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Annotated bibliography on metaphysical grounding. Second part: Cor-Fin

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For the work of Kit Fine see:

Annotated bibliography of Kit Fine

Bibliography

1.   Correia, Fabrice. 2000. "Propositional Logic of Essence." *Journal of Philosophical Logic* no. 29:295-311.
"Introdcution: The present paper can be considered as a companion to Kit Fine's papers 'The Logic of Essence' and 'Semantics for the Logic of Essence'.(1) In the first paper Fine presents a logical system for quantified essentialist statements, E5. (2) In the second he presents a semantics for a variant of the system, and proves this system adequate (i.e. sound and complete) with espect to that semantics. I propose here a Kripke-style semantics for E5π, a propositional counterpart of E5, and prove the adequacy of the latter with respect to the former.
There are many, more or less natural, more or less interesting, ways to extend E5 (or one of its cousins) to a system of quantified logic of essence. E5π, together with its semantics, is intended to constitute the core of subsequent, more expressive, logics of essence. So, the study of E5π per se, regardless of possible quantificational extensions, is of great interest.
Another interesting point about the present study lies in the fact that the completeness proof given here is much simpler than the one Fine gives for his quantificational system.
The reader is strongly urged to take a look at Fine's papers on the logic of essence, if only because no detailed comparison between Fine's material and mine will be offred." (p. 295)

2.   ———. 2005. *Existential Dependence and Cognate Notions*. Munich: Philosophia Verlag.
Contents: Introduction 11; 1. Preamble 17; 2. Simple Dependence I: Presentation, and Rejection of Some Accounts 43; 3. Metaphysical Grounding 57; 4. Simple Dependence II: The Foundational Approach 69; 5. Some Other Notions of Existential Dependence 93;
6. Supervenience 135; Appendix 155; Bibliography 165; List of Figures 169; List of Symbols and Notations 171; List of Named Propositions, Conditions and Rules 173; Index 175.

"The use of notions of existential dependence pervades the whole history of philosophy, and as the above remarks suggest there are good reasons to consider them as notions of central philosophical importance. Yet they have never been a topic of philosophical research of their own—at least in the contemporary period—a few exceptions aside. The first notable exception is Husserl with his third *Logical Investigation* on modal mereology. Yet even if in this work Husserl not only uses, but also spends time to define some notions of existential dependence, the result is quite imprecise, and how exactly Husserl's views should be understood is still a matter of controversy.

The remaining exceptions are three. There is first and foremost the work of the Manchester triad which, at least at the beginning, to a certain extent tries to dig up the Husserlian investigations. Kevin Mulligan, Peter Simons and Barry Smith are responsible for "introducing" existential dependence to the analytic world, and two approaches to dependence pervade an important amount of their work, namely the modal-existential approach and the essentialist-existential approach. The second exception is E. J. Lowe and his purely essentialist approach, and finally the third is Kit Fine, to whom I shall also attribute the essentialist-existential approach." (p. 12)
(...)
"My plan is the following. In the Preamble, I introduce notions and principles that will be useful in the rest of this work. After a short break, chapter 2 introduces the simplest notion of existential dependence, presents some existing accounts of this notion and some objections to these accounts. In chapter 3 the crucial notion of grounding is introduced. In chapter 4, I then propose my own account of simple existential dependence, and show how it escapes the difficulties faced by its rivals. Chapter 5 deals with other forms of existential dependence—like generic dependence, disjunctive dependence and temporalized forms of existential dependence—and finally chapter 6 is about supervenience." (p. 15)

3.   ———. 2006. "Generic Essence, Objectual Essence, and Modality." *Noûs* no. 40:753-767.

Abstract: "When thinking about the notion of essence or of an essential feature, philosophers typically focus on what I will call the notion of objectual essence. The main aim of this paper is to argue that beside this familiar notion stands another one, the notion of generic essence, which contrary to appearance cannot be understood in terms of the familiar notion, and which also fails to be correctly characterized by certain other accounts which naturally come to mind as well. Some of my objections to these accounts are similar to some of Kit Fine's compelling objections to the standard modal account of (objectual) essence (Fine 1994). In the light of these objections, Fine advances the view that it is metaphysical necessity which has to be understood in terms of essence, rather than the other way around, and takes essence to be unanalyzable.

When formulating his view, Fine had only objectual essence in mind (or had both concepts in mind, but assumed that the generic is a special case of the objectual), and for that reason, I will argue, his account fails. I will suggest that Fineans should modify their view, and take it that metaphysical necessity is to be understood in terms of the two notions of essence—a view I myself find appealing. Finally, I will end by suggesting a further move which reduces the objectual to the generic, making metaphysical necessity reducible to generic essence alone—a move with which I myself have some sympathy."
References
Fine, K. (1994) "Essence and Modality," *Philosophical Perspectives*, 8: 1–16.

4.   ———. 2010. "Grounding and Truth-Functions." *Logique et Analyse* no. 53:251-279.
"The plan of the paper is the following. I first discuss the question of the logical form of statements of grounding (§1). There I distinguish between the predicational view on the logical form of these statements, and the operational view, which I endorse. I then introduce the notions of factual identity and factual equivalence, and argue that the formulation of a logic of grounding must go in tandem with the

formulation of a logic of factual identity in case one opts for predicationalism, and of a logic of factual equivalence if one opts for operationalism (§2). In §3, I define the language relative to which I subsequently formulate the logic of grounding and factual equivalence.

In §4 I lay down structural principles for grounding and factual equivalence.

In §5, I then propose principles for the logic of factual equivalence and truth-functions, and in §6, I do the same for the logic of grounding and truth-functions. Finally, I present a semantical characterization of the resulting logical system and prove the system to be sound and complete with respect to the semantics (§7)" (pp. 252-263)

5. ———. 2011. "From Grounding to Truth-Making: Some Thoughts." In *Mind, Values, and Metaphysics. Philosophical Essays in Honor of Kevin Mulligan. Vol. 1*, edited by Reboul, Anne, 85-98. Dordrecht: Springer.

Abstract: "The number of writings on truth-making which have been published since Kevin Mulligan, Peter Simons and Barry Smith's seminal, rich and deep article 'Truth-Makers' in 1984 is considerable. Some deal with the theory of the notion, some with its applications and some with both. This chapter adds up to the pile of writings which focus on the theory. I focus on one account of truth-making I find plausible, the view that for a truth-bearer to be made true by an entity is for it to be the case that the truth-bearer is true because the entity exists, where 'because' is understood as expressing a form of objective, metaphysical explanation which is now often subsumed under the label 'grounding'. Taking this account for granted, we may distinguish, amongst the general principles governing truth-making, those which derive from more basic principles governing the notions in terms of which it is defined, from those which do not. Which principles compose the first class, which are the more basic principles from which they derive and how do the former derive from the latter? I try to make some steps towards an answer to this difficult question."

References

Mulligan K., Simons P., Smith B. (1984), Truth-makers. *Philosophy and Phenomenological Research* 44(3): 287–321.

6. ———. 2013. "Logical Grounds." *Review of Symbolic Logic* no. 7:31-59.

"As I see it, the main interest of this study is threefold. First, the study provides a precise account of a pretheoretic notion of logical explanation which, I take it, is of great intrinsic interest. Second, it shows that the concept of logical grounding can be used to provide a new angle of approach in logic, which is illuminating and possesses a certain power of unification. And third, it shows that the concept of logical grounding is not irremediably obscure or fruitless, thereby providing (i) a direct response to some forms of scepticism about this concept and (ii) an element of response to certain forms of scepticism about more general concepts of grounding (in particular, that of metaphysical grounding)." (p. 33, notes omitted)

7. ———. 2013. "Metaphysical Grounds and Essence." In *Varieties of Dependence: Ontological Dependence, Grounding, Supervenience, Response-Dependence*, edited by Hoeltje, Miguel, Schnieder, Benjamin and Steinberg, Alex, 271-296. Munich: Philosophia Verlag.

