History of Fundamentality and Grounding:
Annotated bibliography

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by Raul Corazzon

website: https://www.ontology.co

e-mail: rc@ontology.co

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

Annotated bibliography on the history of fundamentality and grounding

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Bibliography

1. Amijee, Fatema. 2020. "Principle of Sufficient Reason." In *The Routledge Handbook of Metaphysical Grounding*, edited by Raven, Michael J., 63-75. New York: Routledge.
"According to the Principle of Sufficient Reason (henceforth 'PSR'), everything has an explanation or sufficient reason.The PSR was a central tenet of rationalist metaphysics but has since gone out of vogue.
(...)
But lately, interest in the PSR has been enjoying a resurgence.This has been due, at least in part, to the recent interest in grounding, and relatedly, metaphysical explanation. If the notions of ground and metaphysical explanation are in good standing, then we can formulate a version of the PSR on which 'explanation' picks out either ground or metaphysical explanation. Since this chapter figures in a volume on grounding, I will focus on the version of the PSR that says that every fact has a ground. My primary goal is to address three questions. First, how continuous is the contemporary notion of grounding with the notion of sufficient reason endorsed by Spinoza, Leibniz, and other rationalists? In particular, does a PSR formulated in terms of ground retain the intuitive pull and power of the PSR endorsed by the rationalists? Second, to what extent can the PSR avoid the formidable traditional objections levelled against it if it is formulated in terms of ground? And finally, how might historical discussion of the PSR shed light on the contemporary notion of grounding?" (p. 63)

2. ———. 2022. "Principle of Sufficient Reason." In *Encyclopedia of Early Modern Philosophy and the Sciences*, edited by Jalobeanu, Dana and Wolfe, Charles T., 1670-1680. Cham (Switzerland): Springer.

"Our need to understand the world, and our place in it, drives both philosophy and science. But to what extent is our world intelligible? According to the Principle of Sufficient Reason ("PSR"), everything is—at least in principle—intelligible. Everything has an explanation, even if that explanation may not be accessible to us. While the Principle of Sufficient Reason was not known by that label until the seventeenth century, the principle's provenance goes at least as far back as Parmenides, and discussions that exploit the principle are to be found in medieval philosophers like Aquinas, Avicenna, Averroes, and Maimonides.

But the principle takes center stage in the early modern era. It is in this period that we find direct engagement with the PSR. A first task of this entry will thus be to bring to the fore the nature of the early modern commitment to this principle, and the arguments for and against it. A second task will be to highlight how historical discussions of the PSR have shaped—and continue to shape— contemporary philosophy.

This entry will proceed as follows. In the next section, "Proponents," I discuss the views, as well as some arguments, developed by three early modern PSR proponents: Spinoza, Leibniz, and du Châtelet. The following section, "Contemporary Proponents," examines a few contemporary arguments for the PSR. Lastly, the section on "The PSR in Contemporary Debates" discusses some ways in which the PSR has influenced contemporary philosophy." (pp. 1670-1671)

3. Angioni, Lucas. 2014. "Aristotle on Necessary Principles and on Explaining X Trough the Essence of X." *Studia Philosophica Estonica* no. 7:88-112.

Abstract: "I discuss what Aristotle means when he say that scientific demonstration must proceed from necessary principles. I argue that, for Aristotle, scientific demonstration should not be reduced to sound deduction with necessary premises. Scientific demonstration ultimately depends on the fully appropriate explanatory factor for a given explanandum. This explanatory factor is what makes the explanandum what it is. Consequently, this factor is also unique. When Aristotle says that demonstration must proceed from necessary principles, he means that each demonstration requires the principle that is the necessary one for the fully appropriate explanation of its explanandum. This picture also provides a key to understand Aristotle's thesis that scientific explanation depends on essences: it is the essence of the attribute to be explained (rather then the essence of the subject-term within the explanandum) that should be stated as the fully appropriate explanatory factor."

4. Archambault, Jacob. 2024. "Grounding Medieval Consequence." In *Grounding in Medieval Philosophy*, edited by Normore, Calvin G. and Schmid, Stephan, 129-146. Cham (Switzerland): Springer.

Abstract: "Developed out of earlier work on Aristotelian topics, syllogistic, and fallacies, by the early fourteenth century the medieval theory of consequence came to provide the first unified framework for the treatment of inference as such. With such a development came the task of unifying the various justifications for inferences treated in earlier frameworks. Prior to the appearance of theories of consequences, the task of providing a real foundation, or grounding, for good inferences is shared between theories of demonstration, such as those provided in commentaries on Aristotle's *Posterior Analytics,* and theories of topical inference, passed on to the medievals via Boethius. But by the time of the earliest consequentiae, most consequences were grounded in the theory of supposition, which began its own development in the twelfth century. Secondary literature on supposition has generally held that in the most common form of supposition, personal supposition, a term is taken to stand for individuals falling under it. In this paper, I show that for the earliest consequentiae this is false: prior to William of Ockham's work, personal supposition could also involve descent to concepts or types falling under a term, previously thought to be the exclusive provision of simple supposition. As such, a greater variety of ways of grounding consequence exists in the period than has hitherto been recognized."

5. Betti, Arianna. 2010. "Explanation in Metaphysics and Bolzano's Theory of Ground and Consequence." *Logique et Analyse* no. 56:281-316.

Abstract: "In (2006a, 2006b), Benjamin Schnieder criticizes truthmaking as a relation between entities in the world and the truths those entities `make true'. In (2006b), his criticism exploits a notion of conceptual explanation that is very similar to Bolzano's grounding. In the first part of this paper, I offer an analysis of Bolzano's grounding. I discuss some open problems and argue that Bolzano's grounding is not a systematization of the ordinary notion of `because' as others have maintained, but of the technical notion of explanatory proof in the context of an axiomatic conception of (proper) science. On the basis of this analysis, in the second part, I offer a critical discussion of Schnieder 2006b's arguments against truthmaking. I conclude that the latter are not very effective from a methodological point of view and that Bolzano's original position fares better in this respect; still, truthmaker theorists will be able to defend truthmaking only at a high price."
References
Schnieder, B. (2006a). Troubles with Truth-making: Necessitation and Projection. *Erkenntnis* 64: 61-74.
Schnieder, B. (2006b). Truth-Making without Truth-Makers. *Synthes*e 152: 21-6.

6. Bliss, Ricki. 2024. "Some Work for a Theory of Grounding?" In *Grounding in Medieval Philosophy*, edited by Normore, Calvin G. and Schmid, Stephan, 307-330. Cham (Switzerland): Springer.

Abstract: "In her "No Work for a Theory of Grounding," Jessica Wilson argues that we have no need for a theory of what she calls Big-G Grounding. The reason for this, thinks Wilson, is that the work that Big-G Grounding is invoked for can be better done by what she calls small-g grounding relations: membership, parenthood, realization, and so on. Contra Wilson, I argue that small-g grounding relations may not allow us to do all the grounding work that needs to be done. In particular, I argue that small-g grounding relations may not be adequate to the task of engaging with the work of historical Western and non-Western figures; nor do they allow us to explore the full array of possibilities regarding the overarching structure of reality. To this end, I offer two case studies: one that explores dependence relations in the work of Leibniz, and the other the cosmology of the Chinese Buddhist thinker Fazang. Although I do not defend the claim that there is in fact some work for a theory of Grounding, my argument is highly suggestive of it."

