediment to the detonation; the detonation happens despite, not because of, the bite.

Schaffer asks us to consider, in like fashion, an object that is spherical, but for a minor dent (2012, 126). Call the determinate shape of the sphere, "shape S". Shape S is one of many possible shapes that are "more-or-less spherical", i.e., in a range of shapes that differ at most slightly from a perfect sphere. Now, Schaffer claims that the fact that this particular sphere is dented grounds the fact that it has shape S, since being dented is part of what makes it S. Further, the fact that the sphere has shape S grounds the fact that it is more-or-less spherical, since being S is one determinate of the determinable, *being more-or-less spherical*, and facts about determinates always ground facts about their determinables. Nevertheless, the fact that the sphere is dented does not ground the fact that it is more-or-less spherical. The dent seems, if anything, an impediment to the more-or-less sphericity of the object; the object is more-or-less sphericity despite, not because of, the dent.

In both McDermott's case and in Schaffer's, the three-linked chain features an initial link that directly accounts for only one aspect, or part, of the second link (which forefinger is used, or the dented part of shape S). The relation between the second and the third link, however, trades on a different aspect, or part, of the second link (the button pressing, or the

non-dented part of shape S). Thus, despite the fact that the first and third links are both connected to the middle link in some fashion or other, they themselves seem unrelated.

Schaffer proposes a unified treatment of the counterexamples for both causation and grounding in the form of contrastivism (2012, 130). The proper construal of causal claims, according to Schaffer, is not *C causes E*, but, *C rather than C* causes E rather than E**. Likewise, the proper construal of grounding claims is not *the fact that p grounds the fact that q*, but rather, *the fact that p rather than p* grounds the fact that q rather than q**. These more complex construals allow for more nuanced statements of counterexample-free transitivity principles. Thus, instead of simple transitivity, Schaffer proposes the following:

Differential Transitivity: If the fact that *p* rather than *p** grounds the fact that *q* rather than *q**, and the fact that *q* rather than *q** grounds the fact that *r*, rather than *r**, then the fact that *p* rather than *p** grounds the fact that *r* rather than *r** (2012, 132).

Substituting “causes” for “grounds” yields the analogous principle for causation.

Now recall the counterexample cases. In McDermott’s, the dog’s biting off the man’s right forefinger rather than not biting it off, causes the man to push the button with his left forefinger rather than with his right. But the man’s pushing the button with his left forefinger rather than his right forefinger does not cause the bomb to detonate rather than not detonate. It would detonate regardless of which forefinger was used. In the same way, Schaffer’s nearly-spherical object’s being dented rather than not dented grounds the object’s being shape S, rather than being S*, where S* is a shape that is more perfectly spherical than S. But its being S rather than S* does not ground its being more-or-less spherical rather than not, since the object would be more-or-less spherical either way. Thus, differential transitivity neatly accommodates the putative counterexample to simple transitivity.

Schaffer’s contrastive construal of grounding claims and his principle of differential transitivity introduce a complexity best avoided if possible, and Litland claims that it is indeed possible to do so. All of Schaffer’s counterexamples, he argues, trade on a misunderstanding of what grounding is. When the fact that *p* grounds the fact that *q*, *p* explains how it is that *q*, in the sense that *p* is a way for it to be the case that *q*. So understood, grounding turns out to be transitive after all.

In the case of the dented sphere, Litland contends firstly, that the fact that the object in question is dented in some way or other does not ground its having shape S even partially.

Rather, what does the grounding is its having the *particular dent* that it has. Secondly, having *this particular dent* not only partially grounds the object's having shape S, but also the object's being more-or-less spherical, since its being more-or-less spherical consists precisely in its having that particular dent together with its being spherical everywhere else. Thus, transitivity is preserved.

Litland acknowledges the relevant counterfactual, that the object would have been more-or-less spherical even if it were undented, but claims that this counterfactual is independent of the grounding claim, properly understood. The point is that what having *this particular dent* explains is not *why* the object is more-or-less spherical, but *how* the object is more-or-less spherical. This object is more-or-less spherical in part by having this particular dent and in part by being spherical everywhere else. And being a part of such an explanation-how is just what partial grounding amounts to.

Hiller

Though controversial, the notion of identity conditions is at least widely familiar. Identity conditions are the conditions whereby a thing is the thing that it is. Avram Hiller develops an extension of that notion, which he calls "*n*-density conditions", namely, the conditions whereby *n* things are the *n* things that they are. Identity conditions are 1-conditions, but we could equally ask of two things, what the conditions are whereby those two are the two that they are, of four things, what the conditions are whereby those four things are the four things that they are, and so on for any number of objects. Hiller thinks his extended notion of *n*-density has been overlooked because of a powerful but tacit assumption. We tacitly assume that *n*-density conditions are reducible to identity conditions: any *n* things are the *n* things that they are just in case each of the *n* things is the thing that it is. Hiller calls this assumption the "primacy of identity".

Hiller presents a number of putative counterexamples to the primacy of identity, examples in which some things have *n*-density conditions that do not reduce to their individual identity conditions. The cases Hiller has in mind all involve what he calls "grounding-at-a-distance", ontological dependence between spatially distinct objects. He imagines, for instance, a band composed of four distinct members in four personas, such that if any member were to opt out of her persona, the band would cease to exist, and with the band, the personas that made it up. In such a band, the 4-density conditions of the band, which Hiller calls a "4-tet", would be prior to the identity conditions of its members, rather than the other way around.

Others of Hiller's examples do not have the consequence that the destruction of one member of the n-tet destroys all of the others, but they still undermine the primacy of identity. Perhaps two lovers are so crucial to one another's formative period that neither lover would have been the person they are without the other. The identity of the 2-tet is thus prior to the identity of each of the two lovers, but even so, each may be able to survive the other's death. Origin essentialism provides another such case. Further counterexamples to the primacy of identity allow for variation in the number or identity of the individuals involved.

Hiller argues that his cases are not all far-fetched or fanciful; species and ecosystems, he claims, pose problems for the primacy of identity. The identity of the individual members of each species, or parts of an ecosystem, are in an important way, posterior to that of the species or ecosystems to which they belong.

Hiller's paper does a great deal more than offer counterexamples to the primacy of identity. He argues, additionally, that the dependence of members of an n-tet on that n-tet cannot be reduced to mere co-dependence among the members, that his view need not commit us to a rejection of the asymmetry of object dependence, and finally, that if the primacy of identity is false, both ethics and logic stand in need of reform.

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