"Is it possible to provide an account of metaphysical grounding in terms of essence? E. J. Lowe (2009) addresses a similar question about truth-making and essence, and makes a suggestion which points towards a positive answer. Kit Fine (2012) addresses the original question and answers negatively. I argue that the prospects for an account of metaphysical grounding in terms of essence are not as bad as one might have thought." (p. 271)

References

Correia, E and B. Schnieder (eds.) 2012: *Metaphysical Grounding: Understandiing the Structure ol Reali!y·*. Cambridge: Cambridge University Press.

Fine, K. 2012: 'Guide to Ground'. In Correia and Schnieder 2012, pp. 37-80.

Lowe, E. J. 2009: 'An Essentialist Approach to Truth-Making'. In Lowe and Rami 2009, pp. 201-16.

Lowe, E. J. and A. Rami (eds.) 2009: *Truth and Truth-Making,* Stocksfield: Acumen.

8.   ———. 2017. "Real Definitions." *Philosophical Issues* no. 27:52-73.
Abstract: "I offer and defend an account of real definitions. I put forward two versions of the account, one formulated in terms of the notion of generalised identity and of a suitable notion of grounding (RD1), and the other one formulated in terms of the former notion and of a suitable notion of comparative joint carvingness (RD2). Given a plausible assumption, (RD1) and (RD2) turn out to be equivalent. I give a sketch of a unified account of the three notions involved in (RD1) and (RD2) from which the assumption can be derived."

9.   ———. 2017. "An Impure Logic of Representational Grounding." *Journal of Philosophical Logic* no. 46:507-538.
Abstract: "I give a semantic characterization of a system for the logic of grounding similar to the system introduced by Kit Fine in his "Guide to Ground", as well as a semantic characterization of a variant of that system which excludes the possibility of what Fine calls 'zero-grounding'."

10.   ———. 2020. "Granularity." In *The Routledge Handbook of Metaphysical Grounding*, edited by Raven, Michael J., 228-243. New York: Routledge.
"Grounding is a hyperintensional notion: necessarily equivalent sentences need not be equivalent from a ground-theoretic perspective. How fine-grained, exactly, is grounding? There is a striking lack of consensus on this question. In this chapter, I try to systematize and review the main options that have been put forward in the literature. For reasons that have to do with both naturalness and convenience, I for the most part take the question to be about what is sometimes called, following Kit Fine's (2012a) terminology, strict full grounding, and I take for granted a conception of grounding as a relation that is many-to-one and non-factive. I discuss the consequences of making alternative assumptions only in the very last section." (p. 228, notes omitted)
References
Fine, K, (2012a). Guide to Ground. In F. Correia & B. Schnieder (eds.), *Metaphysical Grounding: Understanding the Structure of Reality*, Cambridge: Cambridge University Press, 37–80.

11.   ———. 2021. "A New Argument for the Groundedness of Grounding Facts." *Erkenntnis*:1-16.
First online 8 June 2021.
Abstract: "Many philosophers have recently been impressed by an argument to the effect that all grounding facts about "derivative entities"—e.g. the facts expressed by the (let us suppose) true sentences 'the fact that Beijing is a concrete entity is grounded in the fact that its parts are concrete' and 'the fact that there are cities is grounded in the fact that p', where 'p' is a suitable sentence couched in the language of particle physics—must themselves be grounded. This argument relies on a principle, Purity, which states that facts about derivative entities are non-fundamental. Purity is questionable.
In this paper, I introduce a new argument—the argument from Settledness—for a similar conclusion but which does not rely on Purity. The conclusion of the new argument is that every "thick" grounding fact is grounded, where a grounding fact [F is grounded in G, H, …] is said to be thick when at least one of F, G, H, … is a fact—a condition that is automatically satisfied if grounding is factive. After introducing the argument, I compare it with the argument from Purity, and I assess its cogency relative to the relevant accounts of the connections between grounding and fundamentality that are available in the literature."

12.   ———. 2021. "Ontological dependence, Grounding and Modality." In *The Routledge Handbook of Modality*, edited by Bueno, Otávio and Shalkowski, Scott A. , 100-113. New York: Routledge.

"Ontological dependence and grounding are two important items in the metaphysician's toolbox: both notions can be used to formulate important philosophical claims and to define other notions that play a central role in philosophical theorising. Philosophical inquiry about ontological dependence and (especially) grounding has been very lively over the past few years, making it difficult to write a short review article on any of them, let alone a short review article on both.
I try to reach a good compromise between a discussion of each notion taken separately and a discussion of how they relate to one another." (p. 100)

13.   Correia, Fabrice, and Schnieder, Benjamin, eds. 2012. *Metaphysical Grounding: Understanding the Structure of Reality*. Cambridge: Cambridge University Press.
Contents: List of contributors VII; Fabrice Correia, Benjamin Schnieder: Grounding: an opinionated introduction 1; 1. Kit Fine: Guide to ground 37; 2. Chris Daly: Scepticism about grounding 81; 3. Paul Audi: A clarification and defense of the notion of grounding 101; 4. Jonathan Schaffer: Grounding, transitivity, and contrastivity 122; 5. Michael Della Rocca: Violations of the Principle of Sufficient Reason (in Leibniz and Spinoza) 139; 6. J. Robert G. Williams: Requirements on reality 165; 7. Kathrin Koslicki: Varieties of ontological dependence 186; 8. E. J. Lowe: Asymmetrical dependence in individuation 214; 9. Jody Azzouni: Simple metaphysics and "ontological dependence" 234; 10. David Liggins: Truth-makers and dependence 254; 11. Stephen Barker: Expressivism about making and truth-making 272; Bibliography 294; Name index 306; Subject index 309-311.

14.   ———. 2012. "Grounding: An Opinionated Introduction." In *Metaphysical Grounding: Understanding the Structure of Reality*, edited by Correia, Fabrice and Schnieder, Benjamin, 1-36. Cambridge: Cambridge University Press.
"Some of the most important questions in philosophy, we believe, concern matters of priority.
(...)
What concerns us here is not so much whether these specific claims are true, but rather something they have in common topic-wise: it seems to us that they all target a particular sort of non-causal priority which we would like to call *grounding* and which we regard as a phenomenon of the highest philosophical importance.
This volume collects papers in which this phenomenon is addressed from various (both sympathetic and critical) sides. Summaries of those papers are provided in Section 6 of this introduction. But first, we want to walk you through an opinionated survey of pertinent issues, preparing the field and putting the papers into perspective.
While the recent debate about grounding is not older than a decade, the topic has been dealt with before. So, we start by briefly walking through some important stages of the history of grounding. We then devote two sections on systematic issues, one on the theory of grounding proper, and one on its connections with other notions.(1)" (pp. 1-2)
(1) For further reading we recommend a survey article by Trogdon (forthcoming). While his paper naturally has some overlap with ours, he often has a different focus so that the two papers complement each other.
References
Trogdon, K. forthcoming. 'Grounding – An Overview', in Hoeltje, Schnieder, and Steinberg, *Varieties of Dependence: Ontological Dependence, Grounding, Supervenience, Response-Dependence*, Munich: Philosophia Verlag 2013, pp. 97-122.

15.   Correia, Fabrice, and Skiles, Alexander. 2019. "Grounding, Essence, and Identity." *Philosophy and Phenomenological Research* no. 98:642-670.
Abstract: "Recent metaphysics has turned its focus to two notions that are—as well as having a common Aristotelian pedigree—widely thought to be intimately related: grounding and essence. Yet how, exactly, the two are related remains opaque. We develop a unified and uniform account of grounding and essence, one which

understands them both in terms of a generalized notion of identity examined in recent work by Fabrice Correia, Cian Dorr, Agustın Rayo, and others. We argue that the account comports with antecedently plausible principles governing grounding, essence, and identity taken individually, and illuminates how the three interact. We also argue that the account compares favorably to an alternative unification of grounding and essence recently proposed by Kit Fine."