7. ———. 2024. *Grounding, Fundamentality and Ultimate Explanations*. Cambridge: Cambridge University Press.
Chapter 2: *Ultimate ExRlanations: An Idea and Its History_*
"Anyone familiar with the contemporary grounding literature will be aware that there is something of a tension or, perhaps better to say, divergence of opinion over the history of the notion. On one view, the notion of grounding is thought to be as old as
philosophy itself, with many of its most important thinkers engaging with questions pertaining to it. On this approach, although more contemporary discussions certainly take on their own flavour, the resurgence in interest in the notion is very much entangled with a return to the glorious days of good old-fashioned metaphysics. On another view, the notion of grounding is very much the plaything of contemporary analytic metaphysicians. According to this understanding of grounding, its origin myth traces itself back to Manhattan in the early naughties, where Kit Fine, Gideon Rosen and Jonathan Schaffer laid the foundations for a new and important program of research. Mutatis mutandis for the notion of fundamentality assuming it to be married to and/or defined in terms of grounding. How is it that such seemingly juxtaposed views of the history of grounding have come to characterise the discourse?
Which one is correct? These are difficult (and partly, if not largely, sociological) questions and I won't really attempt to answer them here. What I will do, however, is try to say something more about how we might characterize these different conceptions of grounding and its relationship to history, as well as to defend the

position that will illuminate the rest of this Element: the notions of grounding and fundamentality can reasonably be understood as old, if not in letter, then at least inspirit."

8.   Cameron, Margaret. 2014. "Is Ground Said-in-Many-Ways?" *Studia Philosophica Estonica* no. 7:29-53.
Abstract: "Proponents of ground, which is used to indicate relations of ontological fundamentality, insist that ground is a unified phenomenon, but this thesis has recently been criticized. I will first review the proponents' claims for ground's unicity, as well as the criticisms that ground is too heterogeneous to do the philosophical work it is supposed to do. By drawing on Aristotle's notion of homonymy, I explore whether ground's metaphysical heterogeneity can be theoretically accommodated while at the same time preserving its proponents' desideratum that it be a unified phenomenon."

9.   ———. 2020. "Medieval and Early Modern." In *The Routledge Handbook of Metaphysical Grounding*, edited by Raven, Michael J., 49-62. New York: Routledge.
"To be sure, medieval, Renaissance, and early modern philosophers did not have at their disposal the theoretical terminology afforded by the recent grounding literature, including the very term "ground" as it is currently used. It is, however, well known that ground has its roots in, broadly speaking, the Aristotelian metaphysical tradition. Given the fact that Aristotle's philosophy, and specifically his metaphysics, provided the foundation for the subject during most of this time, it should come as no surprise that we find philosophers engaging in many of the same debates and discussions regarding questions of fundamentality, ontological priority, metaphysical explanation, and dependence relations." (p. 49)

10.   Caputo, John D. 1970. "Being, ground and play in Heidegger." *Man and World* no. 3:26-48.
"By the summer of 1935 what was intimated in the earlier discussion of finitude and the Nothing is made explicit. At this time the treatment of ground takes the form of what Heidegger calls the "ground-question" (*Grund-frage*) of metaphysics: why is there any being at all and not rather nothing? This well-known question of Leibniz, mentioned in passing in *The Essence of Ground* and *What is Metaphysics?*, is transitional to the later Heidegger. It inquires into the being and asks about its ground. Why are there any beings at all? Obviously no being can serve as the answer to the question. The ground which the question seeks is Being itself. Being sustains the being and prevents its falling back into the abyss of Nothingnes.
The ground that is sought after is sought for as the ground for the decision for being rather than for nothingness.
Being is the inner power of the being by which it is. Being is the perduring power which remains whatever fluctuations may occur within beings.
Being is the emergent power, stepping forth into the light of itself. Being as ground therefore is physis: the emergent-enduring-power (*aufgehend-verweilend--Walten*)." (p. 30, notes omitted)

11.   Casati, Filippo. 2018. "Heidegger's *Grund*: (Para-)Foundationalism." In *Reality and its Structure: Essays in Fundamentality*, edited by Bliss, Ricki Leigh and Priest, Graham, 291-312. New York: Oxford University Press.
"This paper presents two new grounding theories (called para-foundationalism 1.0 and para-foundationalism 2.0) that, in virtue of their being inconsistent (but not trivial) theories, do not fit in the taxonomy presented by Bliss and Priest.[*] In order to do so, we will develop some metaphysical ideas proposed by Martin Heidegger. Consistently with a vast part of the current literature, he thought that all things have whatever form of being they have because they depend on other things. In particular, he believed that every thing is because every thing depends on being. Heidegger's being is the ground [*Grund*] of literally everything because being is what makes any entity an entity. Chairs, stars, dreams, and the world are in virtue of being.

In Section 2, we introduce Heidegger's concept of ground by distinguishing between an ontic ground and an ontological ground. In Section 3, we focus our attention on the ontological ground. We present Heidegger's idea according to which being is the ground of every entity and being is itself ungrounded. We also discuss its relation with the Principle of Sufficient Reasons (PSR), and we describe its structural properties. Finally, we show that these structural properties are the same ones that characterize a particularly strong form of foundationalism. In Section 4 and Section 5, we show how Heidegger's characterization of being leads to a contradiction, according to which being both is and is not an entity. After that, assuming that such a contradiction is a dialetheia (namely a true contradiction), we show how Heidegger's foundationalism should be revised in order to do justice to the antinomic nature of being itself. Thus, we introduce two forms of para-foundationalism, which is an inconsistent version of foundationalism. In Section 6, using para-foundationalism, we try to give an interpretation of one of the most obscure concepts of the so-called late Heidegger, namely the last God. Finally, in the Appendix, we propose two formal models that show how, working in a paraconsistent setting, para-foundationalism does not lead to logical triviality." (p. 292, notes omitted)

[*] Ricki Bliss and Graham Priest, *The Geography of Fundamentality: An Overview*, (Introduction to the volume, pp. 1-33).

12.　　———. 2019. "Heidegger and the contradiction of Being: a dialetheic interpretation of the late Heidegger." *British Journal for the History of Philosophy* no. 27:1002-1024.
Abstract: "It is well known that, from the beginning to the end of his philosophical trajectory, Martin Heidegger tries to develop a fundamental ontology which aims at answering the so-called question of Being: what does Being mean? Unfortunately, in trying to answer this question, Heidegger faces a predicament: given his own premises, speaking about Being leads to a contradiction. Moreover, according to the majority, if not all, of the interpreters who admit the existence of such a predicament, Heidegger tries to avoid the contradiction in question. But is this the only way Heidegger tries to solve the predicament? In this paper, I argue that, in some of his late works and, in particular, in the Contributions to Philosophy, Heidegger also takes into serious consideration the possibility of accepting the contradiction he faces in speaking about Being as true. If this is correct, Heidegger endorses what nowadays analytic philosophers call dialetheism, namely the metaphysical position according to which some (but not all) contradictions are true."

13.　　Centrone, Stefania. 2016. "Early Bolzano on *Ground-Consequence* Proofs." *The Bulletin of Symbolic Logic* no. 2:215-237.
Abstract: "In his early *Contributions to a Better-Grounded Presentation of Mathematics* (1810) Bernard Bolzano tries to characterize rigorous proofs (*strenge Beweise*). Rigorous is, *prima facie*, any proof that indicates the grounds for its conclusion. Bolzano lists a number of methodological constraints all rigorous proofs should comply with, and tests them systematically against a specific collection of elementary inference schemata that, according to him, are evidently of ground-consequence-kind. This paper intends to give a detailed and critical account of the fragmentary logic of the *Contributions,* and to point out as well some difficulties Bolzano's attempt runs into, notably as to his methodological ban on 'kind crossing'."

