**GROUNDING AND THE OBJECTION FROM ACCIDENTAL GENERALIZATIONS**

**Brannon McDaniel**

**Abstract**

*Monistic grounding* says that there is one fundamental ground, while *pluralistic grounding* says that there are many such grounds. *Grounding necessitarianism* says that grounding entails, but is not reducible to, necessitation, while *grounding contingentism* says that there are at least some cases where grounding does not entail necessitation. Pluralistic grounding necessitarianism is a very popular position,butaccidental generalizations, such as ‘all solid gold spheres are less than one mile in diameter’, pose well-known problems for this view:the many fundamental grounds of such generalizations do not necessitate them. Though there is a straightforward m mndilemma: either give up pluralistic grounding, or give up necessitarianism.

1. **Grounding Introduced**

Consider the following claims:

1. The chain *depends on* its links.
2. Mental properties are *grounded in* physical properties.
3. That snow is white is true *because* snow is white.
4. Socrates’ singleton set exists *in virtue of* Socrates himself.

(1) – (4) (and others like them) are instances of what many philosophers regard as distinctively metaphysical dependence claims, and there is a growing consensus that such dependence cannot be reduced to, or understood in terms of, more familiar notions such as necessitation.[[1]](#footnote-1) Thus many haveaccepted an alternative *grounding* account of metaphysical dependence. Although grounding shares with necessitation the formal feature of being *transitive*, grounding nevertheless differs crucially in that it is both *irreflexive* and *asymmetric*,[[2]](#footnote-2) whereas necessitation is *reflexive* and *non-asymmetric*. Furthermore, grounding is appropriately fine grained: a statue’s aesthetic properties are grounded in its physical properties, but it is not the case that every property that is necessarily instantiated is grounded in the statue’s physical properties. Unlike necessitation, grounding is not a relation of modal covariation,[[3]](#footnote-3) and so grounding distinguishes cases of genuine dependence (e.g., of the statue’s aesthetic properties on its physical properties) from spurious cases (e.g., of the property *being such that 2+2=4* on the statue’s physical properties).

Finally, some grounders regard grounding as a relation that holds between facts (where a fact is a non-mereological complex consisting of one or more objects instantiating one or more properties or relations) (Audi 2012; Raven 2012; Rosen 2010; and Trogdon 2013a, 2013b), or any entities whatsoever (Schaffer 2009). On the other hand, some other grounders regard grounding, not as a relation, but as a non-truth-functional sententialconnective (Correia 2010; Fine 2012). In what follows, I will understand grounding as a relation between facts.[[4]](#footnote-4)

1. **The Objection from Accidental Generalizations**

For some set of facts Φ, and some particular fact [*p*], Φ *merely* *partially* grounds [*p*] if Φ is a contributing, but not a sufficient, ground for [*p*]; on the other hand, Φ *fully* grounds [*p*] if Φ is a sufficient ground for [*p*]. Let a fact be *fundamental* if no other fact grounds it, and let the *well-foundedness of grounding* be the claim that every derivative (i.e., non-fundamental) fact is fully grounded by some fundamental fact or other (cf. Dixon 2016; Cameron 2008a: 3-4; Rabin and Rabern 2016; and Trogdon 2013b: 108). Given well-foundedness, *monistic grounding* says there is one fundamental ground, while *pluralistic grounding* says that there are many such grounds. Let *Γ* be the set of the actual first-order facts. Let *grounding necessitarianism* be the claim that grounding entails, but is not reducible to, necessitation, and let *grounding contingentism* be the claim that there are at least some cases where grounding does not entail necessitation (as Alexander Skiles 2015: 718 observes, there seem to be no contingentists who accept the stronger claim that there are *no* cases where grounding entails necessitation). Thus, as far as the grounder is concerned,we have two pairs of distinctions:that between monism and pluralism, on the one hand, and that between necessitarianism and contingentism, on the other. These distinctions, in turn, allow for fourcombinations of views, which are both mutually exclusive and, for our purposes, exhaustive: pluralistic grounding necessitarianism (*PGN*), monistic grounding necessitarianism (*MGN*), pluralistic grounding contingentism (*PGC*), and monistic grounding contingentism (*MGC*).[[5]](#footnote-5) Of these four, PGN is by far the most popular, and my goal in this paper is to show that it is false.[[6]](#footnote-6)