16.   Cusbert, John, and Millier, Kristie. 2018. "The Unique Groundability of Temporal Facts." *Philosophy and Phenomenological Research* no. 94:410-432.
Abstract: "The A-theory and the B-theory advance competing claims about how time is grounded. The A-theory says that A-facts are more fundamental in grounding time than are B-facts, and the B-theory says the reverse.
We argue that whichever theory is true of the actual world is also true of all possible worlds containing time. We do this by arguing that time is uniquely groundable: however time is actually grounded, it is necessarily grounded in that way. It follows that if either the A-theory or the B-theory is actually false, then it is necessarily false."

17.   Daly, Chris. 2012. "Scepticism about Grounding." In *Metaphysical Grounding: Understanding the Structure of Reality* edited by Correia, Fabrice and Schnieder, Benjamin, 81-100. Cambridge: Cambridge University Press.
"A minimal claim that any theory of grounding will make is that talk of grounding is intelligible. Yet it is controversial whether such talk is intelligible.
Two (mutually exclusive) strategies to support that minimal claim are available.
One is to define 'grounding' using terms that are already well understood.
The other is to take 'grounding' as a primitive term but to use various ways to convey its meaning. This chapter will offer sceptical responses to both strategies whilst paying special attention to the second. The chief contention of the chapter is that, if treated as a primitive, 'grounding' is unintelligible.
Grounding theorists are alive to this sceptical response and have tried to counter it. The chapter will seek to show that their attempts to date fail."

18.   Dasgupta, Shamik. 2014. "On the Plurality of Grounds." *Philosophers' Imprint* no. 13:1-28.
Recent metaphysics has contained a good deal of discussion about the notion of *ground*.
(...)
"In this spirit, one aim of this paper is to argue that ground is *irreducibly plural*. It is well known that something's ground can be a plurality — the occurrence of a conference is an example of something that is presumably grounded in a multitude of facts concerning the actions of its many participants. *Those* facts together are what explains why there is a conference occurring, even though none of them is a sufficient explanation individually. But the literature uniformly assumes that what is grounded must be a single fact. Here I disagree and argue that what is grounded can be a plurality too: there can be cases in which *they*, the members of a plurality, *are* explained in more fundamental terms, even though none of them admits of explanationon its own." (pp. 1-2)

19.   ———. 2014. "The Possibility of Physicalism." *The Journal of Philosophy* no. 111:557-592.
"It has been suggested that many philosophical theses—physicalism, nominalism, normative naturalism, and so on—should be understood in terms of ground.(1) Against this, Ted Sider has argued that round is ill-suited for this purpose.(2) Here I develop Sider's objection and offer a response. In doing so I develop a view about the content of these philosophical theses, and hence about how to understand disagreements over them." (p. 557)
(1) For some recent examples, see Kit Fine, "The Question of Realism," *Philosophers' Imprint*, 1 (2001): 1–30; Gideon Rosen, "Metaphysical Dependence: Grounding and Reduction," in B. Hale and A. Hoffmann, eds., *Modality: Metaphysics, Logic, and Epistemology* (Oxford: Oxford University Press, 2010), pp.

109–36; and Jonathan Schaffer, "On What Grounds What," in D. Chalmers, D. Manley, and R. Wasserman, eds., *Metametaphysics: New Essays on the Foundations of Ontology* (Oxford: Clarendon Press, 2009), pp. 347–83. The suggestion is not new; indeed these authors take themselves to be reinvigorating a traditional conception of these issues that stems back at least to the ancient Greeks.
2 See Theodore Sider, *Writing the Book of the World* (Oxford: Oxford University Press, 2011).

20. ———. 2016. "Metaphysical Rationalism." *Noûs* no. 50:379-418.
Abstract: "The Principle of Sufficient Reason states that everything has an explanation. But different notions of explanation yield different versions of this principle. Here a version is formulated in terms of the notion of a "grounding" explanation.
Its consequences are then explored, with particular emphasis on the fact that it implies necessitarianism, the view that every truth is necessarily true. Finally, the principle is defended from a number of objections, including objections to necessitarianism. The result is a defense of a "rationalist" metaphysics, one that constitutes an alternative to the contemporary dogmas that some aspects of the world are "metaphysically brute" and that the world could in so many ways have been different."

21. ———. 2017. "Constitutive Explanation." *Philosophical Issues* no. 27:74-97.
"I will argue that ground can be significantly deflated: one can hold that it corresponds to no part of reality, that it is not primitive in any metaphysically significant sense, even that it is a person- or culture-relative notion with noncognitive elements, and yet still find it philosophically important. I will not argue that the best conception of ground is maximally deflationary in all these respects. But it is worth asking what the limit case looks like, if only to clarify whether certain objections to ground target the core notion or just inflated varieties. (1)" (pp. 74-75)
(1) To be clear, the conception of ground I initially latched onto was not deflationary in all these respects. It is only recently that I've come to see that it can be deflated more than I had previously thought.

22. De Florio, Ciro. 2018. "On Grounding Arithmetic." In *From Arithmetic to Metaphysics: A Path Through Philosophical Logic*, edited by Giordani, Alessandro and Florio, Ciro de, 103-118. Berlin: De Gruyter.
Abstract: "Philosophy of mathematics of last fifty years has been dominated by the metaontological stance according to which one fundamental problem of the ontology of mathematical theories is the existence of mathematical objects and the related epistemic access to them. But during the last ten years another fecund and promising metaphysical framework has been developed: the key idea (which goes back to Aristotle) is that the main problem of metaphysics is about the relation of grounding among various levels of reality. Although this approach should be relevant for almost all the metaphysical questions, however,
there are few attempts to extend these intuitions to the debate in philosophy of mathematics. The aim of this, preliminary, work is analysing some possible outcomes of the grounding approach in metaphysics of mathematics."

23. De Rizzo, Julio. 2019. *Reasons Why Not: On the Positive Grounds of Negative Truths*. Berlin: J. B. Metzler.
"A suggestive way of turning this slogan [*Reality is ultimately positive*] into a precise thesis makes use of the fashionable ideology of *grounding*: roughly put, the idea of a non-causal connection between truths expressible by claims to the effect that some truths obtain *because* other truths obtain. (More on this in due course.) When this is the case, the latter truths are typically said to be more *fundamental* than the former.
In this manner, grounding is taken to shed light on theses which have a bearing on how truths of a certain class are structured relatively to another class or other classes of truths. Thus the thesis of physicalism, for example, might be understood as the

thesis that physical truths ground truths about consciousness, i.e. that the latter truths obtain *because* physical truths obtain. By way of analogy, one can expect that the bias against negativity announced in the slogan be captured by the claim that negative truths obtain because positive truths do, i.e. that positive truths *ground* negative ones. Henceforth, I will label this the *positivist thesis*, and the position thereby characterized *positivism*.

The main aim of the present study is to examine the positivist thesis and the position it characterizes in detail. The task is twofold. Firstly, to clarify what the thesis amounts to; and secondly, to explore its credentials relative to some specific domains of negative truths." (pp. 2-3)

24.   ———. 2020. "The Ground of All Negative Existential Truths." *Critica* no. 52:129-148.
Summary: "A natural proposal for the grounds of negative existential truths, such as that Vulcan does not exist, states that these truths are grounded in the totality truth affirming the existence of every existent thing together with the truth that they are all. In this paper I will put forward three objections to straightforward formulations of this idea, and argue that a change in the usual grammar of grounding claims, allowing for pluralities of sentences to express not only grounds, but also groundees, is effective in making the account immune to the objections raised."

25.   ———. 2021. "Grounding Grounds Necessity." *Analysis* no. 80:639-647.
Abstract: "Drawing from extensions of existing ideas in the logic of ground, a novel account of the grounds of necessity is presented, the core of which states that necessary truths are necessary because they stand in specific grounding connections."

26.   ———. 2021. "A Ground-theoretical Modal Definition of Essence." *Analysis*. First Online 20 September 2021.
Abstract: "I provide a case-by-case definition of essential truths based on the notions of metaphysical necessity and ontological dependence. Relying on suggestions in the literature, I adopt a definition of the latter notion in terms of the notion of ground. The resulting account is adequate in the sense that it is not subject to Kit Fine's famous counterexamples to the purely modal account of essence. In addition, it provides us with a novel conception of truths pertaining to the essence of objects, which might help to dispel doubts on the legitimacy of the notion of essence itself."