14.　　Chignell, Andrew. 2012. "Kant, Real Possibility, and the Threat of Spinoza." *Mind* no. 121:635-675.
Abstract: "In the first part of the paper I reconstruct Kant's proof of the existence of a 'most real being' while also highlighting the theory of modality that motivates Kant's departure from Leibniz's version of the proof. I go on to argue that it is precisely this departure that makes the being that falls out of the pre-critical proof look more like Spinoza's extended natura naturans than an independent, personal creator-God. In the critical period, Kant seems to think that transcendental idealism

allows him to avoid this conclusion, but in the last section of the paper I argue that there is still one important version of the Spinozistic threat that remains."
"The final part of our story, however—the part which Kant did not seem to notice—is that the threat of Spinozism returns when we consider how the real harmony of non-fundamental or derivative predicates (with one another, and with the fundamental predicates) is grounded. It is unclear in light of his own argument how Kant could avoid appealing to God as the ground of this harmony, and it would seem that God could only do that by actually exemplifying all possible predicates—fundamental and derivative—as modes of an infinite array of explanatorily distinct divine furcations or attributes. With respect to this second Spinozistic threat, transcendental idealism is impotent." (p. 37)

15. Corkum, Phil. 2013. "Substance and Independence in Aristotle." In *Varieties of Dependence: Ontological Dependence, Grounding, Supervenience, Response-Dependence*, edited by Hoeltje, Miguel, Schnieder, Benjamin and Steinberg, Alex, 65-95. Munich: Philosophia Verlag.
"Individual substances are the ground of Aristotle's ontology. Taking a liberal approach to existence, Aristotle accepts among existents entities in such categories other than substance as quality, quantity and relation; and, within each category, individuals and universals. As I will argue, individual substances are ontologically independent from all these other entities, while all other entities are ontologically dependent on individual substances. The association of substance with independence has a long history and several contemporary metaphysicians have pursued the connection. (1) In this chapter, I will discuss the intersection of these notions of substance and ontological dependence in Aristotle." (p. 65)
(1) S ee, for example, Hoffman and Rosenkrantz 1991, Lowe 2005, Gorman 2006 and Schnieder 2006. For discussion, see Koslicki forthcoming.
References
Feser, E. (ed.) forthcoming [2013] : *Aristotle on Method and Metaphysics.* Basingstoke: Palgrave Macmillan.
Hoffman, J. and G. Rosenkrantz 1991: 'The Independence Criterion of Substance'. *Philosophy and Phenomenological Research* 51, pp. 835-53.
Lowe E. J. 2005: 'Ontological Dependence'. In Zalta, E. N. (ed.): *The Stanford Enryclopedia of Philosophy*, Summer 2005 ed. URL: https://plato.stanford.edu/archives/sum2005/entries/dependence-ontological/ "Ontological dependence".
Gorman, M. 2006: 'Independence and Substance'. *International Philosophical Quarterly* 46, pp. 147-59.
Koslicki, K. forthcoming [2013]: 'Substance, Independence and Unity'. In Feser forthcoming. [pp. 169-195]
Schnieder, B. 2006: 'A Certain Kind of Trinity: Dependence, Substance, Explanation'. *Philosophical Studie*s 129, pp. 393-419.

16. ———. 2016. "Ontological Dependence and Grounding in Aristotle." In *Oxford Handbooks Online in Philosophy*, 1-14.
Abstract: "The relation of ontological dependence or grounding, expressed by the terminology of separation and priority in substance, plays a central role in Aristotle's *Categories, Metaphysics, De Anima* and elsewhere.
The article discusses three current interpretations of this terminology. These are drawn along the lines of, respectively, modal-existential ontological dependence, essential ontological dependence, and grounding or metaphysical explanation. I provide an opinionated introduction to the topic, raising the main interpretative questions, laying out a few of the exegetical and philosophical options that influence one's reading, and locating questions of Aristotle scholarship within the discussion of ontological dependence and grounding in contemporary metaphysics."

17. ———. 2020. "Ancient." In *The Routledge Handbook of Metaphysical Grounding*, edited by Raven, Michael J., 20-32. New York: Routledge.

"Is there grounding in ancient philosophy? To ask a related but different question: Is grounding a useful tool for the scholar of ancient philosophy? These questions are difficult, and my goal in this chapter is not so much to give definitive answers as to clarify the questions. I hope to direct the student of contemporary metaphysics towards passages where it may be fruitful to look for historical precedent. But I also hope to offer the student of ancient philosophy some guidance on when drawing on the contemporary discussion of grounding may be beneficial." (p. 20)

18. Correia, Fabrice. 2004. "Husserl on Foundation." *Dialectica* no. 58:349-367.
Abstract: "In the third of his *Logical Investigations*, Husserl draws an important distinction between two kinds of parts: the dependent parts like the redness of a visual datum or the squareness of a given picture, and the independent parts like the head of a horse or a brick in a wall. On his view, the distinction is to be understood in terms of a more fundamental notion, the notion of foundation. This paper is an attempt at clarifying that notion. Such attempts have already been undertaken (separately) by Peter Simons and Kit Fine, and the paper also contains elements of comparison of our three sets of views."
References
Fine, K. 1995, "Part–Whole", in B. Smith (ed), *The Cambridge Companion to Husserl*, Cambridge: Cambridge University Press.
Husserl, E. 2001, *Logical Investigations,* Vol. 2, London & New York: Routledge.
Simons, P. 1982, "The Formalization of Husserl's Theory of Wholes and Parts", in B. Smith(ed), *Parts and Moments. Studies in Logic and Formal Ontology*, Munich: Philosophia.

19. Dahlstrom, Daniel O. 2011. "Being and Being Grounded." In *The Ultimate Why Question: Why Is There Anything at All Rather than Nothing Whatsoever?*, edited by Wippel, John F., 125-145. Washington, D. C.: The Catholic University of America Press.
"The world today stands under the spell of Leibniz's thought. Or, perhaps more carefully, we might say that the world today stands under the spell of what Leibniz thought only too well. With uncanny perceptiveness, he managed to articulate a basic principle of thinking and being in the early modern world that is arguably as vital today as it was at the outset of the eighteenth century.
(...)
I am referring, of course, to what has been called, since Leibniz's time, the principle of sufficient reason.
Many of the foregoing sentiments were voiced by Heidegger in lectures and an address held some fifty years ago and published in 1957 as *Der Satz vom Grund*, the German abbreviation for Leibniz's principle of
reason.(1)" (p. 125)
(...)
"However, as I hope to show by means of the following considerations, the issue is far more complicated than Heidegger lets on. In particular, his way of painting Leibniz's principle with the same colors that he applies to the so-called "atomic age" is, I argue, misleading to a fault. But the main thrust of my following remarks is to establish what is wrong with Heidegger's interpretation of Leibniz's principle of sufficient reason as a means of clarifying what I take to be right about it.
My comments are divided into three parts. In the first part I discuss Leibniz's complex account of the principle of sufficient reason with an eye to its bearing on his conception of the contingency of finite existence.
In the second part I turn to Heidegger's account of Leibniz's principle of sufficient reason and his "argument" for a different, nonconventional reading of the principle.2 In the third part I address the trenchancy of the argument." (p. 127)
(1) Heidegger, *Der Satz vom Grund* (Pfullingen: Neske, 1957), 51 (hereafter "SvG 51"). All translations into English are my own.

20. de Boer, Karin, and Howard, Stephen. 2019. "A Ground Completely Overgrown: Heidegger, Kant and the Problem of Metaphysics." *British Journal for the History*

of Philosophy no. 27:358-377.

Abstract: "While we endorse Heidegger's effort to reclaim *Kant's Critique of Pure Reason* as a work concerned with the possibility of metaphysics, we hold, first, that his reading is less original than is often assumed and, second, that it unduly marginalizes the critical impetus of Kant's philosophy. This article seeks to shed new light on *Kant and the Problem of Metaphysics* and related texts by relating Heidegger's interpretation of Kant to, on the one hand, the epistemological approach represented by Cohen's *Kant's Theory of Experience* and, on the other, the metaphysical readings put forward by Heimsoeth, Wundt and others in the 1920s. On this basis, we argue that Heidegger's interpretation of Kant remains indebted to the methodological distinction between ground and grounded that informed Cohen's reading and was transferred to the problem of metaphysics by Wundt. Even if Heidegger resists a 'foundationalist' mode of this distinction, we argue that his focus on the notions of ground and grounding does not allow him to account for Kant's critique of the metaphysical tradition."

