Theory and History of Ontology (www.ontology.co)      by Raul Corazzon | e-mail: rc@ontology.co

## Annotated bibliography on metaphysical grounding. Fourth part: Lar-Pic

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**Bibliography**

1.   Larsson, Staffan. 2018. "Grounding as a Side-Effect of Grounding." *Topics in Cognitive Science* no. 10:389-408.
     Abstract: "In relation to semantics, "grounding" has (at least) two relevant meanings. "Symbol grounding" is the process of connecting symbols (e.g., words) to perception and the world. "Communicative grounding" is the process of interactively adding to common ground in dialog. Strategies for grounding in human communication include, crucially, strategies for resolving troubles caused by various kinds of miscommunication. As it happens, these two processes of grounding are closely related. As a side-effect of grounding an utterance, dialog participants (DPs) may adjust the meanings they assign to linguistic expressions, in a process of semantic coordination.
     Meanings of at least some expressions (e.g., concrete nouns) include perceptual aspects which enable DPs to classify entities as falling under the expression or not based on their perception of those entities. We show how perceptual grounding of symbols can be achieved in a process of interactively adding to common ground. This requires that perceptual aspects of meaning can be updated as a result of participating in linguistic interaction, thereby enabling fine-grained semantic coordination of perceptually grounded linguistic meanings.
     A formal semantics for low-level perceptual aspects of meaning is presented, tying these together with the logical-inferential aspects of meaning traditionally studied in formal semantics. The key idea is to model perceptual meanings as classifiers of perceptual input. This requires a framework where intensions are (a) represented independently of extensions, and (b) structured objects which can be modified as a result of learning. We use Type Theory with Records (TTR), a formal semantics framework which starts from the idea that information and meaning are founded on our ability to perceive and classify the world, that is, to perceive objects and situations as being of types. As an example of our approach, we show how a simple classifier of spatial information based on the Perceptron can be cast in TTR."

2.   Leary, Stephanie. 2017. "Non-naturalism and Normative Necessities." *Oxford Studies in Metaethics* no. 12:76-105.

"My aim in this chapter, however, is to show that non-naturalists can offer a metaphysical explanation for why the normative supervenes on the natural by adopting the sort of essentialist metaphysics developed by Fine, Rosen, and Dasgupta.(5) Specifically, I argue (in §4.4) that the non-naturalist may claim that there are some hybrid normative properties whose essences involve both naturalistic sufficient conditions for their instantiation and sufficient conditions for the instantiation of other sui generis normative properties, and that this explains why the normative is determined by, and supervenes on, the natural. Moreover, I argue (in §4.5) that this nonnaturalist explanation for supervenience does not covertly assume any brute metaphysically necessary connections between natural and normative properties, and thus avoids what McPherson calls "bruteness revenge."6" (p. 77)

(5) 5 Fine (1994a, 2012), Rosen (2010), and Dasgupta (2014).
(6) McPherson (2012).
References
Dasgupta, S. 2014. "The Possibility of Physicalism," *Journal of Philosophy*, 111(9/10): 557–92.
Fine, K. 1994a. "Essence and Modality," *Philosophical Perspectives*, 8: 1–16.
Fine, K. 2012. "Guide to Ground," in F. Correia and B. Schnieder (eds.), *Metaphysical Grounding,* 37–80. Cambridge: Cambridge University Press.
McPherson, T. 2012. "Ethical Non-naturalism and the Metaphysics of Supervenience," in R. Shafer-Landau (ed.), *Oxford Studies in Metaethics*, 7, 205–34. Oxford: Oxford University Press.
Rosen, G. 2010. "Metaphysical Dependence: Grounding and Reduction," in B. Hale and A. Hoffmann (eds.), *Modality: Metaphysics, Logic, and Epistemology*, 109–36. New York: Oxford University Press.

3.        ———. 2020. "Normativity." In *The Routledge Handbook of Metaphysical Grounding*, edited by Raven, Michael J., 472-483. New York: Routledge.
"One of the ways in which grounding earns its keep as a respectable bit of ideology is by being useful for understanding long-standing philosophical debates, including debates in normative ethics and metaethics. (...)
But this common story about grounding's applications in normative inquiry is rife with controversy. First, even if normative ethicists are in the business of making because-claims, it's controversial whether these because-claims are about *metaphysical grounding* or a related but distinctly normative relation—*normative grounding*.
Second, this grounding characterization of the naturalism versus non-naturalism debate begins to look problematic once we ask whether on this characterization, for example, the fact that an act's maximizing happiness fully grounds that it's right is itself a normative fact that must be fully grounded in natural, non-normative facts in order for naturalism to be true.Very general metaphysical considerations suggest that such grounding-facts cannot be so grounded.
(...)
This chapter surveys these two main issues in §2 and §3, respectively, while highlighting what's at stake in these disputes for both normative and metaphysical theorizing." (p. 472)

4.        Lenart, Karol. 2021. "Grounding, Essence, and Contingentism." *Philosophia* no. 49:2157-2172.
Abstract: "According to grounding necessitarianism if some facts ground another fact, then the obtaining of the former necessitates the latter. Proponents of grounding contingentism argue against this claim, stating that it is possible for the former facts to obtain without necessitating the latter. In this article I discuss a recent argument from restricted accidental generalisations provided by contingentists that advances such possibility. I argue that grounding necessitarianism can be defended against it. To achieve this aim, I postulate a relationship between grounding and essence by introducing a notion of individual essences understood as a set of essential properties that individuate its bearer. According to a proposed view grounding holds in virtue of identities of its relata,

which are in turn determined by their respective individual essences. From there I claim that if grounding holds in virtue of the individual essences of its relata, then it is possible to resist the objection from restricted accidental generalisations and maintain a view that grounds necessitates what is grounded."

5.  Lennox, James G. 2021. "Form as Cause and the Formal Cause: Aristotle's Answer." In *Neo-Aristotelian Perspectives on Formal Causation*, edited by Jansen, Ludger and Sandstad, Petter, 225-237. New York: Routledge.
    "Introduction: The primary focus of this paper is a distinction of vital importance in understanding causality in the context of Aristotle's investigation of organisms. Aristotle insists that the form of a living being, that is, its soul (*psyche*), is a cause in three of the four ways of being a cause (DA [*De anima*] 11.4, 41568-21, discussed below). This claim has two important implications:
    • Being a formal cause is only one way in which form is a cause
    • It turns out that there is an intimate relationship in Aristotle's natural philosophy between the formal cause, the moving cause, and the cause for the sake of which (aka the final cause), and this has a direct implication for Aristotle's understanding of the way in which an animal's soul, that is, its form, serves as the cause of its being the kind of living thing it is.
    As we will soon see, when it comes to living beings, the relationship between form as formal cause and form as final cause is an especially intimate one." (p. 225)

6.  Leuenberger, Stephan. 2013. "Supervenience Among Classes of Relations." In *Varieties of Dependence: Ontological Dependence, Grounding, Supervenience, Response-Dependence*, edited by Hoeltje, Miguel, Schnieder, Benjamin and Steinberg, Alex, 325-346. Munich: Philosophia Verlag.
    "Whatever the exact relationship between supervenience and reducibility, the question whether some relations are reducible to properties naturally leads to the question whether the former supervene on the latter. What would it take for relations to supervene on properties?
    The extant literature does not contain a sustained and systematic examination of this question, at least as far as I am aware. This is surprising, given that a great deal of work has been done on distinguishing various concepts of supervenience, supplying exact characterizations for them, and finding applications. It is even more surprising in light of the fact that the concept of supervenience is eminently suitable to be applied to relations, as I shall argue." (pp. 327-328)

7.  ———. 2014. "Grounding and Necessity." *Inquiry: An Interdisciplinary Journal of Philosophy* no. 57:151-174.
    Abstract: "The elucidations and regimentations of grounding offered in the literature standardly take it to be a necessary connection. In particular, authors often assert, or at least assume, that if some facts ground another fact, then the obtaining of the former necessitates the latter; and moreover, that grounding is an internal relation, in the sense of being necessitated by the existence of the relata. In this article, I challenge the necessitarian orthodoxy about grounding by offering two prima facie counterexamples.
    First, some physical facts may ground a certain phenomenal fact without necessitating it; and they may co-exist with the latter without grounding it. Second, some instantiations of categorical properties may ground the instantiation of a dispositional one without necessitating it; and they may co-exist without grounding it. After arguing that these may be genuine counterexamples, I ask whether there are modal constraints on grounding that are not threatened by them. I propose two: that grounding supervenes on what facts there are, and that every grounded fact supervenes on what grounds there are. Finally, I attempt to provide a rigorous formulation of the latter supervenience claim and discuss some technical questions that arise if we allow descending grounding chains of transfinite length."