27.   Declos, Alexandre. 2021. "More Grounds for Grounding Nominalism." *Philosophia* no. 49:49-70.
Abstract: "In this paper, I examine Peter Schulte's "Grounding Nominalism" (Schulte, 2018), understood as the claim that first-order properties and relations are grounded in the concrete particulars which instantiate them. While Schulte offered reasons to think that this view is consistent, along with answers to a number of objections, a more straightforward argument for GN is still needed. I take on this task here, by discussing and defending what I call the "argument from abstraction". The latter, I suggest, offers more grounds to Grounding Nominalism."
References
Schulte, P. (2018). Grounding nominalism. *Pacific Philosophical Quarterly*, 100(2), 482–505

28.   Della Rocca, Michael. 2012. "Violations of the Principle of Sufficient Reason (in Leibniz and Spinoza)." In *Metaphysical Grounding: Understanding the Structure of Reality* edited by Correia, Fabrice and Schnieder, Benjamin, 139-164. Cambridge: Cambridge University Press.
My central concern here – violations of the Principle of Sufficient Reason (hereafter: 'PSR') – does indeed stem from my engagement with two figures from the history of philosophy: Leibniz and Spinoza. Both of these philosophers are big fans of the Principle of Sufficient Reason, the principle according to which each thing that exists has an explanation.(1) Indeed, a strong case can be made that each of these thinkers structures his entire system around the PSR more or less

successfully.(2) However, despite these similarities, the character of each philospher's commitment to the PSR differs, and the differences have illuminating implications for our understanding of the power of these rationalist systems and for the metaphysical issues these philosophers take up that concern us today. One way to distill these differences is by exploring the perhaps surprising ways violations of the PSR arise for Leibniz and Spinoza. It will turn out that Leibniz is, or would be, unable to handle such violations, while Spinoza can handle them more or less in stride in his more resilient and, in some ways, more exotic, rationalist system." (pp. 139-140)
(1) Spinoza: see *Ethics* 1p11d2. Leibniz: see *Monadology* §32.
(2) Spinoza more, Leibniz less!.

29.   ———. 2014. "Razing Structures to the Ground." *Analytic Philosophy* no. 55:276-294.
"However, despite this bulwark of support for grounding, I want here at least to begin a new challenge to this now popular notion. I think that there are reasons to doubt that there are any instances of grounding, and I think that these reasons are broadly in keeping with the spirit of Quine's best argument against modality: what I call the argument from arbitrariness. Once we see the force of this argument against grounding, we will be in a position, I believe, to advance a powerful argument for something like existence monism, a monism more extreme than the priority monism that Schaffer defends." (p. 278)

30.   deRosset, Louis. 2010. "Getting Priority Straight." *Philosophical Studies* no. 149:73-97.
"Here is the plan. I will start by trying to get a little clearer on what the priority theorist claims (Sect. 1). Then I will articulate a constraint on the kind of explanation central to the priority theorist's view (Sect. 2). I will show how that constraint makes trouble for the priority theorist (Sect. 3). I will review two avenues of response available to priority theorists, and provide reasons for thinking that neither are satisfactory (Sect. 4). Next I will articulate a more cautious variant of priority theory that avoids the trouble, and show that it nevertheless faces similar problems (Sect. 5). I will conclude with a brief discussion of the prospects for retaining the spirit of priority theory while abandoning its letter (Sect. 6)."

31.   ———. 2011. "What is the Grounding Problem?" *Philosophical Studies* no. 156:173-197.
Abstract: "A philosophical standard in the debates concerning material constitution is the case of a statue and a lump of clay, Lumpl and Goliath respectively. According to the story, Lumpl and Goliath are coincident throughout their respective careers. Monists hold that they are identical; pluralists that they are distinct. This paper is concerned with a particular objection to pluralism, the Grounding Problem. The objection is roughly that the pluralist faces a legitimate explanatory demand to explain various differences she alleges between Lumpl and Goliath, but that the pluralist's theory lacks the resources to give any such explanation.
In this paper, I explore the question of whether there really is any problem of this sort. I argue (i) that explanatory demands that are clearly legitimate are easy for the pluralist to meet; (ii) that even in cases of explanatory demands whose legitimacy is questionable the pluralist has some overlooked resources; and (iii) there is some reason for optimism about the pluralist's prospects for meeting every legitimate explanatory demand. In short, no clearly adequate statement of a Grounding Problem is extant, and there is some reason to believe that the pluralist can overcome any Grounding Problem that we haven't thought of yet."

32.   ———. 2013. "Grounding Explanations." *Philosophers' Imprint* no. 13:1-26.
"Unfortunately the use of grounding to articulate the layered conception faces a problem, recently pressed by Ted Sider [Sider, 2011, §7.2, 8.2.1]. I will call this problem *the collapse*. The problem, very roughly, is that if we take grounding explanations to state fundamental facts, then the facts about what explains, e.g., my

preference for oatmeal will be fundamental. So, my preference for oatmeal will be mentioned in any complete description of the fundamental layer. The same goes for any other entity. All of the layers collapse into one; every entity turns out to occupy the fundamental layer. The collapse turns on the question of how to ground the facts stated by the explanations themselves.

I will suggest a way of grounding explanations that avoids the problem. Briefly, the suggestion is that the fact stated by a grounding explanation is grounded in its explanans.

Here's the plan. §1 lays out a simple-minded way of using grounding explanations to articulate the intuitive conception of layered structure.

I also differentiate this approach to articulating the idea of layered structure from a more traditional one centering on reduction. §2 shows how the commitments articulated in §1 lead to the collapse, when paired with the claim that grounding explanations are fundamental.

In §3, I defend a claim that plays a central role in both my articulation of the idea of layered structure and the collapse. §4 proposes an alternative way of avoiding the collapse by denying that grounding explanations are fundamental. §5 outlines and criticizes a different proposal for avoiding the collapse implicit in some of the extant literature, and §6 discusses objections." (pp. 2-3, anote omitted)

References

Theodore Sider. *Writing the Book of the World*. Oxford University Press, 2011.

33.   ———. 2013. "What is Weak Ground?" *Essays in Philosophy* no. 14:7-18.
Abstract: "Kit Fine, in "The Pure Logic of Ground", has made a seminal attempt at formalizing the notion of ground. Fine ties the formal treatment of grounding to the notion of a weak ground. Formalization of this sort is supposed to bring clarity and precision to our theorizing. Unfortunately, as I will argue, it's not clear what weak ground is.

I review five alternative explanations of the idea, and argue that none of them are ultimately satisfactory. I close by outlining a more complicated explanation of the notion that turns out to be more satisfactory."

34.   ———. 2013. "No Free Lunch." In *Varieties of Dependence: Ontological Dependence, Grounding, Supervenience, Response-Dependence*, edited by Hoeltje, Miguel, Schnieder, Benjamin and Steinberg, Alex, 243-270. Munich: Philosophia Verlag.
"Some philosophers (see Armstrong 1997; Cameron 2008; Melia 2005 and Schaffer 2007, 2009, 2010a) have recently suggested that explanations of a certain sort can mitigate our ontological commitments.

The explanations in question, *grounding explanations*, are those that tell us what it is in virtue of which an entity exists and has the features it does.

(...)

These philosophers argue that derivative entities are 'no addition to being', in the sense that an ontology is no less sparse for containing them than it is for containing the entities which ground them; derivative entities are an 'ontological free lunch'."
(p. 243)

(...)

"Here I argue that they are wrong: barring reduction, every entity is fundamental, in the sense that either its existence or its possession of at least one other feature is explanatorily basic. Thus, the claim

EXPLANATION

Many entities are derivative: their existence and other features can be explained solely by reference to the existence and properties of other things should be rejected. An upshot is that, whatever form Ockham's Razor, should take, grounding explanations on their own do not provide 'an ontological free lunch'." (p. 245, a note omitted)

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Chalmers, D., D. Manley and R. Wasserman (eds.) 2009: *Metametaphysics*. Oxford: Oxford University Press.