21.   de Jong, Willem R. , and Betti, Arianna. 2010. "The Classical Model of Science: a millennia-old model of scientific rationality." *Synthese*:185-203.

Abstract: "Throughout more than two millennia philosophers adhered massively to ideal standards of scientific rationality going back ultimately to Aristotle's *Analytica posteriora*. These standards got progressively shaped by and adapted to new scientific needs and tendencies. Nevertheless, a core of conditions capturing the fundamentals of what a proper science should look like remained remarkably constant all along. Call this cluster of conditions the Classical Model of Science. In this paper we will do two things. First of all, we will propose a general and systematized account of the Classical Model of Science. Secondly, we will offer an analysis of the philosophical significance of this model at different historical junctures by giving an overview of the connections it has had with a number of important topics. The latter include the analytic-synthetic distinction, the axiomatic method, the hierarchical order of sciences and the status of logic as a science. Our claim is that particularly fruitful insights are gained by seeing themes such as these against the background of the Classical Model of Science. In an appendix we deal with the historiographical background of this model by considering the systematizations of Aristotle's theory of science offered by Heinrich Scholz, and in his footsteps by Evert W. Beth."

22.   della Rocca, Michael. 2010. "PSR." *Philosopher's Imprint* no. 10:1-13.

"One can see my argument as highlighting an important dialectical advantage that our imagined rationalist (i. e., me) has over our imagined non-rationalist (i. e., you). I have been arguing that the non-rationalist who accepts some explicability arguments has no non-question-begging way to avoid the rationalist position, i. e., no non-question-begging way to avoid the PSR. By contrast, the rationalist who accepts the necessitarian implication of the PSR is not under any pressure, as far as I can see, to accept the non-rationalist position, i. e., to deny the PSR. In this way, the rationalist position is internally coherent in a way that the position of the non-rationalist who accepts some explicability arguments is not. And, of course, an internally incoherent position is worse off than an internally coherent one. So, again, we have powerful and un-rebutted reason to accept the PSR, a principle that most of us have been taught to scorn." (p. 13)

23.   ———. 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)" (p. 139)

(...)

"But can we enter the promised land and should we? Certainly if we – like Spinoza – accept the PSR, then, given the Leibnizian arguments concerning relations, we should enter the promised land of monism.

But can we get to the promised land without invoking something as strong as the PSR? Yes, I believe that all we need to invoke is the plausible claim that relations must be grounded. Given this relatively uncontroversial claim, it follows – as we have seen – that relations are not fully real and that the only thing that fully exists is the one world.

Of course, this relatively uncontroversial claim and the PSR itself are in need of further scrutiny before we can confidently accept the results advanced in this chapter.(17)" (p. 164)

(17) In Della Rocca forthcoming, I explore in a rationalist spirit some problems for the rationalist position developed here.

References

M. Della Rocca forthcoming [2012]: *Rationalism, idealism, monism, and beyond*, in: Eckart Förster, Yitzhak Y. Melamed (eds.), *Spinoza and German Idealism*, Cambridge: Cambridge University Press, pp. 7-26.

24. Della Rocca, Michael, and Amijee, Fatema, eds. 2024. *The Principle of Sufficient Reason: A History*. New York: Oxford University Press.
     Not yet published.

25. Di Bella, Stefano. 2005. "Leibniz's Theory of Conditions: A Framework for Ontological Dependence." *The Leibniz Review* no. 15:67-93.
     Abstract: "The aim of this paper is to trace in Leibniz' s drafts the sketched outline of a conceptual framework he organized around the key concept of 'requisite'. We are faced with the project of a semi-formal theory of conditions, whose logical skeleton can have a lot of different interpretations. In particular, it is well suited to capture some crucial relations of ontological dependence. Firstly the area of 'mediate requisites' is explored - where causal and temporal relations are dealt with on the basis of a general theory of 'consequence'.
     Then the study of 'immediate requisites' is taken into account - a true sample of mereological inquiry, where Leibniz strives for a unitary treatment of part-whole relation, conceptual inclusion and inherence. Far from simply conflating these relations one with another and with causality, therefore, Leibniz tried to spell them out, while at the same time understanding them within a single conceptual framework."
     "A little known episode in the later history of philosophy and logic could help us to grasp the significance of these Leibnizian ideas. I am thinking of Bolzano's theory of the 'consequence' (*Abfolge*) relation, as it is introduced in the second part of his *Wissenschaftslehre*. This notion is not a purely logical one, insofar as it is distinguished from that of 'deducibility' (*Ableitbarkeit*, the true ancestor of our Tarskian consequence), and properly holds only for true propositions. It aims at capturing the old Aristotelian distinction between explanations '*tau oti*' (that) and '*tau dioti'* (why), hence it is an objective asymmetrical relation of 'grounding' between 'propositions in themselves' ('*an sich*'), in Bolzano's jargon. It is accurately distinguished from epistemical inference, but also from the notion of 'cause' (*Ursache*), that is a further specification of that relation in the sense of a 'real ground': "An object A is the cause of another B, whenever the proposition 'A does exist' contains the reason for the proposition 'B does exist' ." (21)" (p. 73)
     (21) Bernard Bolzano, *Wissenschaftslehre*, III § 379, p. 497.

26. di Poppa, Francesca. 2013. "Spinoza on Causation and Power." *The Southern Journal of Philosophy* no. 51:297-319.
     Abstract: "The purpose of this paper is to argue that, for Spinoza, causation is a more fundamental relation than conceptual connection, and that, in fact, it explains

conceptual connection. I will firstly offer a criticism of Michael Della Rocca's 2008 claims that, for Spinoza, causal relations are identical to relations of conceptual dependence and that existence is identical to conceivability. Secondly, I will argue that, for Spinoza, causation is more fundamental than conceptual dependence, offering textual evidence from both *Treatise on the Emendation of the Intellect* and *Ethics*.

In particular, I will offer an interpretation of the attributes as first and foremost causal activities, or powers: this interpretation has the advantage to clarify the role of [definiton] 1D6 as a "genetic definition"."

References

Michael della Rocca 2008. *Spinoza*. Nw York: Routledge.

27.   Embry, Brian. 2019. "Francisco Suárez on Beings of Reason and Non-Strict Ontological Pluralism." *Philosopher's Imprint* no. 19:1-15.

"Suárez explains the difference between existence and objective being in terms of intrinsicality and extrinsicality: existence is an intrinsic sort of being, and objective being is an extrinsic sort of being." (p. 6)

(...)

"But how exactly are we to understand the notion of extrinsic being?" (p. 7)

(...)

"David Lewis once informally characterized the distinction as follows:

"In general, something has an intrinsic property solely in virtue of how that thing itself is; it has a purely extrinsic property solely in virtue of how accompanying things, and its external relations to those accompanying things, are" (Lewis 2001: 384). Here Lewis characterizes the intrinsic/extrinsic distinction in terms of the *in virtue of* relation.

He ultimately finds this characterization unsatisfactory because we do not have a "clear enough understanding of 'solely in virtue of'" Lewis 2001: 384).

However, the *in virtue of* relation has been the subject of much progress in recent metaphysics. Even critics of the *in virtue of* relation agree that we have a clear enough understanding of it (Wilson 2014, Koslicki 2015). Advocates note that we often say that certain facts obtain in virtue of others." (p. 7)

(...)

"This is not the place to argue for a particular analysis of intrinsicality, but I want to show how the notion of grounding can provide a better sense of what it could mean to say that something has extrinsic being." (p. 8)

References

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Koslicki, Kathrin. 2015. "The Coarse-Grainedness of Grounding." In *Oxford Studies in Metaphysics,* Vol. 9, edited by Karen Bennett and Dean W. Zimmerman, 306–341. Oxford: Oxford University Press.

Wilson, Jessica. 2014. "No Work for a Theory of Grounding." *Inquiry* 57 (5–6): 535–579.