Consider the claim that all solid gold spheres are less than one mile in diameter. This generalization, though presumably true, is nevertheless accidentally so, as there is nothing about gold or the laws of nature that prevents such spheres from having diameters of a mile or greater. Suchaccidental generalizations pose well-known challenges for PGN. Let [*gold*] be the fact that all solid gold spheres are less than one mile in diameter, and suppose for *reductio* that PGN is true. From pluralism, it follows that the members of Γ ground [*gold*];[[7]](#footnote-7) from necessitarianism, it follows that the members of Γ necessitate [*gold*].But it is not the case that the members of Γ necessitate [*gold*], for it is possible that these members coexist with a solid gold sphere whose diameter is at least one mile across. Given the standard assumption that full grounds necessitate (Bliss and Trogdon 2014: §5; Correia and Schnieder 2012: 20), it follows that the members of Γ are merely partial grounds for [*gold*]. Thus, as the members of Γ fail to necessitate [*gold*], and, by hypothesis, there are no *other* first-order facts apart from the members of Γ, it follows that there is grounding without necessitation, and so, contrary to our initial assumption, PGN is false.Call this *the objection from accidental generalizations*.

The objection from accidental generalizations assumes that [*gold*] is derivative. One might try to undercut this objection by holding instead that [*gold*] is fundamental; for if [*gold*] *is* fundamental, then it is irrelevant that the members of Γ do not necessitate it. But, given the plausible assumption that [*gold*] is grounded in an array of more fundamental facts about the chemical composition of gold, geometric properties of solid spheres, various distance relations, and so on, [*gold*] is not fundamental.

A different response is to grant that although [*gold*] is derivative, none of the facts that ground [*gold*] are themselves fundamental (i.e., none of the grounding chains that extend “downward” from [*gold*] are well-founded). But if none of the facts that ground [*gold*] are fundamental, then none of these facts necessitate [*gold*] either.This second response rests upon an unsupported assumption, which is that, of those facts that are appropriately regarded as grounding [*gold*], only those that are *fundamental* also necessitate [*gold*]. As I will show in the following section, however, this assumption is false: the standard response to the problem of accidental generalizations posits a special sort of fact that is widely agreed to necessitate [*gold*]; if my arguments are compelling, however, this special fact is not fundamental.

Having failed to undercut the objection from accidental generalizations, the proponent of PGN must respond to it directly.

1. **Why the Straightforward Response Fails**

The objection from accidental generalizations admits of a seemingly straightforward response. Grant thatthe members of Γ do not necessitate [*gold*]; from necessitarianism, it follows that the members of Γ also do not ground the latter fact. Nevertheless,let the *totality fact* be the actual second-order fact [*the members of Γ are all of the facts*]. The totality fact fully grounds [*gold*], and so the totality fact also necessitates [*gold*] (cf. Rosen 2010: 120-121;Trogdon 2013a: 478). It seems that there is no insuperable difficulty for PGN.

Appearances to the contrary notwithstanding, this straightforward response to the objection from accidental generalizations fails. To begin, the totality fact itself is either fundamental or derivative; some proponents of PGN have claimed that it is best regarded as fundamental (cf. Rosen 2010: 121). For instance,as pluralism entails that there are many fundamental grounds, it might seem that there is no decisive reason to deny that the totality fact itself is one of these many grounds.

But, as I will now show, the totality fact is not fundamental. First, we have three options: either (i) the totality fact depends on the members of Γ, (ii) the members of Γ depend on the totality fact, or (iii) the members of Γ and the totality fact are independent. But, second, given that the totality fact is a second-order fact that has the first-order members of Γ as constituents (cf. Armstrong 1997: 197), it follows that the members of Γ and the totality fact are not independent. An analogy will help make the point. As a *singular proposition* is a proposition that is about a particular individual in virtue of having that individual as a constituent, it follows that such a proposition is not independent of its constituent(s). For example, a singular proposition that has Socrates himself as a constituent is not independent of Socrates. But the totality fact is like a singular proposition insofar as it too is not independent of its constituents, and so (iii) is false.[[8]](#footnote-8) Third, from pluralism, it follows that the members of Γ do *not* depend on the totality fact: the latter fact exists *because* the members of Γ exist, and not vice versa. That is, the totality fact is the fact that it is *in virtue of* the members of Γ, and not vice versa. *That is*, as the identity conditions for the totality fact depend on facts about its constituents,[[9]](#footnote-9) the totality fact depends on the members of Γ, and not vice versa (cf. Cameron 2008b: 419-420).Thus (ii) is also false.