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Schaffer, J. 2007: 'From Nihilism to Monism'. *Australasian Journal of Philosophy* 85, pp. 175-91.

- 2009: 'On What Grounds What'. In Chalmers, Manley and Wasserman 2009, pp. 357-83.

- 2010a: 'Monism: The Priority of the Whole'. The Philosophical Review 119, pp. 31-76.

35.　　　　———. 2014. "On Weak Ground." *The Review of Symbolic Logic* no. 7:713-744.

Abstract: "Though the study of grounding is still in the early stages, Kit Fine, in "The Pure Logic of Ground", has made a seminal attempt at formalization. Formalization of this sort is supposed to bring clarity and precision to our theorizing, as it has to the study of other metaphysically important phenomena, like modality and vagueness. Unfortunately, as I will argue, Fine ties the formal treatment of grounding to the obscure notion of a *weak ground*. The obscurity of weak ground, together with its centrality in Fine's system, threatens to undermine the extent to which this formalization offers clarity and precision. In this paper, I show how to overcome this problem. I describe a system, the logic of strict ground (LSG) and demonstrate its adequacy; I specify a translation scheme for interpreting Fine's weak grounding claims; I show that the interpretation verifies all of the principles of Fine's system; and I show that derivability in Fine's system can be exactly characterized in terms of derivability in LSG. I conclude that Fine's system is reducible to LSG."

36.　　　　———. 2015. "Better Semantics for the Pure Logic of Ground." *Analytic Philosophy* no. 56:229-252.

"Kit Fine has offered an exact treatment of these formal features of grounding (Fine, 2012a). He specifies a language in which grounding claims may be expressed, proposes a system of axioms which capture the relevant formal features, offers a semantics which interprets grounding claims expressible in the language, and shows that his axioms are sound and complete for his semantics.

As we shall see, however, there are reasons for dissatisfaction with Fine's semantics.

(...)

In this paper I show that there is another approach available. I offer a formally specified, model-theoretic semantics for Fine's language, for which a certain natural axiomatization of the pure logic of ground is sound and complete. The semantics is motivated by ideas already present in the grounding literature, so it offers a plausible candidate for an exact specification of an intended interpretation of grounding claims. I also show how the semantics I offer avoids problems faced by Fine's semantics." (p. 229)

37.　　　　———. 2017. "Grounding the Unreal." *Philosophy and Phenomenological Research* no. 95:535-563.

Abstract: "(...) It is tempting to explain this layered structure of dependence and determination among our theories by appeal to a corresponding layered structure of dependence and determination among the entities putatively treated by those theories. In this paper, I argue that we can resist this temptation: we can explain the sense in which, e.g., the biological truths are dependent on and determined by chemical truths without appealing to properly biological or chemical entities. This opens the door to a view on which, though there are more truths than just the purely physical truths, there are no entities, states, or properties other than the purely

physical entities, states, and properties. I argue that some familiar strategies to explicate the idea of a layered structure of theories by appeal to reduction, ground, and truthmaking encounter difficulties. I then show how these difficulties point the way to a more satisfactory treatment which appeals to something very close to the notion of ground. Finally, I show how this treatment provides a theoretical setting in which we might fruitfully frame debates about which entities there really are."

38.   ————. 2020. "Anti-Skeptical Rejoinders." In *The Routledge Handbook of Metaphysical Grounding*, edited by Raven, Michael J., 180-193. New York: Routledge.
"The recent groundswell of interest in the theory of grounding has been met in some quarters with a skeptical reaction.There are two kinds of skepticism that should be distinguished. Relatively local skeptical doubts concern the appropriateness of applying grounding to this or that particular theoretical purpose.
(...)
The kind of skepticism that is our focus here is more ambitious. Global skepticism about ground is the view that the attempt to develop a theory of ground is generally and in principle defective, and attempts to apply such a theory will be fruitless.There are several global skeptics in the literature (Daly 2012), (Hofweber 2009: 269–72), (Koslicki 2015), (Thompson 2016a), (Turner 2016), (Wilson 2014).Are their doubts warranted? In this chapter, I review both the reasons that seem to favor global skepticism and the responses to those reasons by defenders of ground. I suspect that the number of published global skeptics is a tiny fraction of the total population of global skeptics. So rather than merely offering a piecemeal enumeration of skeptical arguments and responses in the literature, I will attempt to fit them into a more general scheme."
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39.   Dixon, T. Scott. 2016. "Grounding and Supplementation." *Erkenntnis* no. 81:375-389.
Abstract: "Partial grounding is often thought to be formally analogous to proper parthood in certain ways. Both relations are typically understood to be asymmetric (and hence irreflexive) and transitive, and as such, are thought to be strict partial orders. But how far does this analogy extend? Proper parthood is often said to obey the weak supplementation principle. There is reason to wonder whether partial grounding, or, more precisely, proper partial grounding, obeys a ground-theoretic ersion of this principle. In what follows, I argue that it does not. The cases that cause problems for the supplementation principle for grounding also serve as counterexamples to another principle, minimality, defended by Paul Audi."

40.   ————. 2016. "What Is the Well-Foundedness of Grounding?" *Mind* no. 125:439-468.
Abstract: "A number of philosophers think that grounding is, in some sense, well-founded.

This thesis, however, is not always articulated precisely, nor is there a consensus in the literature as to how it should be characterized. In what follows, I consider several principles that one might have in mind when asserting that grounding is well-founded, and I argue that one of these principles, which I call 'full foundations', best captures the relevant claim. My argument is by the process of elimination. For each of the inadequate principles, I illustrate its inadequacy by showing either that it excludes cases that should not be ruled out by a well-foundedness axiom for grounding, or that it admits cases that should be ruled out."

41.   ———. 2018. "Upward Grounding." *Philosophy and Phenomenological Research* no. 97:48-78.
Abstract: "Realists about universals face a question about grounding. Are things how they are because they instantiate the universals they do? Or do they instantiate those universals because they are how they are? Take Ebenezer Scrooge. You can say that (i) Scrooge is greedy because he instantiates greediness, or you can say that (ii) Scrooge instantiates greediness because he is greedy. I argue that there is reason to prefer the latter to the former. I develop two arguments for the view. I also respond to some concerns one might have about the view defended. I close by showing that analogous views regarding the truth of propositions (that if the proposition that p is true, then it is true because p) and the existence of facts (that if the fact that p exists, then it exists because p) are supported by analogs of one of these arguments."

42.   ———. 2020. "Infinite Descent." In *The Routledge Handbook of Metaphysical Grounding*, edited by Raven, Michael J., 244-258. New York: Routledge.
"Introduction: Once one accepts that certain things metaphysically depend upon or are metaphysically explained by other things, it is natural to begin to wonder whether these chains of dependence or explanation must come to an end. This chapter surveys the work that has been done on this issue—the issue of grounding and infinite descent. I frame the discussion around two questions:
Question 1. What is infinite descent of ground?
Question 2. Is infinite descent of ground possible?
In addressing the second question, I will consider a number of arguments that have been made for and against the possibility of infinite descent of ground. When relevant, I connect the discussion to two important views about the way reality can be structured by grounding: metaphysical foundationalism and metaphysical infinitism. A third such view, metaphysical coherentism, countenances cyclic grounding chains. Due to limitations on space, I will not discuss this view in what follows, though I will have cause to discuss cyclic chains. For further discussion of coherentism, see "Strict Partial Order" (Chapter 17 in this volume)." (p. 244)

43.   Donaldson, Thomas. 2016. "The (Metaphysical) Foundations of Arithmetic?" *Noûs* no. 51:775-801.
"This paper is a thorough discussion of a proposal due independently to Robert Schwartzkopff and Gideon Rosen about what grounds facts involving cardinal numbers. Roughly, the principle is as follows:
For any properties F and G, if the number of things that have the property F is identical to the number of things that have the property G, then this fact is grounded by the fact that the things that have the property F and the things that have the property G can be paired one-to-one.(8)
For obvious reasons, I call this the 'Schwartzkopff-Rosen Principle'. The principle is a perfect case study: it is precise enough that it can be investigated in detail, but it is no mere toy case.
(...)
"I proceed as follows. I begin in section two by presenting a 'framework' for the subsequent discussion—that is, I set out my preferred notation and my initial assumptions. In section three I begin my discussion of the Schwartzkopff-Rosen Principle. In sections four, five, six and seven I refine the principle. In section eight I show that the principle implies that the relation of 'partial ground' is not acyclic.