8.  ———. 2014. "From Grounding to Supervenience?" *Erkenntnis* no. 79:227-240.
    Abstract: "The concept of supervenience and a regimented concept of grounding are often taken to provide rival explications of pre-theoretical concepts of dependence

and determination. Friends of grounding typically point out that supervenience claims do not entail corresponding grounding claims. Every fact supervenes on itself, but is not grounded in itself, and the fact that a thing exists supervenes on the fact that its singleton exists, but is not grounded in it. Common lore has it, though, that grounding claims do entail corresponding supervenience claims. In this article, I show that this assumption is problematic. On one way of understanding it, the corresponding supervenience claim is just an entailment claim under a different name. On another way of understanding it, the corresponding claim is a distinctive supervenience claim, but its specification gives rise to what I call the ''reference type problem'': to associate the classes of facts that are the relata of grounding with the types of facts that are the relata of supervenience. However it is understood, supervenience rules out prima facie possibilities: alien realizers, blockers, heterogeneous realizers, floaters, and heterogeneous blockers. Instead of being rival explications of one and the same pre-theoretical concept, grounding and supervenience may be complementary concepts capturing different aspects of determination and dependence."

9.      ———. 2020. "Emergence." In *The Routledge Handbook of Metaphysical Grounding*, edited by Raven, Michael J., 312-323. New York: Routledge. "Grounding is taken to be topic neutral, and contributors tend to be interested in general and noncontingent claims about it.
(...)
The literature on emergence is strikingly different on all those counts. It is dispersed over a number of subdisciplines of philosophy, with different intellectual traditions, notably philosophy of mind, philosophy of science, and to a lesser extent metaphysics. Indeed, collections on emergence (e.g., Bedau and Humphreys (2008); Clayton and Davies (2006)) tend to cast the net even wider and include contributions from various natural and social sciences, as well as speculative proposals from the margins of mainstream science.Accordingly, the literature is highly heterogeneous.This means that whatever generalizations I am about to offer on the literature should be taken with a grain of salt." (p. 312)
References
Bedau, M.A. and Humphreys, P. (2008). *Emergence: Contemporary Readings in Philosophy and Science.* The MIT Press, Cambridge, MA.
Clayton, P. and Davies, P. (2006). *The Re-Emergence of Emergence:The Emergentist Hypothesis from Science to Religion*. Oxford University Press, Oxford.

10.     Liggins, David. 2012. "Truth-makers and Dependence." In *Metaphysical Grounding: Understanding the Structure of Reality* edited by Correia, Fabrice and Schnieder, Benjamin, 254-271. Cambridge: Cambridge University Press.
"This chapter discusses the significance of non-causal dependence for truth-maker theory. After introducing truth-maker theory (Section 10.1), I discuss a challenge to it levelled by Benjamin Schnieder. I argue that Schnieder's challenge can be met once we acknowledge the existence of non-causal dependence and of explanations which rely on it (Sections 10.2 to 10.5). I then mount my own argument against truth-maker theory, based on the notion of non-causal dependence (Sections 10.6 and 10.7)." (p. 254)
References
Schnieder, B. 2006. 'Truth-Making Without Truth-Makers', *Synthese* 152: 21–46

11.     ———. 2016. "Grounding and the Indispensability Argument." *Synthese* no. 193:531-548.
Abstract: "There has been much discussion of the indispensability argument for the existence of mathematical objects. In this paper I reconsider the debate by using the notion of grounding, or non-causal dependence. First of all, I investigate what proponents of the indispensability argument should say about the grounding of relations between physical objects and mathematical ones. This reveals some resources which nominalists are entitled to use. Making use of these resources, I present a neglected but promising response to the indispensability argument—a

liberalized version of Field's response—and I discuss its significance. I argue that if it succeeds, it provides a new refutation of the indispensability argument; and that, even if it fails, its failure may bolster some of the fictionalist responses to the indispensability argument already under discussion. In addition, I use grounding to reply to a recent challenge to these responses."

12.    Litland, Jon Erling. 2011. Natural Deduction for Logics of Ground.
Available on academia.edu.
Abstract: "I develop two logics (pplg and pnlg) of grounding which can deal with iterated grounding claims. The logics are developed in natural deduction form and the grounding operators are equipped with both introduction and elimination rules. I prove normalization results for pplg and pnlg and determine their relationship to Fine's Pure Logic of Ground."

13.    ———. 2013. "On Some Counterexamples to the Transitivity of Grounding."
*Essays in Philosophy* no. 14:19-32.
Abstract: "I discuss three recent counterexamples to the transitivity of grounding due to Jonathan Schaffer. I argue that the counterexamples don't work and draw some conclusions about the relationship between grounding and explanation."
References
Schaffer, Jonathan (2012). "Grounding, Transitivity, and Contrastivity". In: *Metaphysical Grounding*. Ed. by Fabrice Correia and Benjamin Schnieder. Cambridge University Press. Chap. 4, pp. 122–138

14.    ———. 2015. "Grounding, Explanation, and the Limit of Internality." *The Philosophical Review* no. 124:481-532.
"For the reader's benefit, here's an overview of the essay. In section 2, I introduce terminology and notation. In section 3, I explain what I mean by the thesis that grounding is internal. In section 4, I lay down the assumptions about ground that generate the problem for internality; in section 5, I present the counterexample; and in section 6, I defend it against a variety of objections. This concludes the negative part of the essay.
Moving on to the positive part of the essay, I link grounding with the notion of a "completely satisfactory explanation" (section 7).
(...)
On either alternative, we obtain a satisfactory logic of ground in settings where we have self-reference, and we can establish the conjecture of the previous section. After concluding (section 9), two technical appendixes establish some claims baldly asserted in the main text: appendix A shows how supervaluationism can be satisfactorily combined with a theory of ground, and appendix B works through the technical details of the account of ground in terms of completely satisfactory explanation." (pp. 482-483)

15.    ———. 2016. "An Infinitely Descending Chain of Ground Without a Lower Bound." *Philosophical Studies* no. 173:1361-1369.
Abstract: "Using only uncontentious principles from the logic of ground I construct an infinitely descending chain of ground without a lower bound. I then compare the construction to the constructions due to Dixon (forthcoming [2016]) and Rabin and Rabern (J Philos Log, 2015)."
References
Dixon, T. S. (2016). What is the well-foundedness of grounding? *Mind*. 125, 439-468.
Rabin, G. O., & Rabern, B. (2015). Well-founding grounding grounding. *Journal of Philosophical Logic*

16.    ———. 2016. "Pure Logic of Many-Many Ground." *Journal of Philosophical Logic* no. 45:531-577.
Abstract: "A logic of grounding where what is grounded can be a collection of truths is a "many-many" logic of ground. The idea that grounding might be irreducibly many-many has recently been suggested by Dasgupta (2014). In this paper I present a range of novel philosophical and logical reasons for being interested in many-

many logics of ground. I then show how Fine's State-Space semantics for the Pure Logic of Ground (PLG) can be extended to the many-many case, giving rise to the Pure Logic of Many-Many Ground (PLMMG). In the second, more technical, part of the paper, I do two things. First, I present an alternative formalization of PLG; this allows us to simplify Fine's completeness proof for PLG. Second, I formalize PLMMG using an infinitary sequent calculus and prove that this formalization is sound and complete."

17.        ———. 2017. "Grounding Ground." In *Oxford Studies in Metaphysics: Vol. 10*, edited by Bennett, Karen and Zimmermann, Dean W, 279-315. New York: Oxford University Press.