If (iii) and (ii) are false, then it follows that (i) is true: the totality fact depends on the members of Γ, which is just to say that the members of Γ ground the totality fact. But if this is so, then the problem is that the members of Γ do not necessitate the totality fact: possibly, some additional facts exist alongside the members of Γ; letting Γ+ be this possible set of first-order facts, Γ+ necessitates a totality fact [*the members of Γ+ are all of the facts*] that is distinct from the original totality fact (i.e., [*the members of Γ are all of the facts*]).

Thus the members of Γ are merely partial grounds for the totality fact. But given both that themembers of Γ fail to necessitate the totality fact, and that there are no other first-orderfacts apart from the members of Γ, it follows that, contrary to PGN, there is grounding without necessitation.So the straightforward response fails, and the objection from accidental generalizations stands.

The argument I have just given closely resembles the objection from accidental generalizations (§2), and both reach a similar conclusion with respect to grounding failure: just as the members of Γ fail to necessitate [*gold*], so also do these members fail to necessitate the totality fact. The proponent of PGN who enlists the totality fact as a response to the objection from accidental generalizations succeeds only in recycling the original problem.[[10]](#footnote-10)

Accidental generalizations thus pose a more difficult problem for PGN than has been previously recognized. Due to grounders’ nearly universal acceptance of pluralism, the objection from accidental generalizations tends to be regarded as an objection to necessitarianism alone (cf. Rosen 2010: 120-121;Trogdon 2013a: 478). Nevertheless, as I will briefly point out in the following section,accidental generalizations do not pose a problem for necessitarianism *per se*; rather, they pose a problem for the conjunction of necessitarianism and pluralism, which is to say they pose a problem for PGN. Pending some other (as yet unarticulated) solution to this problem, the proponent of PGN thus faces the following dilemma: give up pluralism, or give up necessitarianism.

1. **Pluralism or Necessitarianism**

First, rejecting pluralism (while retaining necessitarianism) entails accepting MGN.

Again, I argued in the previous section that pluralism entails that the totality fact is derivative.The current response denies that the totality fact is derivative, and so it follows that this fact is fundamental. If the totality fact is fundamental, then the members of Γ depend on this fact, which entails that pluralism is false; but if this is so, then monism is true (cf. Cameron 2010: 192). To put the point in a different way, the members of Γ are the facts that they are in virtueof the totality fact, and not vice versa. But this is just to say that, as the identity conditions for the members of Γ depend on the whole of which they are constituents, the members of Γ depend on the totality fact, and so monism is true. If so, then the totality fact is a necessitating ground for [*gold*]: there is no possible world where the actual monistic totality fact exists without [*gold*]. The objection from accidental generalizations is neutralized.

Second, rejecting necessitarianism (while retaining pluralism) entails accepting PGC.To reject necessitarianism is to accept contingentism (§2), which also avoids the objection from accidental generalizations: the members of Γ ground [*gold*]; but, by hypothesis, it is not the case that the members of Γ necessitate this fact, which is equivalent to the claim that, possibly, the members of Γ coexist with a solid gold sphere whose diameter is at least one mile across.

Though it is not my task in this paper to evaluate which of MGN or PGC is the preferable alternative, I will simply note the following points. First,the cost of necessitarianism, which the majority of grounders accept, is monism, which almost every grounder rejects. Second, pluralism, which almost every grounder accepts, requires contingentism, which the majority of grounders reject.