Section nine is my conclusion. In an appendix, I discuss ground and second-order quantification." (pp. 775-776)
(8) Rosen (2010: 123); Schwartzkopff (2011: 362).
References
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Schwartzkopff, Robert (2011) 'Numbers as Ontologically Dependent Objects: Hume's Principle Revisited,' in *Grazer Philosophische Studien* 82(1):353–373.

44.   ———. 2020. "Analiticity." In *The Routledge Handbook of Metaphysical Grounding*, edited by Raven, Michael J., 288-299. New York: Routledge.
"In this chapter, I will begin to explore the question of what happens if we take seriously both the notion of analyticity and the notion of ground. I will do this by revisiting the old idea that analytic truths are "true in virtue of meaning". One warning is necessary before we start. I will indulge in the convenient but questionable practice of assuming that ground is a relation among facts. Nothing of consequence hangs on this, however, so readers who are wary of this way of thinking about grounding can make suitable adjustments as they read. See the Introduction to this volume for discussion." (p. 289)

45.   Dorsey, Jonathan Eric. 2016. "On the Grounding-Reduction Link." *American Philosophical Quarterly* no. 53:411-422.
Abstract: "The claim that reduction entails grounding (but not vice versa)---called "the grounding-reduction link"-is potentially very important but not clearly correct. After working through a fruitful debate between Gideon Rosen (who maintains the link) and Paul Audi (who maintains its impossibility), I distinguish between what I call "strict" and "broad" reduction. Strict reduction is incompatible with grounding, but broad reduction is not. Thus the link is possible, at least for broad reduction. However, neither strict nor broad reduction entails grounding. Ultimately, there may be a link between grounding and some highly qualified form of reduction. However, the philosophical traction that one might hope to gain for grounding via such a link is considerably diminished if not outright lost."
References
Paul Audi, "Grounding: Toward a Theory of the In-Virtue-of Relation," *Journal of Philosophy*, vol. 109, no. 12 (2012), pp. 685-711.
Gideon Rosen, "Metaphysical Dependence: Grounding and Reduction," in *Modality: Metaphysics, Logic, and Epistemology*, ed. Bob Hale and Aviv Hoffman (New York: Oxford University Press, 2010), pp. 109-135.

46.   Dumsday, Travis. 2014. "E. J. Lowe on the Unity Problem." *Studia Philosophica Estonica* no. 7:195-218.
Abstract: "Some properties are connected in a perspicuous and unproblematic way. For instance, the possession of shape clearly entails the possession of size (and vice versa).
In other cases the connection is not so perspicuous. For instance, assuming that the precise rest mass and negative charge of an electron are both among its fundamental intrinsic properties, what links them, given that those properties are inherently separable? (Their separability is apparent from the fact that other kinds of particle have the same mass as an electron but a different charge, or the same charge but a different mass.) Given the inherent separability of those properties, what explains their conjunction in this case? Oderberg (2007, 2011) calls this the "unity problem", and attempts to solve it have issued from assorted schools of thought within both substance ontology and the metaphysics of natural kinds. One of the more significant of these solutions is proffered by E.J. Lowe as part of his four-category ontology.
Here I explicate his solution, raise a possible objection, and suggest a reply."
References
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47.   Duncan, Michael, Miller, Kristie, and Norton, James. 2017. "Is Grounding a Hyperintensional Phenomenon?" *Analytic Philosophy* no. 58:297-329.
"Two topics that have received a lot of attention in recent years are hyperintensionality and grounding. In this paper, we explore the relation between them. It is often said that grounding is hyperintensional; but there are a number of ways to understand this claim.
We argue that whether it is true depends both on what view of grounding one endorses and also on what one means by 'hyperintensional'." (p. 297)

48.   Elqayam, Shira. 2012. "Grounded rationality: Descriptivism in epistemic context." *Synthese* no. 189:39-49.
Abstract: "ormativism, the approach that judges human rationality by comparison against normative standards, has recently come under intensive criticism as unsuitable for psychological enquiry, and it has been suggested that it should be replaced with a descriptivist paradigm. My goal in this paper is to outline and defend a meta-theoretical framework of such a paradigm, *grounded rationality*, based on the related principles of descriptivism and (moderate) epistemic relativism. Bounded rationality takes into account universal biological and cognitive limitations on human rationality. Grounded rationality accepts universal constraints but adds cognitive variability: Within-individual variability (dual processing), and individual as well as cultural differences. I discuss the implications of grounded rationality to dual processing, proposing that investing limited cognitive resources in analytic processing might be less instrumentally rational for individuals with low cognitive ability."

49.   Emery, Nina. 2018. "Laws and Their Instances." *Philosophical Studies* no. 176:1535-1561.
Abstract: "Abstract I present an argument for the view that laws ground their instances. I thenoutline two important consequences that follow if we accept the conclusion of this argument. First, the claim that laws ground their instances threatens to undermine a prominent recent attempt to make sense of the explanatory power of Humean laws by distinguishing between metaphysical and scientific explanation. And second, the claim that laws ground their instances gives rise to a novel argument against the view that grounding relations are metaphysically necessary."

50.   ———. 2020. "Laws of Nature." In *The Routledge Handbook of Metaphysical Grounding*, edited by Raven, Michael J., 437-448. New York: Routledge.
"Here is a plan for what follows. In Section 1, I will set out some groundwork with respect to the notion of laws of nature. I will then turn to two central questions in the metaphysics of laws: what (if anything) grounds the laws (Section 2) and what (if anything) the laws ground (Section 3).To keep things (relatively) simple, I will focus on these questions as they apply to deterministic laws that show up in fundamental physics. In Section 4, I say a bit about how the discussion might extend to laws that are not deterministic." (p. 437)

51.   Epstein, Brian. 2015. *The Ant Trap*. Oxford: Oxford University Press.
Chapter 6: *Grounding and Anchoring*, pp. 74-87.
"Grounding is most straightforwardly understood as a relation between facts. And in investigating social metaphysics, we look for the reasons for a wide variety of social facts to be the case. This is what a constitutive rule should be telling us. Sometimes we set up grounding conditions for a *particular* fact.
For instance, we set up grounding conditions for the existence of one particular boundary around a village. More typically, we set up general conditions for grounding some *kind* of social fact." (p. 76)

52.   Fine, Kit. 1994. "Essence and Modality." *Philosophical Perspectives* no. 8:1-16.
Reprinted in *The Philosopher's Annual for 1994*, volume 16, (edited by Patrick Grim, Gary Mar, Peter Williams), Stanford: CSLI 1996 and in J. Kim, D. Korman,

E. Sosa (eds.), *Metaphysics: An Anthology*, Oxford: Wiley-Blackwell 2011 (second edition).

"The concept of essence has played an important role in the history and development of philosophy; and in no branch of the discipline is its importance more manifest than in metaphysics.

Its significance for metaphysics is perhaps attributable to two main sources. In the first place, the concept may be used to characterize what the subject, or at least part of it, is about.

For one of the central concerns of metaphysics is with the identity of things, with what they are.

But the metaphysician is not interested in every property of the objects under consideration. In asking 'What is a person?', for example, he does not want to be told that every person has a deep desire to be loved, even if this is in fact the case. What then distinguishes the properties of interest to him? What is it about a property which makes it bear, in the metaphysically significant sense of the phrase, on what an object is?

It is in answer to this question that appeal is naturally made to the concept of essence. For what appears to distinguish the intended properties is that they are essential to their bearers." (p. 1)

(...)