"If Γ's being the case grounds $\phi$'s being the case, what grounds that Γ's being the case grounds $\phi$'s being the case?1 This is the Problem of Iterated Ground.(1) Dasgupta (2014b), Bennett (2011), and deRosset (2013) have grappled with this problem from the point of view of metaphysics. But iterated ground is a problem not just for metaphysicians: the existing logics of ground(2) have had nothing to say about such iterated grounding claims. In this paper I propose a novel account of iterated ground and develop a logic of iterated ground. The account—what I will call the Zero-Grounding Account (ZGA for short)—is based on three mutually supporting ideas: (i) taking non-factive ground as a primitive notion of ground; (ii) tying nonfactive ground to explanatory arguments; and (iii) holding that true non-factive grounding claims are zero-grounded (in Fine's sense)." (p. 279)

(1) Here Γ are some (true) propositions and $\phi$ is a (true) proposition. For the official formulation of claims of ground, see § 2 below. In the interest of readability I will not distinguish carefully between use and mention throughout.

(2) Fine 2012b; Correia 2010, 2014; Schnieder 2011; Poggiolesi 2015.

References

Bennett, K. (2011). "By Our Bootstraps." *Philosophical Perspectives* 25.1, pp. 27–41.

Correia, Fabrice (2010). "Grounding and Truth-functions." *Logique et Analyse* 53.211, pp. 251–79.

Correia, Fabrice (2014). "Logical Grounds." *Review of Symbolic Logic* 7.1, pp. 31–59.

Fine, Kit (2012b). "The Pure Logic of Ground." *Review of Symbolic Logic* 5.1, pp. 1–25.

Dasgupta, Shamik (2014b). "The Possibility of Physicalism." *Journal of Philosophy* 111.9/10, pp. 557–92.

deRosset, Louis (2013). "Grounding Explanations." *Philosophers' Imprint* 13.7, pp. 1–26.

Poggiolesi, Francesca (2015). "On Defining the Notion of Complete and Immediate Formal Grounding." *Synthese*, pp. 1–21.

Schnieder, Benjamin (2011). "A Logic for 'Because'." *Review of Symbolic Logic* 4.3, pp. 445–65.

18.        ———. 2018. "Could the Grounds's Grounding the Grounded Ground the Grounded?" *Analysis* no. 78:56-65.

Abstract: "The answer to the opening question is 'yes': it follows from standard principles in the logic of ground that that there are facts φ and ψ such that φ's partially grounding ψ partially grounds ψ. This might seem like a mere curiosity, but it has important consequences for the following hotly debated issue. Suppose that the fact φ grounds the fact ψ; then this – that φ grounds ψ – is a further fact, and we may ask what grounds it. (This is the Problem of Grounding Ground.) Most philosophers who have addressed it have held that φ is at least a partial ground for φ's grounding ψ. Unfortunately, this, together with standard principles in the logic of ground, entails that the answer to the opening question is 'no'. Standard and plausible principles about ground are thus inconsistent; moreover, this inconsistency turns on different principles than the inconsistencies unearthed by Fine (2010) and Krämer (2013). In particular, the principle of Amalgamation – that if each of φ and

φ is a ground for θ then φ together with φ is a ground for θ – plays a role in generating the inconsistency.

In this article, I establish the above claims and, tentatively, argue that we resolve the inconsistency by giving up Amalgamation, thus clearing the way for φ's grounding ψ's grounding ψ."

References

Fine, K. 2010. Some puzzles of ground. *Notre Dame Jorunal of Formal Logic* 51: 97–118.

Krämer, S. 2013. A simpler puzzle of ground. *Thought* 2: 85–9.

19.     ———. 2018. "In Defense of the (Moderate) Disunity of Grounding." *Thought: A Journal of Philosophy* no. 7:97-108.

Abstract: "Fine (2012) is a pluralist about grounding. He holds that there are three fundamentally distinct notions of grounding: metaphysical, normative, and natural. Berker (2017) argues for monism on the grounds that the pluralist cannot account for certain principles describing how the distinct notions of grounding interact. This paper defends pluralism. By building on work by Fine (2010) and Litland (2015) I show how the pluralist can systematically account for Berker's interaction principles.

A monist about grounding holds that there is a single fundamental grounding relation; a pluralist holds that there are several fundamentally distinct grounding relations. In this paper I do two things. First, I defend the moderate pluralism of Fine (2012) from two challenges recently presented by Berker (2017). Second, I show that the pluralist's most basic grounding relations are not asymmetric." (A note omitted)

References

Berker, Selim. "The Unity of Grounding." *Mind* (2017). [2018, 127, 729-777]

Fine, Kit. "Some Puzzles of Ground." *Notre Dame Journal of Formal Logic* 51.1 (2010): 97–118.

Fine, Kit. "Guide to Ground," in *Metaphysical Grounding*, edited by Fabrice Correia and Benjamin Schnieder. Cambridge: Cambridge University Press, 2012, 37–80 Ch. 1.

Litland, Jon Erling. "Grounding, Explanation, and the Limit of Internality." *Philosophical Review* 124.4 (2015): 481–532.

20.     ———. 2018. "Pure Logic of Iterated Full Ground." *The Review of Symbolic Logic* no. 11:411-435.

Abstract: "This article develops the Pure Logic of Iterated Full Ground (PLIFG), a logic of ground that can deal with claims of the form "φ grounds that (ψ grounds θ)"—what we call iterated grounding claims. The core idea is that some truths ground a truth φ when there is an explanatory argument (of a certain sort) from premises to conclusion φ. By developing a deductive system that distinguishes between explanatory and nonexplanatory arguments we can give introduction rules for operators for factive and nonfactive full ground, as well as for a propositional "identity" connective.

Elimination rules are then found by using a proof-theoretic inversion principle."

21.     ———. 2018. "Bicollective Ground: Towards a (Hyper)graphic Account." In *Reality and Its Structure: Essays in Fundamentality*, edited by Bliss, Ricki and Priest, Graham, 140-163. Oxford: Oxford University Press.

"Overview: We begin in §2 by introducing the central notion of immediate strict full ground.

In §3 we develop some ways of making sense of the characteristic non-distributivity of bicollective ground and argue that mathematical structuralists should avail themselves of bicollective ground. In §4 we rehearse the truthmaker semantics for bicollective ground and point out some problems that arise in the bicollective case. In §5 we recall the graph-theoretic account for the left-collective case and argue against Fine's principle of Amalgamation. The main contribution of the paper comes in §6 where we develop the graph-theoretic account ofbicollective ground. We

discuss how to define acyclic graphs, mediate ground, the notions of partial ground, and what it is for two collections of truths to be ground-theoretically equivalent. We conclude with some questions for future research (§7)." (p. 141)

22.    ———. 2020. "Meta-Ground." In *The Routledge Handbook of Metaphysical Grounding*, edited by Raven, Michael J., 133-147. New York: Routledge.
"Suppose the facts $\Gamma$ ground the fact $\phi$. Then it is a fact that $\Gamma$ grounds $\phi$. And we may ask what grounds it. What is the answer? And what turns on this? This is the question of *meta-ground*, *grounding ground*, or *iterated ground*.
The goal of this chapter is to introduce the reader to the state of the debate about meta-ground and to indicate some areas for future research. Even though the problem of meta-ground is a fairly small piece of the larger literature on ground, it is impossible to cover everything. Since I want to indicate what I take to be the most interesting areas for future research, regrettably some subtleties in the existing views had to be suppressed." (p. 133, a note omitted)

23.    Lopez de Sa, Dan. 2013. "Rigid vs. Flexible Response-Dependent Properties." In *Varieties of Dependence: Ontological Dependence, Grounding, Supervenience, Response-Dependence*, edited by Hoeltje, Miguel, Schnieder, Benjamin and Steinberg, Alex, 393-417. Munich: Philosophia Verlag.
"According to a more or less traditional view of secondary qualities, they are-or would be-real though not fully objective features of external objects. Roughly speaking, they are real not only by being the significations of natural simple predicates which can be used to make predications that are, for the most part, truth-evaluable and sometimes true, but also by being exemplified independently of those representations.
Roughly speaking, they are *less than fully objective* in that it is essential for something having them that it bears a certain relation to subjective responses of ours, at least as we actually are.
Response-dependence was intended to generalize the notion of a secondary quality in that respect, by applying also to values in a way such that-at least a qualified form of-realism was vindicated. My view is that response-dependence, by itself, fails with respect to this project." (p. 393)

24.    Loss, Roberto. 2015. "Grounds, Roots and Abysses." *Thought: A Journal of Philosophy* no. 4:41-52.
Abstract: "The aim of this study is to address the "Grounding Grounding Problem," that is, the question as to what, if anything, grounds facts about grounding. I aim to show that, if a seemingly plausible principle of modal recombination between fundamental facts and the principle customarily called "Entailment" are assumed, it is possible to prove not only that grounding facts featuring fundamental, contingent grounds are derivative but also that either they are (at least) partially grounded in the grounds they feature or they are "abysses" (i.e., derivative facts without fundamental grounds and lying at the top of an infinitely descending chain of ground)."