1. **Conclusion**

Among grounders, PGN is a very popular position, comparatively few accept PGC, and hardly anyone endorses MGN or MGC.[[11]](#footnote-11) Though the objection from accidental generalizations is a well-known problem for PGN, this objection appears to admit of a straightforward solution. Nevertheless, I have argued that this solution fails, and so that the objection from accidental generalizations stands. Thus, proponents of PGN face the following dilemma: either give up pluralism, or give up necessitarianism.[[12]](#footnote-12)

**References**

Armstrong, D.M. (1997). A World of States of Affairs. (Cambridge: Cambridge University Press)

Audi, Paul (2012). Grounding: Toward a Theory of the *In-Virtue-Of* Relation. The Journal of Philosophy, 109: 685-711.

Bliss, Ricki Leigh and Kelly Trogdon (2014). Metaphysical Grounding. In Edward N. Zalta (ed.) The Stanford Encyclopedia of Philosophy URL = <http://plato.stanford.edu/archives/win2014/entries/grounding/>.

Cameron, Ross P. (2008a). Turtles All the Way Down: Regress, Priority and Fundamentality. The Philosophical Quarterly, 58: 1-14.

Cameron, Ross P. (2008b). How to be a Truthmaker Maximalist. Noûs 42: 410-421.

Cameron, Ross P. (2010). From Humean Truthmaker Theory to Priority Monism. Noûs 44: 178-198.

Cameron, Ross P. (forthcoming). Truthmakers. In Michael Glanzberg (ed.) The Oxford Handbook of Truth. (Oxford: Oxford University Press)

Correia, Fabrice (2010). Grounding and Truth-Functions. Logique et Analyse, 53: 251-279.

Correia, Fabrice and Benjamin Schnieder (eds.) (2012). Metaphysical Grounding: Understanding the Structure of Reality. (Cambridge: Cambridge University Press)

Dasgupta, Shamik (2014). On the Plurality of Grounds. Philosophers’ Imprint, 14: 1-28.

Dasgupta, Shamik (2016). Metaphysical Rationalism. Noûs, 50: 379-418.

deRosset, Louis (2013). Grounding Explanations. Philosophers’ Imprint, 13: 1-26.

Dixon, T. Scott (2016). What is the Well-Foundedness of Grounding? Mind, 125: 439-468.

Fine, Kit (2012). Guide to Ground. In Correia and Schnieder (eds.), 37-80.

Mulligan, Kevin and Fabrice Correia (2013) Facts. In Edward N. Zalta (ed.) The Stanford Encyclopedia of Philosophy URL = <http://plato.stanford.edu/archives/spr2013/entries/facts/>.

Rabin, Gabriel Oak, and Brian Rabern (2016) Well Founding Grounding Grounding. Journal of Philosophical Logic, 45: 349-379.

Raven, Michael J. (2012). In Defence of Ground. Australasian Journal of Philosophy, 90: 687-701.

Rosen, Gideon (2010). Metaphysical Dependence: Grounding and Reduction. In Bob Hale and Aviv Hoffman (eds.) Modality: Metaphysics, Logic, and Epistemology (Oxford: Oxford University Press), 109-136.

Schaffer, Jonathan (2009). On What Grounds What. In David Chalmers, David Manley, and Ryan Wasserman (eds.) Metametaphysics: New Essays on the Foundations of Ontology (Oxford: Oxford University Press), 347-383.

Schaffer, Jonathan (2010a). The Least Discerning and Most Promiscuous Truthmaker. The Philosophical Quarterly, 60: 307-324.

Schaffer, Jonathan (2010b). Monism: The Priority of the Whole. The Philosophical Review, 119: 31-76

Skiles, Alexander (2015). Against Grounding Necessitarianism. Erkenntnis, 80: 717-751.

Trogdon, Kelly (2013a). Grounding: Necessary or Contingent? Pacific Philosophical Quarterly, 94: 465-485.

Trogdon, Kelly (2013b). An Introduction to Grounding. In Miguel Hoeltje, Benjamin Schnieder, and Alex Steinberg (eds.) Varieties of Dependence: Ontological Dependence, Grounding, Supervenience, Response-Dependence (Munich: Philosophia Verlag), 97-122.