"It is my aim in this paper to show that the contemporary assimilation of essence to modality is fundamentally misguided and that, as a consequence, the corresponding conception of metaphysics should be given up. It is not my view that the modal account fails to capture anything which might reasonably be called a concept of essence. My point, rather, is that the notion of essence which is of central importance to the metaphysics of identity is not to be understood in modal terms or even to be regarded as extensionally equivalent to a modal notion. The one notion is, if I am right, a highly refined version of the other; it is like a sieve which performs a similar function but with a much finer mesh.

I shall also argue that the traditional assimilation of essence to definition is better suited to the task of explaining what essence is. It may not provide us with an analysis of the concept, but it does provide us with a good model of how the concept works. Thus my overall position is the reverse of the usual one. It sees real definition rather than de re modality as central to our understanding of the concept." (p. 3)

53.   ———. 1995. "Senses of Essence." In *Modality, Morality and Belief. Essays in Honor of Ruth Barcan Marcus*, edited by Sinnott-Armstrong, Walter, 53-73. Cambridge: Cambridge University Press.

"One may distinguish between tbe essential and accidental properties of an object. A property of an object is essential if it must have the property to be what it is; otherwise the property is accidental.

But what exactly is meant by this account? It has been common to give a further explanation in modal terms. A property is taken to be essential when it is necessary that the object have the property or, alternatively, when it is necessary that it have tbe property if it exist. For reasons that I have already given in my paper "Essence and Modality," I doubt whether this or any other modal explanation of the notion can succeed. Indeed, I doubt whether there exists any explanation of the notion in fundamentally different terms. But this is not to deny the possibility of further clarification; and it is the aim of the present paper to provide it.

What I shall do is to distinguish some of the closely related ways in which the notion may be understood. This will be important for getting clearer both on which claims can be made with its help and on which concepts can be defined with its help. In particular, we shall see that several different senses of ontological dependence correspond to the different senses of essence. The task is also important for the purpose of developing a logic of essentialist reasoning; for most of the different senses of essence that we distinguish will make a difference to the resulting logic. My main concern in this paper has been with making the

distinctions, and not with drawing out their implications; but I hope it is clear from the examples what some of these implications are." (p. 53)

54.		———. 2001. "The Question of Realism." *Philosopher's Imprint* no. 1:1-30. Reprinted in Andrea Bottani, Massimiliano Carrara, Pierdaniele Giaretta (eds.)*, Individuals, Essence and Identity. Themes of Analytic Metaphysics*, Dordrecht: Kluwer 2002, pp. 3-48.
"My aim in this paper is to help lay the conceptual and methodological foundations for the study of realism. I come to two main conclusions: first, that there is a primitive metaphysical concept of reality, one that cannot be understood in fundamentally different terms; and second, that questions of what is real are to be settled upon the basis of considerations of *ground*. The two conclusions are somewhat in tension with one another, for the lack of a definition of the concept of reality would appear to stand in the way of developing a sound methodology for determining its application; and one of my main concerns has been to show how the tension between the two might be resolved.
The paper is in two main parts. In the first, I point to the difficulties in making out a metaphysical conception of reality.
I begin by distinguishing this conception from the ordinary conception of reality (§ 1) and then show how the two leading contenders for the metaphysical conception -- the factual and the irreducible-both appear to resist formulation in other terms. This leads to the quietist challenge, that questions of realism are either meaningless or pointless (§ 4); and the second part of the paper (§§ 5-10) is largely devoted to showing how this challenge might be met. I begin by introducing the notion of ground (§ 5) and then show how it can be used as a basis for resolving questions both of factuality (§§ 6-7) and of irreducibility (§§ 8-9). I conclude with some remarks on the essential unity of these two questions and of the means by which they are to be answered (§ 10)." (pp. 3-4)

55.		———. 2009. "The Question of Ontology." In *Metametaphysics: New Essays on the Foundations of Ontology*, edited by Chalmers, David J., Manley, David and Wassermann, Ryan, 157-177. New York: Oxford University Press.
"There are a number of difficulties with the standard quantificational view. They are for the most part familiar but it will be worth spelling them out, if only to make clear how far removed our understanding of the ontological question is from our understanding of their quantificational counterparts. Philosophers may have learned to live with the disconnect between the two, but their tolerance of the situation should not lull us into thinking that it is tolerable." (p. 138)
"This account of our method for settling ontological dispute requires that we have a grasp not only of an absolute conception of reality, of there *being nothing more than ...*, but also of a relative conception, of *there being nothing more to ... than ...*, since it is through our assessment of the relative claims that we attempt to adjudicate the plausibility of the absolute claims. Many philosophers seem to have supposed that our having a good working grasp of such notions depends upon our being able to define them in other terms, so that questions of metaphysics or ontology thereby become questions of semantics or epistemology or total science. I consider this to be a serious methodological error: upon careful reflection we can see that our intuitive grasp of these notions is a sufficient guide in itself to their proper employment; and the attempt to define these notions in other terms has served merely to distort our understanding of the metaphysical questions and of the methods by which they are to be resolved." (p. 176)

56.		———. 2010. "Some Puzzles of Ground." *Notre Dame Journal of Formal Logic* no. 51:97-118.
"In recent years there has been a growing interest in the concept of ground—of one thing holding in virtue of another, and, in developing an account of ground, a number of philosophers have laid down principles which they regard as unquestionably true of the concept. (1) The purpose of this note is to show that these principles are in conflict with seemingly impeccable principles of logic. Thus a

choice must be made; either one or more of the metaphysical principles or one or more of the logical principles should be given up.

Some philosophers—and especially those already unsympathetic to ground—may think that the conflict reveals some underlying defect in the concept. For if acceptance of the concept of ground has such untoward consequences, then this can only be because the concept was no good in the first place. My own view—which I suggest toward the end of the paper—is quite different. It is not that considerations of ground should be ignored or even that the principles of ground should be given up in the light of their conflict with the principles of logic. Rather we need to achieve some kind of reflective equilibrium between the two sets of principles, one that does justice both to our logical intuitions and to our need for some account of their ground. Thus the conflict, far from serving to undermine the concept of ground, serves to show how important it is to arriving at a satisfactory view of what in logic, as in other areas of thought, can properly be taken to hold.

The puzzle to which the conflict of principles gives rise bears some resemblance to the paradoxes of self-reference. It is not itself a paradox of self-reference: the puzzle, on the one side, makes no direct use of self-reference; the paradox, on the other side, makes no direct appeal to the notion of ground. But considerations of ground are often used to motivate certain solutions to the paradoxes, and the puzzle makes clear the reasoning behind these considerations and brings out the critical role played by the notion of ground. (2)" (pp. 97-98)

(1) They include Audi [1], Batchelor [2], Correia [3], Correia [4], Rosen [10], Schneider [11], and Schneider [12].

(2) I especially have in mind the kind of solution to the semantic paradoxes to be found in Kripke [8].

References

[1] Audi, P., "Grounding," forthcoming, 2010. [Paul R. Audi, 'Grounding: Toward a Theory of the In-Virtue-Of Relation', *The Journal of Philosophy* 109, 2012, pp. 685-711.]

[2] Batchelor, R., "Grounds and consequences," *Grazer Philosophische Studien*, vol. 80 (2010), pp. 65–77.

[3] Correia, F., *Existential Dependence and Cognate Notions*, Philosophia Verlag GmbH, München, 2005.

[4] Correia, F., "Grounding and truth-functions," forthcoming in *Logique et Analyse* [211 (2010), 251–279]

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57.   ———. 2012. "Guide to Ground." In *Metaphysical Grounding: Understanding the Structure of Reality* edited by Correia, Fabrice and Schnieder, Benjamin, 37-80. Cambridge: Cambridge University Press.

"A number of philosophers have recently become receptive to the idea that, in addition to scientific or causal explanation, there may be a distinctive kind of metaphysical explanation, in which explanans and explanandum are connected, not through some sort of causal mechanism, but through some constitutive form of determination. I myself have long been sympathetic to this idea of constitutive determination or "ontological ground"; and it is the aim of the present chapter to help put the idea on a firmer footing – to explain how it is to be understood, how it relates to other ideas, and how it might be of use in philosophy. (1)" (p. 37)

(1) A number of other philosophers (they include Audi [forthcoming], Batchelor [2010], Schaffer [2009b], Correia [2005, 2010], Raven [2009], Rosen [2010],

Schnieder [2011]) have done related work in defense of the notion; and I have not attempted to make a detailed comparison between their ideas and my own.