25.    ———. 2016. "Parts Ground the Whole and Are Identical to It." *Australasian Journal of Philosophy* no. 94:489-498.
Abstract: "What is the relation between parts taken together and the whole that they compose?
The recent literature appears to be dominated by two different answers to this question, which are normally thought of as being incompatible. According to the first, parts taken together are *identical* to the whole that they compose. According to the second, the whole is *grounded* in its parts. The aim of this paper is to make some theoretical room for the view according to which parts ground the whole they compose while being, at the same time, identical to it."

26.    ———. 2017. "Grounding, Contingency and Transitivity." *Ratio* no. 30:1-14.
Abstract: "Grounding contingentism is the doctrine according to which grounds are not guaranteed to necessitate what they ground.

In this paper I will argue that the most plausible version of contingentism (which I will label 'serious contingentism') is incompatible with the idea that the grounding relation is transitive, unless either 'priority monism' or 'contrastivism' are assumed."

27.      ———. 2019. "No Ground for Doomsday." *Inquiry: An Interdisciplinary Journal of Philosophy* no. 62:1136-1156.
Abstract: "The ability of providing an adequate supervenience base for tensed truths may seem to be one of the main theoretical advantages of both the growing-block and the moving-spotlight theory of time over presentism. However, in this paper I will argue that some propositions appear to be as problematic for growing-block theorists as past-directed propositions are for presentists, namely propositions stating that nothing will be the case in the future.
Furthermore, I will show that the moving-spotlight theory can adequately address all the main supervenience challenges that can be levelled against A-theories of time. I will, thus, conclude that, at least as far as the supervenience principle is concerned, the moving-spotlight theory should be preferred over both presentism and the growing-block theory."

28.      Lovett, Adam. 2019. "A Simple Proof of Grounding Internality." *Thought: A Journal of Philosophy* no. 8:154-166.
Abstract: "Some people think that grounding is a type of identity. And some people think that grounding connections hold necessarily. I show that, under plausible assumptions, if grounding is a type of identity, then grounding connections hold necessarily."

29.      ———. 2020. "The Puzzles of Ground." *Philosophical Studies* no. 177:2541-2564.
Abstract: "I outline and provide a solution to some paradoxes of ground."

30.      Lowe, E. J. 1998. *The Possibility of Metaphysics: Substance, Identity, and Time*. Oxford: Clarendon Press.
"The arguments of Chapter 5 more or less take the concept of substance for granted and so part of the aim of Chapter 6 is to provide a rigorous definition of substance, in terms of the crucial notion of *existential dependency*. At the same time, I begin to build up a picture of the relationships between the category of substance and other categories of entities at the same ontological level—entities such as events, properties, places, and times. This picture is further developed in Chapter 7, where I go on to argue for quite general reasons that certain fundamental kinds of substance —what I call primitive substances—must exist in order to provide the ultimate existential grounding of all concrete existence. Such substances are distinctive in that their identity through time is itself primitive or ungrounded.
However, identifying these substances is a more difficult matter than arguing in a general way for the necessity of their existence." (Preface, p. VI)

31.      ———. 2012. "Asymmetrical Dependence in Individuation." In *Metaphysical Grounding: Understanding the Structure of Reality* edited by Correia, Fabrice and Schnieder, Benjamin, 214-233. Cambridge: Cambridge University Press.
"Identity-dependence would appear to be an asymmetrical, or at least an antisymmetrical relation, with the implication that no two distinct entities can be each other's individuators – even if we can allow, as I believe we should, that some entities are self-individuating.
(...)
However, some so-called 'structuralist' ontologies seem to threaten the contention that two or more entities of a certain kind cannot all fix each other's identities.
(...)
If these suggestions are correct, then it would seem that, in principle, all facts about the identities of entities of any kind may 'supervene' upon relational facts about certain structures to which those entities belong. Hence, no identity fact would be metaphysically basic or foundational. In the present chapter, this line of thought will be challenged and thereby a case be made out for the claim that some entities in any

coherent system of ontology must be self-individuating, with these entities ultimately explaining the identities of all other entities in the system." (p. 215)

32.  ———. 2013. "Some Varieties of Metaphysical Dependence." In *Varieties of Dependence: Ontological Dependence, Grounding, Supervenience, Response-Dependence*, edited by Hoeltje, Miguel, Schnieder, Benjamin and Steinberg, Alex, 193-210. Munich: Philosophia Verlag.
"In this paper, I shall first of all (in section 1) define various kinds of ontological dependence, motivating these definitions by appeal to examples. My contention is that whenever we need, in metaphysics, to appeal to some notion of existential or identity-dependence, one or other of these definitions will serve our needs adequately, which one depending on the case in hand. Then (in section 2) I shall respond to some objections to one of these proposed definitions in particular, namely, my definition of (what I call) essential identity dependence.
Finally (in section 3), I shall show how a similar approach can be applied in the theory of truthmaking, by offering an account of the truthmaking relation which defines it in terms of a type of essential dependence. I shall also say why I think that this approach is preferable to one which treats the truthmaking relation as primitive. More generally, my view is that accounts of dependence or 'grounding' which treat these notions as primitive are less satisfactory than my own position, which is that in all cases a suitable definition is forthcoming if we look hard enough." (p. 193)

33.  Lubrano, Michele. 2018. "The Emergence of Ground: Some Limitative Results." *Synthese* no. 198:1303-1315.
Abstract: "In this paper I'm going to deal with the divide between foundationalism and infinitism about grounding. I will examine a thesis about the emergence of ground that has recently been proposed by Matteo Morganti. I will show that a generalized version of this thesis suffers from some serious limits and it cannot be accepted without a significant departure from the standard notion of grounding."
References
Morganti, M. (2009). Ontological priority, fundamentality and monism. *Dialectica*, 63(3), 271–288.
Morganti, M. (2015). Dependence, justification and explanation: Must reality be well-founded? *Erkenntnis*, 80, 555–572.

34.  Marshall, Daniel Graham. 2015. "Intrinsicality and Grounding." *Philosophy and Phenomenological Research* no. 90:1-19.
Abstract: "A number of philosophers have recently claimed that intrinsicality can be analysed in terms of the metaphysical notion of grounding. Since grounding is a hyperintensional notion, accounts of intrinsicality in terms of grounding, unlike most other accounts, promise to be able to discriminate between necessarily coextensive properties that differ in whether they are intrinsic. They therefore promise to be compatible with popular metaphysical theories that posit necessary entities and necessary connections between wholly distinct entities, on which it is plausible that there are such properties. This paper argues that this promise is illusory. It is not possible to give an analysis of intrinsicality in terms of grounding that is consistent with these theories. Given an adequate analysis should be compatible with these theories, it follows
that it is not possible to analyse intrinsicality in terms of grounding."

35.  Martínez, Sergio F., and Huang, Xiang. 2011. "Epistemic Groundings of Abstraction and Their Cognitive Dimension." *Philosophy of Science* no. 78:490-511.
Abstract: "In the philosophy of science, abstraction has usually been analyzed in terms of the interface between our experience and the design of our concepts. The often implicit assumption here is that such interface has a definite identifiable and universalizable structure, determining the epistemic correctness of any abstraction. Our claim is that, on the contrary, the epistemic grounding of abstraction should not be reduced to the structural norms of such interface but is also related to the constraints on the cognitive processes of specific abstractions. This suggests that we

should understand abstraction as embodied in different kinds of abstraction practices."