28.   Evans, Matthew. 2012. "Lessons from Euthyphro 10a–11b." *Oxford Studies in Ancient Philosophy* no. 42:1-38.

"My aim in this paper is to show that (and how) the famous argument of *Euthyphro* 10a - 11b, which I will call the *Euthyphro Argument*, can be seen to play an important role in Plato's broader anti-constructivist project. As I interpret it, this argument is best understood as an attack on the very idea that beliefs could ground facts in the way the constructivist thinks they could."

(...)

"Here is how I will proceed. First I will provide a detailed reconstruction of the argument. Then I will try to show, on the basis of this reconstruction, that the argument can withstand many (if not all) of the most powerful lines of criticism that have been (and might be) advanced against it. Finally I will offer an assessment of the argument's dialectical impact on constructivism in particular and naturalism in general. At each step along the way I hope to make it increasingly clear that this

argument is more resilient than its critics have acknowledged, and that the naturalists among us must either learn its lessons or face defeat." (pp. 2-3)

29. Fine, Kit. 2022. "Some Remarks on Bolzano on Ground." In *Bolzano's Philosophy of Grounding: Translations and Studies*, edited by Roski, Stefan and Schnieder, Benjamin, 276-300. New York: Oxford University Press.
"When I developed my own ideas on ground in the 1990s I was oblivious to Bolzano's work on the topic in his Theory of Science (henceforth WL). It was almost a couple of decades later that I became aware of his work and I was then astonished both by its level of sophistication and by the extent to which he had anticipated many of our contemporary concerns. Although the topic has had a long history, going all the way back to the ancients, there is little doubt in my mind that Bolzano deserves a special place as the first person to embark upon a systematic study of the topic; and I believe his contributions in this area to be as great an intellectual achievement, in their own way, as his contributions to logic or real analysis." (p. 276, a note omitted)
(...)
"I wish in this paper to take Bolzano at his word and to follow through on a couple of issues raised by some of his suggestions. It would have been desirable if I had been able to show how, by following through on this suggestion, these various issues might have been resolved. Unfortunately, I was not able to do this and I can only hope to have made clear the interest of the issues and the direction in which further investigation of them might proceed." (p. 276)

30. Franks, Curtis. 2014. "Logical Completeness, Form, and Content: An Archaeology." In *Interpreting Gödel: Critical Essays*, edited by Kennedy, Juliette, 78-106. Cambridge: Cambridge University Press.
"Indeed, throughout his logical investigations,Bolzano's considerably more sustained focus was devoted, not to the *Ableitbarkeit* relation, but to the theory of this objectively significant consequence relation, a theory he called "Grundlehre." Bolzano's 1810 *Beyträge* is the definitive exposition of this theory of ground and consequence." (p. 83)
(...)
"Bolzano's two theories of logical consequence are themselves not precise enough for their correspondence with one another to be subject to proof. All the same, the question is at the center of Bolzano's thought.
The procedural *Ableitbarkeit* relation provides a calculus of inference.
The ontological *Abfolge* relation is a feature of the world absolutely independent of our ability to reason about it. By establishing that these notions correspond, we would ensure that the logical structure of the world is accessible, that some line of thought could trace the dependencies of truths, that the reasons behind the complex facts of reality are discoverable and comprehensible." (p. 92)

31. Frost, Gloria. 2023. "Medieval." In *The Routledge Handbook of Essence in Philosophy*, edited by Koslicki, Kathrin and Raven, Michael J., 30-40. New York: Routledge.
"The first section examines medieval views on basic issues about essences. The section begins by discussing medieval conceptions of the distinction between essential and accidental features. Next the section discusses medieval positions on whether there are only species essences or also individual essences. Lastly, the section examines medieval views on the knowability of essences. The second section of the of the essay focuses on two medieval debates about essences. The first debate had to do with which features of material beings were essential to them. The Latin scholastic authors on whom this essay focuses adopted Aristotle's theory of hylomorphism. This theory maintains that material substances are composed of matter and form. Scholastic authors debated about whether the essences of material substances were constituted merely by their forms or if their essences also contained their matter. The second debate focused on the question of whether there is a real distinction between the essence of a created substance and its existence. The debate

was about whether in addition to their essence a creature was composed by a distinct actualizing principle through which the essence was the essence of a real being, rather than a merely possible one. Though this question is foreign to contemporary philosophy, it was one of the most pressing concerns regarding essences for medieval scholastic thinkers." (p. 30)

32.   Guigon, Ghislain. 2012. "Spinoza on Composition and Priority." In *Spinoza on Monism*, edited by Goff, Philip, 183-205. New York: Palgrave-Macmillan.
"In section 9.1 I argue that Spinoza agrees that there are many concrete things though there is only one fundamental concrete thing. In section 9.2 I argue that Spinoza's view is that the fundamental concrete thing, the extended substance, is mereologically simple. However, this interpretation of Spinoza faces two challenges that I shall explore: a puzzle about the occurrence of composition in extended reality, and a puzzle about substantial simplicity. Sections 9.3 and 9.4 provide conceptual tools that will allow me to address these two challenges in sections 9.5 and 9.6: section 9.3 introduces Spinoza's threefold distinction between kinds of composition and section 9.4 is a study of Spinoza's doctrine about *beings of reason*." (p. 184)

33.   Hocutt, Max. 1974. "Aristotle's Four Becauses." *Philosophy* no. 49:385-399.
"I. Introduction
What has traditionally been labelled 'Aristotle's theory of causes' would be more intelligible if construed as 'Aristotle's theory of explanations', where the term 'explanation' has substantially the sense of Hempel and Oppenheim, who construe explanations as deductions.(1) For Aristotle, specifying 'causes' is constructing demonstrations.
This interpretation has two virtues: unlike the theory of the 'four causes', it makes sense; and it shows what the logical theory of *aitia* in the *Posterior Analytics* has to do with the metaphysical treatment in the *Physics* and *Metaphysics.* On the assumption that Aristotle's metaphysics might be contaminated by his logic, Aristotle's metaphysics and logic have traditionally been kept scrupulously separate, as if they were by different men.
The result of this separation is to make Aristotle's metaphysics seem illogical. I want here to go a little way towards showing that this is not necessarily so." (p. 385, a note omitted)

34.   Howat, Andrew. 2023. "Pragmatism." In *The Routledge Handbook of Essence in Philosophy*, edited by Koslicki, Kathrin and Raven, Michael J., 53-66. New York: Routledge.
"After some terminological preliminaries (§1), this chapter defends the following claims.
First, there are at least two different interpretations available of C.S. Peirce's views on essence and essentialism (§2). One of them suggests that Peirce may have endorsed his own novel, pragmatist understandings of essence/essentialism. William James's few remarks on the topic are somewhat ambivalent (§3), evincing a superficial anti-essentialism that seemingly anticipates Quine's views, while remaining consistent with an anti-realist form of essentialism. Although John Dewey's pragmatism (§4) is the most vividly anti-essentialist in spirit, once again there are prominent scholars who seemingly reject that interpretation, partly because Dewey's attitude to metaphysics in general is difficult to establish. Some of his anti-essentialist remarks seem grounded in his own pragmatist, empirically naturalist metaphysics, while others suggest an outright metaphysical quietism that seemingly rules out "essence" and "essentialism" as meaningful terms." (pp. 53-54)

35.   Kappes, Yannic. 2024. "Bolzano's Tortoise and a loophole for Achilles." *Synthese* no. 203:1-29.
Abstract: "This paper discusses a novel response to two closely related regress arguments from Bolzano's *Theory of Science* and Carroll's *What the Tortoise Said to Achilles*. Bolzano's argument aims to refute the thesis that full grounds must include propositions involving notions such as entailment, grounding or lawhood which link

the respective grounds to their groundee. This thesis is motivated, Bolzano's argument is reconstructed, and a response based on self-referential linking propositions is developed and defended against objections concerning self-reference and Curry's paradox. Finally, the idea is applied to a reading of Carroll's dialogue and a corresponding solution to the so-called infinite regress problem of inference is proposed."