I am grateful to the participants at the Boulder conference on dependence and to Neil Tennant for many helpful comments on an earlier draft of the chapter. I should add that, for reasons of space, some of the material in the chapter originally submitted to the volume had been abridged.

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"Ground is the relation of one truth holding in virtue of others. This relation is like that of consequence in that a necessary connection must hold between the relata if the relation is to obtain but it differs from consequence in so far as it required that there should also be an explanatory connection between the relata. The grounds must account for what is grounded. Thus even though P is a consequence of P & P, P & P is not a ground for P, since it does not account for the truth of P.

It is the aim of this paper to develop a semantics and proof theory for the pure logic of ground. The pure logic of ground stands to ground as Gentzen's structural rules stand to consequence. One prescinds from the internal structure of the propositions under consideration and simply asks what follows from what in virtue of the formal features of the underlying relation. Thus the claim that ground is transitive, that if P is a ground for Q and Q a ground for R then P should be a ground for R, is plausibly regarded as part of the pure logic of ground; but the claim that P is a ground for P & P will be part of the applied as opposed to the pure logic of ground, since it turns on the logical properties of &." (p. 1)

59.   ———. 2012. "The Essential Glossary of Ground."1.
Available at https://www.academia.edu/27080402

"ground - a philosophical foodstuff, considered by some to be the elixir of life and by others to be
a deadly poison." (p. 1)

60.   ———. 2015. "Unified Foundations for Essence and Ground." *Journal of the American Philosophical Association* no. 1:296-315.

"There are, I believe, two different kinds of explanation or determination to be found in metaphysics - one of identity, or of what something is, and the other of truth, or of why something is so. One may explain what singleton Socrates is, for example, by saying that it is the set whose sole member is Socrates and one may explain why, or that in virtue of which, singleton Socrates exists by appeal to the existence of Socrates. One might talk, in connection with the first, of essence, of what singleton Socrates essentially is and, in connection with the second, of ground, of what grounds the existence of singleton Socrates. (1)

Of course, explanations of identity and of truth also occur outside of metaphysics, but what is characteristic of their occurrence within metaphysics is the especially tight connection between explanandum and explanans. Being a set whose sole member is Socrates is somehow constitutive of what Socrates is; and Socrates' existing is somehow constitutive of the existence of singleton Socrates. It is perhaps hard to say in general what constitutes a constitutive explanation but it is at least required, in any case of a constitutive explanation, that there should be metaphysically necessary connection between explanandum and explanans. Given that singleton Socrates is essentially a set whose sole member is Socrates, then it is metaphysically necessary that the set is one whose sole member is Socrates; and given that Socrates existence grounds the existence of singleton Socrates, it will be metaphysically necessary if Socrates exists that his singleton exists." (p. 296)
(...)
"My present view is that the relationship between the two kinds of explanation is much closer than I had originally taken it to be. The decisive step towards achieving the desired rapprochement is to see both kinds of explanation as having a generic, as well as a specific, bearing on the objects with which they deal; they must be allowed to have application to an arbitrary individual of a given kind and not just to specific individuals of that kind. Once this step is taken, the initial disparities between essence and ground disappear and we are able to provide a unified and uniform account of the two notions. I had previously referred to essence and ground as the pillars upon which the edifice of metaphysics rests (Fine [2012], p. 80), but we can now see more clearly how the two notions complement one another in providing support for the very same structure." (p. 297)
(1) I should like to thank the members of audiences at Birmingham, Oxford and Oslo for many helpful comments. The present paper is a companion to my paper 'Identity Criteria and Ground' and the reader may find it helpful, if not essential, to have the other paper at hand. I should note that Correia [2014] attempts to provide unified foundations, of a very different sort, in terms of an underlying notion of factual identity.
There has been a growing literature on essence and ground in the recent philosophical literature. My own work on essence dates back to Fine [1994]; and a useful reference on ground is the anthology of Correia & Schnieder [2012].
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Correia F. & Schnieder B. (eds.), [2012] '*Metaphysical Grounding*', Cambridge: Cambridge University Press.
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Fine K., [2014] 'Identity Criteria and Ground', to appear in *Philosophical Studies*. [vol. 173, 2016, pp. 1-19]

61.   ———. 2016. "Identity Criteria and Ground." *Philosophical Studies* no. 173:1-19.
"Philosophers often look for criteria of identity or think they are not to be found. They may ask for a criterion of identity for sets, for example, or for propositions, or for persons across time, or for individuals across possible worlds. And in response to such requests, they have said such things as: a criterion of identity for sets is their having the same members; or a criterion of identity for persons across time is their psychological continuity. (1)
But what are these philosophers asking for when they ask for such criteria? I shall argue that the usual way of construing these questions is seriously misguided. I shall also propose an alternative - and, I hope, preferable - way of construing these

questions and shall briefly indicate its significance for our more general understanding of metaphysical explanation. In what follows, I shall often use the criteria of identity for sets and for persons as examples. But it is important to bear in mind that they are just that, examples, and that the points I make concerning them are meant to apply, across the board, to all identity criteria." (p. 1)
(1) 1I should like to thank Ted Sider, Fatema Amijee and Martin Glazier for their very helpful written comments and members of the audiences at Austin, Birmingham, CUNY, Oberlin, Oxford and Oslo for many helpful oral comments.

62.   ———. 2017. "A Theory of Truthmaker Content II: Subject-matter, Common Content, Remainder and Ground." *Journal of Philosophical Logic* no. 46:675-702.
"We continue with the development of the theory of truthmaker content begun in part I, dealing with such 'non-standard' topics as subject matter, common content, logical remainder and ground. This is by no means an exhaustive list of topics that might have been considered but it does provide an indication of the nature and scope of the theory. As before, the paper is divided into an informal exposition and a technical addendum. Both can be read independently of the other but it would be helpful, in either case, to have the first part of the paper at hand." (p. 675)

63.   ———. 2020. "Semantics." In *The Routledge Handbook of Metaphysical Grounding*, edited by Raven, Michael J., 501-509. New York: Routledge.
"It has often been supposed that there need only be a modal connection between a truth-maker and the sentence it makes true or that the truth-maker need only be partially relevant to the sentence it makes true, so that the fact that it is raining and windy, for example, would then be a truth-maker for the sentence 'it is raining or snowing'. It is therefore important to note that the notion of ground gives rise to a quite distinctive notion of truth-making, which requires not merely a modal connection but also a very strong relevant connection.
Truth-making has been used for two quite distinct ends, one metaphysical and the other semantical. By attempting to discern the truth-makers of sentences, it has been thought that we might achieve a better understanding of the world via an understanding of *what* makes the sentences true and also that we might achieve a better understanding of language via an understanding of *how* the sentences are made true." (p. 502, note omitted)

64.   Fine, Kit, and de Rosseet, Louis. 2021. "A Semantics for the Impure Logic of Ground."
Avalaible at https://www.uvm.edu/~lderosse/impure.pdf
"This paper establishes a sound and complete semantics for the impure logic of ground. Fine [2012a] sets out a system for the pure logic of ground, one in which the formulas between which ground-theoretic claims hold have no internal logical complexity; and it provides a sound and complete semantics for the system.
Fine [2012b, §§6-8] sets out a system for an impure logic of ground, one that extends the rules of the original pure system with rules for the truth-functional connectives, the first-order quantiers, and λ-abstraction. However, it does not provide a semantics for this system. The present paper partly fills this lacuna by providing a sound and complete semantics for a system GG containing the truth-functional operators that is closely related to the truth-functional part of the system of [Fine, 2012b].(1)" (p. 1)
(1) The main differences between the two systems are that we now only allow finitely many formulas to occur to the left of the ground-theoretic operator and that we have added the Irreversibility Rule, which should have been part of the original system.
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