36.   Maurin, Anna-Sofia. 2019. "Grounding and Metaphysical Explanation: It's Complicated." *Philosophical Studies* no. 176:1573-1594.
Abstract: "Grounding theorists insist that grounding and explanation are intimately related. This claim could be understood as saying either that grounding 'inherits' its properties from (metaphysical) explanation (and that, therefore, contemplating the nature of explanation informs us about the nature of grounding) or it could be interpreted as saying that grounding plays an important—possibly an indispensable—role in metaphysical explanation (and that, therefore, that there are these explanations justifies positing grounding). Or both. I argue that saying that grounding 'inherits' its properties from explanation can only be justified if grounding is explanatory by nature (if so-called 'unionism' is true), but that this view is untenable. We ought therefore to be 'separatists' and view grounding and explanation as distinct. As it turns out, though, once grounding has been in this sense distinguished from the explanation it backs, the view that the role grounding plays in explanation justifies its introduction ends up in serious trouble. I conclude that the role grounding plays in explanation (if any) does not justify attributing to grounding whatever nature we think it has, and it most likely does not give us any special reason to think grounding exists."

37.   Mayer, Marta Cialdea, and Cerrito, Serenella. 2001. "Ground and Free-Variable Tableaux for Variants of Quantified Modal Logics." *Studia Logica* no. 69:97-131.
Abstract: "In this paper we study proof procedures for some variants of first-order modal logics, where domains may be either cumulative or freely varying and terms may be either rigid or non-rigid, local or non-local. We define both ground and free variable tableau methods, parametric with respect to the variants of the considered logics. The treatment of each variant is equally simple and is based on the annotation of functional symbols by natural numbers, conveying some semantical information on the worlds where they are meant to be interpreted.
This paper is an extended version of a previous work where full proofs were not included. Proofs are in some points rather tricky and may help in understanding the reasons for some details in basic definitions."

38.   Mazurkiewicz, Szymon. 2019. "Legal Positivism Social Source Thesis and Metaphysical Grounding: Employing Metaphysical Grounding Based on Metaphysical Laws." *Archiwum Filozofii Prawa i Filozofii Społecznej*:5-21.
"In this paper, I would like to examine the grounding account of the determination of the relation between social facts and legal facts, as well as try to resolve some problems that this account involves. The first one is its unintelligibility: if one claims that legal facts are metaphysically grounded in social facts without explaining why this relation holds, such a claim does not seem to be explanatory sufficient. The second one
is insufficient explanation of how normative legal facts can be grounded in descriptive social facts." (p. 6)

39.   McDaniel, Brannon. 2017. "Grounding and the Objection from Accidental Generalizations." *Thought: A Journal of Philosophy* no. 6:178-184.
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, but accidental 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 response to this objection, I argue that it fails.Thus the objection from accidental generalizations stands, and proponents of pluralistic

grounding necessitarianism face the following dilemma: either give up pluralistic grounding, or give up necessitarianism."

40.     ———. 2022. "Grounding as Minimal Necessitation." *Inquiry: An Interdisciplinary Journal of Philosophy* no. 65:154-175.
Abstract: Let NNG be the claim that necessitation is necessary for grounding, and let NSG be the claim that necessitation is sufficient for grounding. The consensus view is that grounding cannot be reduced to necessitation, and this is due to the (approximately) universally-accepted claim that NSG is false. Among deniers of NSG: grounding contingentists think NNG is also false, but they are in the minority compared to grounding necessitarians who uphold NNG. For one who would defend the claim that grounding is reducible to necessitation, the task is formidable: she must defend NSG and NNG. I consider two prominent objections against NSG, and two more against NNG before developing a reductive account of grounding as minimal necessitation that avoids not only all four of the previously mentioned objections, but also an additional objection that targets minimal necessitation accounts in particular. If my arguments are compelling, then, insofar as we thereby have a strong prima facie case for thinking that grounding can be reduced to (minimal) necessitation, we have a strong prima facie case for thinking the consensus view is mistaken."

41.     McDaniel, Kris. 2017. *The Fragmentation of Being*. Oxford: Oxford University Press.
Contents: Acknowledgments IX; Introduction 1; 1. Ways of Being 12; 2. A Return to the Analogy of Being 48; 3. Ways of Being and Time 78; 4. Categories of Being 109; 5. Being and Almost Nothingness 140; 6. Persons and Value 170; 7. Degrees of Being 195; 8. Being and Ground 223; 9. Being and Essence 256; Concluding Unsystematic Postscript 290; Bibliography 293; Index 317-320.
"One of the oldest questions in metaphysics concerns not the various natures of beings but rather the nature of being itself: is being unitary or does being fragment? The primary aims of this book are to explicate the idea that being fragments, to show how the fragmentation of being impacts various other extant philosophical disputes, and to defend the tenability and fruitfulness of the idea that being fragments.
These aims are interdependent. An inexplicable idea is neither tenable nor fruitful. And an idea is fruitful only if it sheds light on extant disputes or provides new paths for interesting research. If the claim that being fragments has no philosophical payoff elsewhere, one must forgive those who neglect or dismiss the question of the fragmentation of being. My hope is that I will convince you of the importance of the claim that being fragments by extensively exploring the connections between the various ways being might fragment and philosophical issues pertaining to metaphysical fundamentality, substances and accidents, time, modality, ontological categories, absences and presences, persons, value, ground, and essence. This book is devoted to these explorations." (p. 1)

42.     ———. 2019. "The Principle of Sufficient Reason and Necessitarianism." *Analysis* no. 79:230-236.
"1. Introduction: Peter van Inwagen (1983: 202–4) presented a powerful argument against the Principle of Sufficient Reason, which I henceforth abbreviate as 'PSR'. (See also Bennett 1984: 115 for a similar argument. I will elide the differences between them in what follows.) For decades, the consensus was that this argument successfully refuted PSR. However, now a growing consensus holds that van Inwagen's argument is fatally flawed, at least when 'sufficient reason' is understood in terms of ground, for on this understanding, an ineliminable premiss of van Inwagen's argument is demonstrably false and cannot be repaired. I will argue that this growing consensus is mistaken and that a powerful argument relevantly similar to van Inwagen's should still concern us, even when we understand 'sufficient reason' in terms of ground.

Here is the plan for the paper. In §2, I briefly state a version of van Inwagen's argument. In §3, I briefly discuss the recent criticism of it van Inwagen's argument and then formulate an updated version of it that is more plausible than its predecessor but which avoids the recent criticism."
References
Bennett, J. 1984. *A Study of Spinoza's "Ethics"*, Indianapolis, IN: Hackett Press.
van Inwagen, P. 1983. *An Essay on Free Will.* Oxford: Oxford University Press

43. McKenzie, Kerry. 2022. *Fundamentality and Grounding*. Cambridge: Cambridge University Press.
Abstract: "A suite of questions concerning fundamentality lies at the heart of contemporary metaphysics. The relation of grounding, thought to connect the more to the less fundamental, sits at the heart of those
debates in turn. Since most contemporary metaphysicians embrace the doctrine of physical ism and thus hold that reality is fundamentally physical, a natural question is how physics can inform the current debates over fundamentality and grounding. This Element introduces the reader to the concept of grounding and some of the key issues that animate contemporary debates around it, such as the question of whether grounding is 'unified' or 'plural' and whether there exists a fundamental level of reality. It moves on to show how resources from physics can help point the way towards their answers - thus furthering the case for a naturalistic approach to even the most fundamental of questions in metaphysics."

44. McSweeney, Michaela M. 2020. "Debunking Logical Ground: Distinguishing Metaphysics from Semantics." *Journal of the American Philosophical Association* no. 6:156-170.
Abstract: "Many philosophers take purportedly logical cases of ground (such as a true disjunction being grounded in its true disjunct(s)) to be obvious cases, and indeed such cases have been used to motivate the existence of and importance of ground. I argue against this. I do so by motivating two kinds of semantic determination relations. Intuitions of logical ground track these semantic relations. Moreover, our knowledge of semantics for (e.g.) first order logic can explain why we have such intuitions. And, I argue, neither semantic relation can be a species of ground even on a quite broad conception of what ground is.
Hence, without a positive argument for taking so-called 'logical ground' to be something distinct from a semantic determination relation, we should cease treating logical cases as cases of ground."