36.   Kasabova, Anna. 2012. "Bolzano's Semantic Relation of Grounding: A Case Study." In *Inference, Consequence, and Meaning: Perspectives on Inferentialism*, edited by Gurova, Lilia, 85-103. Newcastle upon Tyne: Cambridge Scholars Publishing. "Bernard Bolzano, the 19th Century mathematician and philosopher who taught at the University of Prague, worked out a semantic notion of grounding (*Abfolge*) for providing proofs with an objective ground *(Begründung)* or explanatory force. He claims that a true statement or truth is grounded or scientifically proved if and only if it is shown to be objectively dependent on other truths.(1) Bolzano holds a foundationalist view on which there are basic true propositions or axioms and basic beliefs that support derivative propositions and derivative beliefs based on the more basic propositions and beliefs. He claims that a semantic dependence relation holds between basic propositions or basic beliefs and derivative propositions or derivative beliefs, a relation he calls *Abfolge*, translated as the grounding relation, where grounding a statement means giving a reason for that statement." (p. 85)
(1) *Beyträge* II, (1810), § 12. cf. also 1817, §1 where he says that scientific proofs should be groundings (Begründungen) and introduces the terms *Grundwahrheiten* and *Folgewahrheite*n."
References
Bolzano, Bernard. (1810) *Beyträge zu einer begründeteren Darstellung der Mathematik*. Prague: Caspar Widtmann. [English translation by Steve Russ in: Bolzano, Bernard. 2004. „Contributions to a better grounded presentation of mathematics." In *From Kant to Hilbert. A sourcebook on the foundations of mathematics*, vol. I, edited by William Ewald, 174-224. Oxford: Clarendon Press.]
__ (1817), *Rein analytischer Beweis des Lehrsatzes, dass zwischen je zwey Werthen, die ein entgegengesetzes Resultat gewähren, wenigstens eine reele Wurzel der Gleichung liege*, Wilhelm Engelmann (English translation: *Purely analytic proof of the theorem that between any two values which give results of opposite sign, there lies at least one real root of the equatio*n; in *From Kant to Hilbert, cit.,* pp. 225-248.

37.   Kment, Boris. 2014. *Modality and Explanatory Reasoning*. New York: Oxford University Press.
"The goal of this book is to shed light on metaphysical necessity and the broader class of modal properties to which it belongs."
(...)
I will argue that to understand modality we need to reconceptualize its relationship to causation and other forms of explanation such as grounding, a relation that connects metaphysically fundamental facts to non-fundamental ones. While many philosophers have tried to give modal analyses of causation and explanation, often in counterfactual terms, I will argue that we obtain a more plausible, explanatorily powerful and unified theory if we regard explanation as more fundamental than modality." (p. 1)

38.   Knappik, Franz. 2016. "And Yet He is a Monist: Comments on James Kreines, *Reason in the World*." *Hegel Bulletin*:1-17.
Abstract: "I critically discuss Kreines's arguments against readings on which Hegel holds some version of metaphysical monism. In section 1, I address Kreines's claim that Hegel's revised version of Kant's argument in the Transcendental Dialectic implies a rejection of metaphysical monism. I argue both that the argument that Kreines ascribes to Hegel does not itself rule out monism, and that there are serious exegetical problems with the way Kreines understands Hegel's diagnosis of the antinomies and his critique of the metaphysics of the understanding. In section 2, I discuss additional reasons that Kreines gives for seeing Hegel as rejecting

metaphysical monism. In particular, I argue that Hegel is much more optimistic about the intelligibility of nature than Kreines thinks: to a substantial degree, the basic structure of nature, including the laws of mechanics, is open to explanations that are ultimately based on a monistic principle."

39.   Koslicki, Kathrin. 2014. "The Causal Priority of Form in Aristotle." *Studia Philosophica Estonica* no. 7:113-141.
Abstract: "In various texts (e.g., *Met*. Z.17), Aristotle assigns priority to form, in its role as a principle and cause, over matter and the matter-form compound. Given the central role played by this claim in Aristotle's search for primary substance in the *Metaphysics*, it is important to understand what motivates him in locating the *primary* causal responsibility for a thing's being what it is with the form, rather than the matter. According to *Met*. Θ.8, actuality [*energeia/entelecheia*] in general is prior to potentiality [*dunamis*] in three ways, viz., in *definition, time and substance*. I propose an explicitly *causal* reading of this general priority claim, as it pertains to the matter-form relationship. The priority of form over matter in *definition, time and substance*, in my view, is best explained by appeal to the role of form as the *formal*, *efficient* and *final* cause of the matter-form compound, respectively, while the posteriority of matter to form according to all three notions of priority is most plausibly accounted for by the fact that the causal contribution of matter is limited to its role as material cause. When approached from this angle, the work of *Met*. Θ.8, can be seen to lend direct support to the more specific and explicitly causal priority claim we encounter in *Met*. Z.17, viz., that formis prior tomatter in its role as the principle and primary cause of a matter-form compound's being what it is."

40.   ———. 2024. "Modality and Essence in Contemporary Metaphysics." In *Modality: A History*, edited by Melamed, Yitzhak Y. and Newlands, Samuel, 263-293. New York: Oxford University Press.
"Introduction. Essentialists hold that at least a certain range of entities can be meaningfully said to have natures, essences, or essential features independently of how these entities are described, conceptualized, or otherwise placed with respect to our specifically human interests, purposes, or activities. For quite some time, it was common among contemporary metaphysicians to regard essence as a modal notion: an essential truth, on this conception, is a modal truth of a certain kind (viz., one that is both necessary and de re, i.e., about a certain entity); and an essential property is a feature an entity has necessarily, if it is to exist. The essential truths, according to this approach, are thus a subset of the necessary truths; and the essential properties of entities are included among their necessary properties." (p. 263)

41.   Koslicki, Kathrin, and Raven, Michael J. 2023. "History." In *The Routledge Handbook of Essence in Philosophy*, edited by Koslicki, Kathrin and Raven, Michael J., 15-17. New York: Routledge.
"Philosophers have discussed essence since antiquity. The notion of essence played a central role in ancient Greek philosophy and occupied center stage during the Middle Ages. A more critical stance towards this notion developed during the early modern era and continues, in some quarters, into the present time. The turn of the millennium saw the notion of essence falling upon especially hard times.
(...)
All this suggests that it is high time to reevaluate essence. To arrive at an adequate assessment of where we are, however, it is necessary first to appreciate the history of philosophical discussions of essence that have preceded our current vantage point. Part I of this Handbook thus begins by offering a historical survey of the role of essence in ancient Greek, medieval, and modern philosophy as well as in the contemporary traditions of pragmatism, phenomenology, and early analytic philosophy." (p. 15)

42.   Kreines, James. 2015. *Reason in the World: Hegel's Metaphysics and Its Philosophical Appeal*. New York: Oxford University Pree.

"What we are discovering, as we step through these debates, is the fundamentality of the question of *what is a reason for what*. We need the basic and general notion of one thing being a reason for another in order to engage *any* of these debates. And so we should accept that notion as basic and proceed to consider what specific forms of reason there really are, which directions they run in different cases, and how they relate to one another. This point can be expressed in contemporary terminology as well, but it requires stretching a bit beyond the usage generally intended. Schaffer, for example, speaks of "ontological dependence" and "grounding." Part of his point is to distinguish a special sort of worldly dependence in metaphysics, parallel to but distinct fromcases like the causality of interest in the natural sciences. My point here is that we need a more general notion of *worldly dependence*, or (better) *reason in the world*, in order to open up in a parallel manner all the questions and possible positions concerning laws, causality, and so on.(13)" (p. 68)

(13) See especially Schaffer (2009). The notion of "worldly dependence" here, then, is closer not to Schaffer's "grounding" but to Kim's (1994) notion of a "metaphysical dependence" that is the "correlate" of explanation, where this can but need not be specifically causal.