1. Note that whether all of (1) – (4) are *true* is irrelevant to my point in introducing them, which is merely to illustrate the phenomenon of metaphysical dependence. [↑](#footnote-ref-1)
2. Cameron (2008: 3), Raven (2012: 689), Rosen (2010: 115), and Schaffer (2009: 376), (2010b: 37) all explicitly hold that grounding is transitive, irreflexive, and asymmetric. [↑](#footnote-ref-2)
3. As we will see in the next section, given the standard assumption that grounding entails, but is not reducible to, necessitation, grounding is not *merely* modal correlation. [↑](#footnote-ref-3)
4. Some prefer to say that objects *exist*, whereas facts *obtain*. For economy of expression, I say that objects and facts alike exist (cf. deRosset 2013: 4, n. 12). [↑](#footnote-ref-4)
5. In principle, one can also accept a fifth view, according to which *no* fact has a fundamental ground. Such a view is significantly stronger than the mere denial of well-foundedness, which is the claim that not every derivative fact is fully grounded by some fundamental fact or other.I know of no one who endorses the stronger claim. Furthermore, as I will briefly indicate in the second of two objections considered at the end of this section, endorsement of the stronger claim makes no difference with respect to the status of my argument, and so I will not discuss it further. [↑](#footnote-ref-5)
6. Among those who accept necessitarianism are: Audi (2012), Cameron (forthcoming), Dasgupta (2014), deRosset (2013), Rosen (2010), and Trogdon (2013a). In contrast, Skiles (2015) and Schaffer (2010a) are notable for being among the comparatively few grounders who accept contingentism. As for pluralism, it is easier to list those grounders who reject it (and thereby accept monism), rather than the vast majority who accept it: Schaffer (2009, 2010b) is the most prominent example of the former. [↑](#footnote-ref-6)
7. If we suppose that not all of the members of Γ are relevant with respect to what grounds [*gold*], then my claim “…the members of Γ ground [*gold*]” is perhaps better expressed as “…*some* of the members of **Γ** ground [*gold*]”.Though I will mostly ignore this distinction in what follows, see n. 10 where I discuss it further. [↑](#footnote-ref-7)
8. It is worth emphasizing that my argument (i.e., that the members of Γ and the totality fact are not independent) assumes that grounding is a relation that holds between facts, and so does not apply to those who hold that grounding is a sentential connective (e.g., Correia 2010; Fine 2012). That is, those who hold that grounding is a sentential connective are not committed to the claim that grounding is a relation that holds between *facts*; a fortiori, such grounders are not committed to the claim that the members of Γ are constituents of the totality fact. [↑](#footnote-ref-8)
9. See Mulligan and Correia 2013: §2.5 for discussion of the standard claim that the identity conditions for facts generally depend on facts about their respective constituents. [↑](#footnote-ref-9)
10. I should note an alternative strategy that the proponent of PGN might pursue. First, if we let *F* be the property *being a solid gold sphere*, and let *G* be the property *having a diameter of less than one mile*, then the logical form of [*gold*] is: ∀*x*(*Fx* → *Gx*). Second, let a *restricted totality fact* be an actual second-order fact that restricts itself to a proper subset of Γ. Third, the restricted totality fact that is relevant for [*gold*] has the following logical form: ∀*x*(*Fx* → (*x* = *a* ∨ *x* = *b* ∨ *x* = *c* ∨ …), where *a*, *b*, *c*, etc., are all of the members of Γ that are *F*. Fourth, following Skiles 2015: 734, the proponent of PGN might attempt to forego the totality fact, and instead attempt to ground [*gold*] in this restricted totality fact. That is,one may regard the ground of ∀*x*(*Fx* → *Gx*) as the collection of facts [*Ga*], [*Gb*], [*Gc*], etc., in addition to the fact that *a*, *b*, *c*, etc., are the only actual *F*s. But, fifth, as Skiles 2015: 734 points out, the problem with this proposal is that the fact that *a*, *b*, *c*, etc., are the only actual *F*s is itself an accidental generalization, which also requires grounding (see Skiles 2015: 734-736 for further discussion). [↑](#footnote-ref-10)
11. If my argument against PGN succeeds, then proponents of this view need only reject one or the other of pluralism or necessitarianism, and not *both*, which is why I do not discuss MGC in any detail here. [↑](#footnote-ref-11)
12. Thanks to all of the following for helpful comments and conversations: Geoff Goddu, Paul Nedelisky, Joshua Schwartz, Donald Smith, and two anonymous referees. [↑](#footnote-ref-12)