45. ———. 2020. "Logic." In *The Routledge Handbook of Metaphysical Grounding*, edited by Raven, Michael J., 449-459. New York: Routledge.
"Some of the paradigmatic examples of grounding (that are often used to motivate, or help us latch onto, the notion of grounding itself) are relations between logically complex facts and the logically simpler facts that entail them. For example:
[The grass is green] grounds [Either the grass is green or the moon is made of cheese].
[The grass is green], [The sky is blue] ground [The grass is green and the sky is blue].
[The chair is orange] grounds [Something is orange].
Either implicitly or explicitly, these are usually (but not always) taken as instances of variations of the following principles:
Conjunctive grounding ('CG'): If each of p, q is true, then [p], [q] together ground [p & q].
Disjunctive grounding ('DG'): If p is true, then [p] grounds [p v q].
Existential grounding ('EG'): If Fa is true, then [Fa] grounds [∃x Fx].
This entry surveys some things that have been said in favor of these principles (and about logical grounding in general) and raises (but does not resolve) some questions about why we should accept these principles, and, if we should, what it means to accept these principles." (p. 449)

46.    Melamedoff, Damian. 2018. "Against Existential Grounding." *Thought. A Journal of Philosophy* no. 7:3-11.
Abstract: "Existential grounding is the thesis that all existential generalizations are grounded in their particular instances. This paper argues that existential grounding is false. This is because it is inconsistent with two plausible claims about existence: (1) the claim that singular existence facts are generalizations and (2) the claim that no object can be involved in a fact that grounds that same object's existence. Not only are these claims intuitively plausible, but there are also strong arguments in favour of each of them."

47.    Melnyk, Andrew. 2016. "Grounding and the Formulation of Physicalism." In *Scientific Composition and Metaphysical Ground*, edited by Aizawa, Ken and Gillett, Carl, 249-270. London: Palgrave Macmillan.
"Because I aspire to be a naturalistic metaphysician, I ask in this chapter whether an appeal to the relation of grounding posited recently by certain philosophers might be useful in one kind of approach to the problem of the many sciences—a physicalist approach." (p. 250)

48.    Merlo, Giovanni. 2022. "Disjunction and the Logic of Grounding." *Erkenntnis* no. 87:567-587.
Abstract: "Many philosophers have been attracted to the idea of using the logical form of a true sentence as a guide to the metaphysical grounds of the fact stated by that sentence.
This paper looks at a particular instance of that idea: the widely accepted principle that disjunctions are grounded in their true disjuncts. I will argue that an unrestricted version of this principle has several problematic consequences and that it's not obvious how the principle might be restricted in order to avoid them. My suggestion is that, instead of trying to restrict the principle, we should distinguish between metaphysical and conceptual grounds and take the principle to apply exclusively to the latter. This suggestion, if correct, carries over to other prominent attempts at using logical form as a guide to ground."

49.    Mikkola, Mari. 2015. "Doing Ontology and Doing Justice: What Feminist Philosophy Can Teach Us About Meta-Metaphysics." *Inquiry: An Interdisciplinary Journal of Philosophy* no. 58:780-805.
Abstract: "Feminist philosophy has recently become recognised as a self-standing philosophical sub-discipline. Still, metaphysics has remained largely dismissive of feminist insights. Here I make the case for the value of feminist insights in metaphysics: taking them seriously makes a difference to our ontological theory choice and feminist philosophy can provide helpful methodological tools to regiment ontological theories.
My examination goes as follows. Contemporary ontology is not done via conceptual analysis, but via quasi-scientific means. This takes different ontological positions to be competing hypotheses about reality's fundamental structure that are then assessed with a loose battery of criteria for theory choice. Such criteria make up the constitutive values of ontology (e.g. providing a unified, coherent, non-circular, simple, parsimonious total theory). These values are distinguished from *contextual* values of a practice: the political and moral values embedded in the social context of inquiry. Although we may be frank about some meta-metaphysical value commitments, bringing in feminist contextual values is viewed as an unacceptable move when thinking about ontological theory choice. This paper then asks: is this move unacceptable? I think not and I aim to motivate this methodological insight here by examining recent work on grounding."

50.    ———. 2019. "Grounding and Anchoring: On the Structure of Epstein's Social Ontology." *Inquiry: An Interdisciplinary Journal of Philosophy* no. 62:198-216.
Abstract: "Brian Epstein's *The Ant Trap* is a praiseworthy addition to literature on social ontology and the philosophy of social sciences. Its central aim is to challenge received views about the social world – views with which social scientists and philosophers have aimed to answer questions about the nature of social science and

about those things that social sciences aim to model and explain, like social facts, objects and phenomena. The received views that Epstein critiques deal with these issues in an overly people-centered manner. After all, even though social facts and phenomena clearly involve individual people arranged in certain ways, we must still spell out how people are involved in social facts and phenomena. There are many metaphysical questions about social properties, relations, dependence, constitution, causation, and facts that cannot be answered (for instance) just be looking at individual people alone. In order to answer questions about (e.g.) how one social entity depends for its existence on another, we need different metaphysical tools. Epstein thus holds that social ontological explanations would greatly benefit from making use of the theoretical toolkit that contemporary analytical metaphysics has to offer. He focuses specifically on two metaphysical instruments: grounding and anchoring. This paper examines Epstein's understanding and use of these tools. I contend that Epstein is exactly right to say that contemporary metaphysics contains many theoretical instruments that can be fruitfully applied to social ontological analyses. However, I am unconvinced that Epstein's tools achieve what they set out to do. In particular, I will address two issues: (1) How is grounding for Epstein meant to work? (2) Is anchoring distinct from grounding, and a relation that we need in social ontology?"

51. Miller, Elizabeth. 2015. "Humean Scientific Explanation." *Philosophical Studies*:1311–1332.
Abstract: "In a recent paper, Barry Loewer attempts to defend Humeanism about laws of nature from a charge that Humean laws are not adequately explanatory. Central to his defense is a distinction between metaphysical and scientific explanations: even if Humeans cannot offer further metaphysical explanations of particular features of their ''mosaic,'' that does not preclude them from offering scientific explanations of these features. According to Marc Lange, however, Loewer's distinction is of no avail. Defending a transitivity principle linking scientific explanantia to their metaphysical grounds, Lange argues that a charge of explanatory inadequacy resurfaces once this intuitive principle is in place. This paper surveys, on behalf of the Humean, three strategies for responding to Lange's criticism. The ready availability of these strategies suggests that Lange's argument may not bolster anti-Humean convictions, since the argument rests on premises that those not antecedently sharing these convictions may well reject. The three strategies also correspond to three interesting ways of thinking about relations of grounding linking Humean laws and their instances, all of which are consistent with theses of Humean supervenience, and some of which have been heretofore overlooked."
References
Lange, M. (2013). Grounding, scientific explanation, and Humean laws. *Philosophical Studies*, 164, 255–261.
Loewer, B. (2012). Two accounts of laws and time. *Philosophical Studies*, 160, 115–137.

52. Miller, Kristie, and Norton, James. 2017. "Grounding: It's (Probably) All in the Head." *Philosophical Studies* no. 174:3059-3081.
Abstract: "In this paper we provide a psychological explanation for 'grounding observations'—observations that are thought to provide evidence that there exists a relation of ground. Our explanation does not appeal to the presence of any such relation. Instead, it appeals to certain evolved cognitive mechanisms, along with the traditional modal relations of supervenience, necessitation and entailment. We then consider what, if any, metaphysical conclusions we can draw from the obtaining of such an explanation, and, in particular, if it tells us anything about whether we ought to posit a relation of ground."