References

Kim, J. 1994. "Explanatory Knowledge and Metaphysical Dependence." *Philosophical Issues* 5: 51–69.

Schaffer, J. 2009. "On What Grounds What." In *Metametaphysics: New Essays on the Foundations of Ontology*, edited by D. Manley, D. Chalmers, and R. Wasserman, 347–83. Oxford: Oxford University Press.

43.   ———. 2016. "Things in Themselves and Metaphysical Grounding: On Allais' *Manifest Reality*." *European Journal of Philosophy* no. 24:253-266.

"I conclude, then, as follows: There is no comparatively comprehensive interpretation of transcendental idealism that is, in my view,more successful than Allais' ambitious *Manifest Realit*y. With respect to Kant on things in themselves, however, I think Allais' account retains one disadvantage common to its competitors. Escape, as I see it, requires different understanding of the extremes that a "moderate" interpretation should avoid: On the one extreme, there are indeed deflationary readings, precluding a metaphysical assertion of the existence of things in themselves as grounds of appearances.

But the other extreme is not precisely noumenalism, as Allais claims. It is rather any metaphysics asserting the existence of unconditioned grounds, or metaphysical fundamentality in this sense. The argument of the Dialectic rules these all to be unacceptably dogmatic, and for what seem to me powerfully philosophical reasons. I would think that the big interpretive challenge is to navigate between these extremes concerning things in themselves—hopefully in a manner that can retain access to the many unmatched advantages of Allais' interpretation of Kant on appearances." (p. 264)

References

Allais, L. (2010), 'Transcendental Idealism and Metaphysics,' *Kantian Yearbook* 2:1–32.

—— (2015), *Manifest Reality: Kant's Idealism & his Realism*. Oxford: Oxford University Press.

44.   ———. 2016. "Fundamentality without Metaphysical Monism: Response to Critics of *Reason in the World*." *Hegel Bulletin*:1-19.

Abstract: "This article is a reply to comments by Franz Knappik and Robert Stern on my book, *Reason in the World: Hegel's Metaphysics and its Philosophical Appeal*. Issues addressed include the systematicity of Hegel's philosophy, the prioritizing of metaphysical over epistemological questions in his arguments, Hegel's response to Kant's Antinomy of Pure Reason, and my conclusion that there are senses in which Hegel's own position is both ambitiously metaphysical and also monist, but that the monism present there is epistemological, and the ambitious metaphysics is non-monist."

45. Kriener, Jönne. 2017. "Bolzano." In *The History of Philosophical and Formal Logic: From Aristotle to Tarski*, edited by Malpass, Alex and Antonutti Marfori, Marianna, 121-142. New York: Bloomsbury Academic.
See *Bolzano's theory of grounding* (pp. 133-137).
5.1 Grounding
Bolzano's logic as developed so far applies equally to true as to false propositions. However, Bolzano has more to offer: a special system for *truths*. True propositions are ordered by what Bolzano calls the relation of *Abfolge*. Let me translate it as 'grounding'. Bolzano motivates his theory of grounding from examples of the following kind (WL §198).
(3) It is warmer in Palermo than in New York.
(4) The thermometer stands higher in Palermo than in New York.
Both propositions are true. However, it is the truth of (3) that explains (4) and not vice versa. The truth of (3) grounds the truth of (4).
This relation of grounding stands out from Bolzano's system in that it is not defined in terms of variation. In particular, the fact that (3) grounds (4) and not vice versa cannot be captured by deducibility: (3) can be derived from (4).
Therefore, a stronger concept is needed: (3) *grounds* (4).
For a long time, interpreters have found this part of Bolzano's work 'obscure' (Berg 1962 : 151). Nothing in a modern logic textbook corresponds to Bolzanian grounding. Nonetheless, the concept has a long and venerable tradition. Bolzano connects with Aristotle's distinction between *why* -proofs and mere *that* -proofs (Aristotle 2006 : 1051b; Betti 2010)." (p. 133)
References
Aristotle (2006), *Metaphysics Book Θ* , ed. Stephen Makin , Oxford: Clarendon Press.
Berg, Jan (1962), *Bolzano's Logic*. Stockholm , Almqvist & Wiksell.
Betti , Arianna (2010), ' Explanation in Metaphysics and Bolzano's Theory of Ground and Consequence', 211 : 281–316 .
Bolzano , Bernard (1837), *Wissenschaftslehre*, Sulzbach: Seidel.

46. Lange, Marc. 2022. "Bolzano, the Parallelogram of Forces, and Scientific Explanation." In *Bolzano's Philosophy of Grounding: Translations and Studies*, edited by Roski, Stefan and Schnieder, Benjamin, 394-417. New York: Oxford University Press.
"The parallelogram law for the composition of forces was introduced in 1586 by Simon Stevin. It seems to have been widely recognized by Newton's day since both Pierre Varignon and Bernard Lamy stated it in the same year (1687) as Newton did in the Principia.(2) But long after the parallelogram law's truth had become uncontroversial, considerable dispute remained over why it holds. Rival approaches to its explanation were developed and criticized by many notable scientists over the course of the eighteenth and nineteenth centuries.
Bernard Bolzano's contribution to this debate was his *Attempt at an Objective Grounding of the Theory of the Composition of Forces* (as Russ (2004, 684) translates the title of Bolzano (1842)). (Bolzano did not publish this paper until 1842, but some commentators have suggested that the paper was composed much earlier; for instance, Russ says that it was written 'probably in the 1810's'.(3)" (p. 394, a note pmitted)
(2) For historical background, see Dugas 1988 [*A History of Mechanics.* New York: Dover] and Duhem 1991 *The Origins of Statics*. Dordrecht: Kluwer].
(3) Russ 2004 [The Mathematical Works of Bernard Balzano. Oxford: Oxford University Press], 622.

47. Lapointe, Sandra. 2006. "Bolzano on Grounding or Why Is Logic Synthetic." In *The Logica Yearbook 2005*, 113-126. Prague: Filosofia.

48. MacBride, Fraser, and Janssen-Lauret, Frederique. 2022. "Why Lewis Would Have Rejected Grounding." In *Perspectives on the Philosophy of David K. Lewis*, edited by Beebe, Helen and Fsher, A. R. J., 66-91. New York: Oxford University Press.

"In this chapter we argue that were Lewis to be writing today, he would—drawing upon the corpus of his established views—provide us with principled reasons for saying both (1) that we don't need the notions of 'metaphysical dependence', 'grounding' or 'ontological priority' and (2) that they're not intelligible notions anyway. They're not needed because, he would have held, either there is work to be done but all the heavy lifting can be achieved by other means or there really isn't any work that needs doing at all. They're not intelligible, he would have continued, because they presuppose metaphysical modalities which Lewis had always held suspect. So much the worse, we conclude, for contemporary developments, whatever may be de rigueur. The tradition to which Lewis belonged cannot be consigned to the dustbin of history.
Here we use 'grounding' as a generic label for a range of theories which deem metaphysics stymied without metaphysical dependency, grounding or ontological priority. Although 'metaphysical dependence', 'grounding' and 'ontological priority' can be used differently, their proponents often share motivations and themes. We focus upon the alleged shortcomings of supervenience, the oft-cited need to invoke grounding to explain how a singleton relates to its sole member and the appeal to facts, essentialism or metaphysical necessity to explain grounding itself—all motivations and themes incompatible with Lewis's philosophy." (pp. 66-67)

49.   Malink, Marko. 2020. "Aristotelian Demonstration." In *The Routledge Handbook of Metaphysical Grounding*, edited by Raven, Michael J., 33-48. New York: Routledge.
"In what follows, I give an overview of Aristotle's argument and its historical significance (Section 2).The relevant relation of priority in nature is determined by the order of terms in acyclic chains of immediate universal affirmations (Sections 3 and 4). Given the deductive framework of Aristotle's syllogistic theory, it can be shown that all direct demonstrations but not all indirect demonstrations proceed from premises that are prior in nature to the conclusion (Section 5). I conclude by indicating how this fact correlates with similar results in modern versions of the impure logic of ground (Section 6)." (p. 34)