53. Moran, Alex. 2018. "Kind-Dependent Grounding." *Analytic Philosophy* no. 59:359-390.

"I begin by saying something more about the notion of grounding itself (Section 2). Then, I set out the aforementioned passage from Rosen (2015), discussion of which will help us work towards the key notion of kind-dependent grounding that this paper appeals to (Section 3). Along the way, we will encounter the idea that each object instantiates a fundamental kind, which can determine the properties it may have, plus the idea that grounding claims can hold conditionally. The following two sections then put the notion of kinddependent grounding to work in connection with two important metaphysical problems (Sections 4–5). The final section concludes (Section 6)." (p. 361)

54.    Morganti, Matteo. 2014. "Metaphysical Infinitism and the Regress of Being." *Metaphilosophy* no. 45:232-244.

Abstract: "This article offers a limited defense of metaphysical "infinitism," the view that there are, or might be, infinite chains of ontological dependence. According to a widespread presupposition, there must be an ultimate ground of being—most likely, a plurality of fundamental atoms. Contrary to this view, this article shows that metaphysical infinitism is internally coherent. In particular, a parallel with the debate concerning infinitism about epistemic justification is suggested, and an "emergence model" of being is put forward. According to the emergence model, the being of any given entity gradually arises out of an infinite series of progressively less dependent entities—it is not wholly transmitted, as it were, from a basic, ungrounded level to all the dependent ones in a step-by-step fashion. Some objections are considered and rebutted."

55.    ———. 2018. "The Structure of Physical Reality. Beyond Foundationalism." In *Reality and its Structure: Essays in Fundamentality*, edited by Bliss, Ricki and Priest, Graham, 254-272. New York: Oxford University Press.

"The plan of the paper is as follows. Section 2 briefly discusses the traditional view, based on grounding relations as determining strict partial orders and well-founded structures—so-called 'metaphysical foundationalism'.The discussion then focuses on the prospects of non-standard models of the metaphysical structure of (parts of) physical reality. Section 3 looks at 'infinitist' models, where the well-foundedness assumption is dropped. Section 4 discusses 'coherentist' models, in which grounding relations fail to be irreflexive and symmetric and grounding structures give rise to 'loops' and/or 'webs'. Section 5 concludes the paper by considering the plausibility of what one may call 'hybrid' models and, more generally, of pluralism with respect to the metaphysical structure of reality." (p. 257)

56.    Morton, Justin. 2019. "Grounding Thick Normative Facts." *Pacific Philosophical Quarterly* no. 100:408-431.

Abstract: "Many philosophers have been concerned with the nature of thick normative concepts. In this paper, I try to motivate a different project: understanding the nature of thick normative properties and facts. I propose a ground-theoretic approach to this project. I then argue that some of the simplest andmost initially plausible ways of understanding thick facts fail and that we are forced to accept some initially implausible views. I try to show how these views are not so implausible after all."

57.    Muñoz, Daniel. 2020. "Grounding Nonexistence." *Inquiry: An Interdisciplinary Journal of Philosophy* no. 63:209-229.

Abstract: "Contingent negative existentials give rise to a notorious paradox. I formulate a version in terms of metaphysical grounding: nonexistence can't be fundamental, but nothing can ground it. I then argue for a new kind of solution, expanding on work by Kit Fine. The key idea is that negative existentials are contingently zero-grounded – that is to say, they are grounded, but not by anything, and only in the right conditions. If this is correct, it follows that grounding cannot be an internal relation, and that no complete account of reality can be purely fundamental."

58.    Ney, Alyssa. 2016. "Grounding in the Philosophy of Mind: A Defense." In *Scientific Composition and Metaphysical Ground*, edited by Gillett, Carl and Aizawa, Ken,

271-300. London: Palgrave-Macmillan.
"One of the major trends in metaphysics in recent years has been in the development and application of novel conceptual frameworks for representing facts about realism, fundamentality, and metaphysical priority." (p. 271)
(...)
"I will argue that Fine's framework has distinctive advantages but to see this it needs to be carefully teased apart from the others.
As I hope to show, Fine's framework may be useful as a foundation for developing an approach to the mind–body problem that can resolve and clarify debates. I hope to show that by utilizing Fine's distinctions, we are able to offer novel, conciliatory positions allowing us to move past some debates that have been carrying on in the philosophy of mind for decades." (p. 274)

59.    ———. 2020. "Mind." In *The Routledge Handbook of Metaphysical Grounding*, edited by Raven, Michael J., 460-471. New York: Routledge.
"The concept of grounding is typically introduced in order to formulate and address questions about metaphysical relationships.
(...)
This chapter will (i) describe how some metaphysicians have proposed the introduction of grounding concepts in order to formulate and provide answers to the mind–body problem and (ii) survey concerns about the appropriateness, adequacy, and indispensability of grounding concepts for addressing questions about the status of mental phenomena in a physical world. Finally, this chapter will (iii) consider replies to these concerns.A central lesson will be that any adequate assessment of the usefulness of grounding frameworks for formulating issues and positions in the philosophy of mind must be sensitive to distinctions between the different grounding concepts that have been introduced." (p. 460)

60.    Nolan, Daniel. 2018. "Cosmic Loops." In *Reality and its Structure: Essays in Fundamentality*, edited by Bliss, Ricki and Priest, Graham, 91-106. New York: Oxford University Press.
"Conclusion: Cosmic loops are of intrinsic interest: thinking about them can satisfy the same urges to grapple with the unfamiliar which are satisfied by various sorts of speculative fiction, from science fiction to the stories of Borges. Metaphysical fiction is a genre in its infancy, but a promising one for all that.
I have argued that thinking about cosmic loops serves several more academic purposes, however. They demonstrate, that we can make sense of loops of ground in a different way from the usual examples of loops achieved through only a few steps, and the conceivability and perhaps possibility of them are supported in ways different from other arguments I know of to support failures of asymmetry and transitivity. ." (p.104)

61.    Norton, James. 2017. *On the Dispensability of Grounding: Ground-breaking Work on Metaphysical Explanation*, The University ofd Sidney.
Unpublished PhD thesis available at
https://ses.library.usyd.edu.au/handle/2123/16600
Abstract: "Primitive, unanalysable grounding relations are considered by many to be indispensable constituents of the metaphysician's toolkit. Yet, as a primitive ontological posit, grounding must earn its keep by explaining features of the world not explained by other tools already at our disposal. Those who defend grounding contend that grounding is required to play two interconnected roles: accounting for widespread intuitions regarding what is ontologically prior to what, and forming the backbone of a theory of metaphysical explanation, in much the same way that causal relations have been thought to underpin theories of scientific explanation. This thesis undermines the need to posit grounding relations to perform either of these jobs. With regard to the first, it is argued that a pair of human psychological mechanisms—for which there is substantial empirical support—can provide a more theoretically virtuous explanation of why we have the intuitions that we do. With regard to the second, I begin by considering what we want from a theory of

explanation, and go on to develop three attractive (yet grounding-free) theories of metaphysical explanation. I offer: i) a psychologistic theory that calls upon the aforementioned psychological mechanisms, as well as the modal relations of necessitation and supervenience, ii) a metaphysical variant of the deductive-nomological theory of scientific explanation, and iii) a metaphysical variant of the unificationist theory of scientific explanation. Furthermore, these theories draw upon mechanisms and relations (both logical and ontological) to which we are already committed. Thus, to posit grounding relations in order to explain our priority intuitions, or in order to develop a theory of metaphysical explanation, is ontologically profligate. I conclude that we should not posit relations of ground."

62. Nutting, Eileen S., Caplan, Ben, and Tillman, Chris. 2018. "Constitutive Essence and Partial Grounding." *Inquiry: An Interdisciplinary Journal of Philosophy* no. 61:137-161.
Abstract: "Kit Fine and Gideon Rosen propose to define constitutive essence in terms of ground-theoretic notions and some form of consequential essence. But we think that the Fine–Rosen proposal is a mistake. On the Fine–Rosen proposal, constitutive essence ends up including properties that, on the central notion of essence (what Fine calls 'the notion of essence which is of central importance to the metaphysics of identity'), are necessary but not essential. This is because consequential essence is (roughly) closed under logical consequence, and the ability of logical consequence to add properties to an object's consequential essence outstrips the ability of ground-theoretic notions, as used in the Fine–Rosen proposal, to take those properties out. The necessary-but-not-essential properties that, on the Fine–Rosen proposal, end up in constitutive essence include the sorts of necessary-but-not-essential properties that, others have noted, end up in consequential essence."

63. O'Conaill, Donnchadh. 2018. "Grounding, Physicalism and Necessity." *Inquiry: An Interdisciplinary Journal of Philosophy* no. 61:713-730.
Abstract: "Recent work on metaphysical grounding has suggested that physicalism can be characterised in terms of the mental facts being grounded in physical facts. It is often assumed that the full grounds of a fact metaphysically necessitate that fact. Therefore, it seems that if the physical grounds the mental, then the physical facts metaphysically necessitate the mental facts. Stefan Leuenberger argues that such a version of physicalism would be vulnerable to counterexamples. I shall outline a characterisation of grounding which appeals to a relation between grounding and the essences of properties instantiated in the grounded facts or in their grounds. If a grounded fact is such that its constituent property is essentially related to the properties instantiated in its grounds, or vice versa, then the grounded fact will be metaphysically necessitated by its full grounds. This characterisation of grounding not only avoids Leuenberger's counterexamples, but has broader implications for characterising physicalism in terms of grounding."

64. O'Conaill, Donnchadh, and Tahko, Tuomas E. 2021. "New Frontiers in Ground, Essence, and Modality: Introduction." *Synthese* no. 198:1219-1230.
"Ground, essence, and modality seem to have something to do with each other. Can we provide unified foundations for ground and essence, or should we treat each as primitives? Can modality be grounded in essence, or should essence be expressed in terms of modality? Does grounding entail necessitation? Are the notions of ground and essence univocal? This volume focuses on the links—or lack thereof—between these three notions, as well as the foundations of ground, essence, and modality more generally, bringing together work on the metaphysics, epistemology, and logic of these three notions by some of the leading figures in the field as well as emerging young scholars.
(...)
After providing a brief historical summary of the (re)emergence of modality, essence and ground as central notions in metaphysics (Sect. 1), we shall outline

some of the main themes in recent work on these notions and on the links between them (Sect. 2). In Sect. 3 we briefly introduce the papers in this volume." (p. 1219)

65.  Oderberg, David S. 2021. "Formal Causation: Accidental and Substantial." In *Neo-Aristotelian Perspectives on Formal Causation*, edited by Jansen, Ludger and Sandstad, Petter, 40-61. New York: Routledge.
"Of Aristotle's famous four causes, the 'formal cause' has been arguably the most neglected, if not eliminated outright from philosophy. This paper is an attempt to contribute to the rehabilitation of formal causality.
First, I outline the Aristotelian-Scholastic understanding of form as the principle of actuality, explaining the overlap between forms and universals.
I then begin, unconventionally, with an explanation of formal causation by *accidents*. There is a kind of causation by accidental forms that cannot be equated with efficient causation: I distinguish between the efficient causal trigger of actualisation and the continued actualisation of an object's potentiality, which latter is accounted for by formal causality. The discussion then moves to substantial forms and formal causation by them-where accounts of formal causality traditionally begin.
I argue that the causality whereby there exists a hylemorphic compound of matter and form cannot be efficient but must be formal. This requires an analysis of some aspects of matter as pure potentiality Aristotelian prime matter. I conclude by discussing the role of form as the *unifier* of matter into a single substance. This activity of unification is a central element in substantial formal causality. By contrast, Travis Dumsday's attempt to solve the unity problem without appealing to form is found wanting. I conclude that formal causation, far from being the relic of an outdated metaphysic, is both coherent and necessary to a proper understanding of fundamental being."
References
Dumsday, T. (2010) 'Natural Kinds and the Problem of Complex Essences'. Australasian Journal of Philosophy 88(4), 619-34.

66.  Orilia, Francesco. 2009. "Bradley's Regress and Ungrounded Dependence Chains: A Reply to Cameron." *Dialectica* no. 63:333-341.
Abstract: "A version of Bradley's regress can be endorsed in an effort to address the problem of the unity of states of affairs or facts, thereby arriving at a doctrine that I have called fact infinitism. A consequence of it is the denial of the thesis, WF, that all chains of ontological dependence are well-founded or grounded. Cameron has recently rejected fact infinitism by arguing that WF, albeit not necessarily true, is however contingently true. Here fact infinitism is supported by showing that Cameron's argument for the contingent truth of WF is unsuccessful."
WF = Ontological Well-Foundedness
References
Cameron, R. 2008, 'Turtles all the Way Down: Regress, Priority and Fundamentality', *Philosophical Quarterly* 58, pp. 1–14.

67.  Paolini Paoletti, Michele. 2021. "Functional Powers." In *Neo-Aristotelian Perspectives on Formal Causation*, edited by Jansen, Ludger and Sandstad, Petter, 124-148. New York: Routledge.
"Functions constitute a debated issue at the intersection between ontology and philosophy of science. Indeed, functions have given rise to several philosophical theories about their features, their presence or absence within specific kinds of entities, and their origins. Nevertheless, before delving into these aspects of functions, it is necessary to clarify what functions are from an ontological viewpoint. Namely, it is necessary to single out the nature of functions.
In this contribution, I shall suggest that functions should be taken as powers. More precisely, I shall argue that there is a certain category of powers-that of functional powers-and that functional powers can be legitimately taken to play the role of functions." (p. 124)

68.    Passinsky, Asya. 2020. "Social Entities." In *The Routledge Handbook of Metaphysical Grounding*, edited by Raven, Michael J., 510-520. New York: Routledge.
       "In recent years,there has been an increased interest in applying the tools and methods of analytic metaphysics to the study of social phenomena.This chapter examines how one such tool—the notion of metaphysical ground—may be used to elucidate some central notions, debates, and positions in the philosophy of race and gender, social ontology, and the philosophy of social science. Three main applications are examined: how the notion of social construction may be analyzed in ground-theoretic terms (§1); how debates over the nature of social facts may be recast as grounding debates (§2); and how the doctrine of ontological individualism may be formulated using the notion of ground (§3).The chapter concludes by considering a skeptical challenge concerning the usefulness of the grounding framework for social metaphysics (§4)." (p. 510)

69.    Perebom, Derk. 2016. "Anti-Reductionism, Anti-Rationalism, and the Material Constitution of the Mental." In *Scientific Composition and Metaphysical Ground*, edited by Carl Gillett, Ken Aizawa, 123-140. London: Palgrave-Macmillan.
       "Physicalism about the mental requires that all mental entities be appropriately founded in microphysical entities. Supposing the truth of physicalism, it remains an open question whether the relation between the microphysical and the mental is reductive or nonreductive. By contrast with the mid-twentieth century, currently, most nonreductivists maintain that the main reason for accepting the nonreductive option is not methodological but metaphysical. On the position I endorse, mental natural kinds are not identical to natural kinds in microphysics because mental causal powers are not identical to microphysical causal powers." (p. 124)

70.    Petersen, Thorben. 2016. "The Grounding Problem for Eternalism." *Philosophical Studies* no. 173:1819-1852.
       Abstract: "In this paper, I develop an argument against eternalism, which is similar to the widely discussed grounding problem for presentism. It has recently been argued by many that presentism should be rejected on grounds that its sparse ontology is not suited to underwrite the healthy dose of realism we all share about the past. My aim basically is to add a new twist to the debate, by showing that actually eternalists are no better off than their rivals. In particular, I argue that the eternalist's ontology does not have the appropriate shape to ground true propositions about the past."

71.    Piccolomini D'Aragona, Antonio. 2021. "Proofs, Grounds and Empty Functions: Epistemic Compulsion in Prawitz's Semantics." *Journal of Philosophical Logic*. First Online 8 November 2021.
       Abstract: "Prawitz has recently developed a theory of epistemic grounding that differs in many respects from his earlier semantics of arguments and proofs. An innovative approach to (valid) inferences yields a new conception of the intertwinement of the notions of valid inference and proof. We aim at singling out three reasons that may have led Prawitz to the ground-theoretic turn, i.e.: a better order in the explanation of the relation between valid inferences and proofs; a notion of valid inference based on which valid inferences and proofs are recognisable as such; a reconstruction of the deductive activity that makes inferences capable of yielding justification per se. These topics are discussed by Prawitz with reference to a very general and ancient question: why and how correct deduction has the epistemic power to compel us to accept its conclusions, provided its premises are justified? We conclude by remarking that, in spite of some improvements, the ground-theoretic approach shares with the previous one a problem of vacuous validity which, as Prawitz himself points out, blocks in both cases a satisfactory explanation of epistemic compulsion."