50.   ———. 2022. "Aristotle and Bolzano on Grounding." In *Bolzano's Philosophy of Grounding: Translations and Studies*, edited by Roski, Stefan and Schnieder, Benjamin, 221-243. New York: Oxford University Press.
"In 1837 Bernard Bolzano published his most important work in the area of logic, the T*heory of Science: Attempt at a Detailed and in the Main Novel Exposition of Logic with Constant Attention to Earlier Authors*. As indicated by the subtitle, a significant portion of the *Theory of Science* is devoted to a discussion of the work done by earlier theorists on the various topics covered in the treatise. Bolzano thus develops his logical theory by examining and criticizing his predecessors' views. Among the authors that figure most prominently in the *Theory of Science* is Aristotle. In particular, Aristotle takes centre stage in Bolzano's discussion of grounding (*Abfolge*) in §§ 198-222." (p. 221, a note omitted)

51.   ———. 2023. "Ancient." In *The Routledge Handbook of Essence in Philosophy*, edited by Koslicki, Kathrin and Raven, Michael J., 19-29. New York: Routledge.
"The status of questions of the form "What is X?" was an important topic of discussion among Socratic thinkers. For example, Antisthenes, a pupil of Socrates and opponent of Plato, examined the nature of definitions: Antisthenes was the first to define "definition" (*logos*), by saying: "A definition is an account revealing what a thing was or is." (Diogenes Laertius, *Lives of the Eminent Philosophers* 6.3) However, unlike Socrates and Plato, Antisthenes ended up denying the possibility of defining things by specifying their essence. According to Aristotle, Antisthenes held the view that "one cannot define the essence of a thing since the definition would be a long account; but one can specify and teach of what sort a thing is" (*Metaphysics* H 3 1043b23–7).5 As we will see, Aristotle himself does not share Antisthenes' skepticism, but contends that we are in fact able to define things by specifying their essence." (pp. 20-21)

52. ———. 2024. "Aristotle on Modality." In *Modality: A History*, edited by Melamed, Yitzhak Y. and Newlands, Samuel, 1-30. New York: Oxford University Press.
"While necessity figures centrally in the cosmologies presented by Plato and the Pre- Socratics, we do not have any evidence that these thinkers provided an account of the nature of necessity in general. The
first philosopher known to have provided such an account is Aristotle.
In his logical and metaphysical works, Aristotle develops a systematic theory of necessity and related modalities such as possibility and impossibility." (p. 2)

53. Martin, Christopher J. 2004. "Formal Consequence in Scotus and Ockham: towards an account's of Scotus logic." In *Duns Scot à Paris, 1302–2002: Actes du colloque de Paris, 2–4 septembre 2002*, edited by Boulnois, Olivier, Karger, Elizabeth, Solère, Jean-Luc and Sondag, Gérard, 117-150. Turnhout: Brepols.
"The status of a striking and important counter-possible conditional claim is much disputed in the late thirteenth and fourteenth centuries.
Thomas Aquinas argues that the proposition "if the Holy Spirit does not proceed from the Son, then it is not distinct from the Son" is true and he is followed in this by Godfrey of Fontaines and Thomas of Sutton. Henry of Ghent, to the contrary, insists that it is false and this is also the view of John Dims Scotus who claims to prove the falsity of the conditional by showing that the consequent does not follow formally from the antecedent. William of Ockham for his part argues for just the opposite, maintaining that the consequent of the conditional does indeed follow formally its antecedent, but he insists that despite this the conditional is not evidently true.
We know a good deal about Ockham's theory of conditional propositions(1) but not very much about Scotus' views on the subject. In this paper I will try to make some progress towards understanding Scotus' logic by considering his account of the conditional in solving this particular theological problem and propose that his theory of formal consequence can be connected with that of the formal distinction.
I will then argue that in the light of this connection Ockham's different theory of consequences can be understood as part of his general rejection Scotus' metaphysics." (p. 117)
(1) Gullelmus de Ockham, *Summa Logicae* (OPh III-3).

54. ———. 2024. "Abelard on Grounding in Ontology and Logic." In *Grounding in Medieval Philosophy*, edited by Normore, Calvin G. and Schmid, Stephan, 103-128. Cham (Switzerland): Springer.
Abstract: "Contemporary discussions of grounding have found an historical ances tor for their claims in Aristotle's appeal to the four causes. In this paper I propose what I think is a much closer and certainly more developed anticipation of theories of grounding as dependence in the work of Peter Abelard. Abelard explicitly appeals to grounding in his account of the ontological structure of substance in terms of what we now call tropes. This theory itself then grounds his appeal to the theory of the dialectical topics in formulating the truth conditions of conditional propositions and the validity conditions of arguments corresponding to different grounding relationships."

55. Massimi, Michela. 2017. "Grounds, Modality, and Nomic Necessity in the Critical Kant." In *Kant and the Laws of Nature*, edited by Massimi, Michela and Breitenbach, Angela, 150-170. Cambridge: Cambridge University Press.
"In this section, I turn to Kant's lectures on metaphysics to clarify why, in my view, Kant's considered answer to the problem of inference should be searched for in his multifaceted notion of ground and consequence. I clarify three different kinds of nomic necessity that Kant saw at play in different kinds of laws, each respectively relying on a different notion of ground, qua conceptual ground ("ratio cognoscendi"), qua ground of being ("ratio essendi"), or qua ground of becoming ("ratio fiendi"). Only the latter notion captures cause–effect relations at play in empirical causal laws, I argue." (p. 169)
(...)

"The main goal of this chapter was to advance an interpretation that could vindicate Kant's bold claim that the understanding prescribes laws to nature. To this end, I have elucidated the metaphysical aspect of the dispositional essentialist reading that I am defending on Kant's behalf with an eye to clarifying different kinds of necessity that Kant seems to be referring to in various passages of the lectures on metaphysics. We identified three main notions of necessity (conceptual, metaphysical, and natural necessity, respectively). They are, respectively, at work in conceptual truths, theoretical identity statements, and empirical causal laws, via three different kinds of grounds (*ratio cognoscendi, essendi*, and *fiendi*). This taxonomy is far from exhaustive and is meant only to map out (tentatively) the territory of lawlike claims and their necessity in Kant." (p. 168)

56. McDaniel, Kris. 2024. "Modality in 20th- Century Philosophy." In *Modality: A History*, edited by Melamed, Yitzhak Y. and Newlands, Samuel, 221-251. New York: Oxford University Press.
"Introduction. It is hard to overstate how important the topic of modality was for philosophy in the 20th century. Fittingly, a comprehensive discussion of this topic and its role in the development of 20th-century philosophy in a piece this size is impossible, and as such, choices must be made about what to cover. Here is what I plan to do here. First, much of early 20th-century modal theorizing is a response, either direct or indirect, to Kant, and so I begin by outlining some key Kantian claims about modality. Second, I describe two philosophical traditions stemming from this reaction, the phenomenological tradition, with a focus on Husserl and Heidegger, and the analytic tradition, with a focus on Russell and Quine. Next, I turn to the relatively recent history of modality in the analytic tradition, and focus on work by Barcan Marcus on the formula discovered by and named after her, Kripke on the necessary a posteriori and contingent a priori, and Lewis on modal realism." (pp. 221-222)

57. Melamed, Yitzhak Y. 2012. "Why Spinoza is not an Eleatic Monist (Or Why Diversity Exists)." In *Spinoza on Monism*, edited by Goff, Philip, 206-222. New York: Palgrave Macmillan.
"In the first part of the chapter I will present and explain the problem of justifying the existence of infinite plurality modes in Spinoza's system. In the second part of the chapter I consider the radical solution to the problem according to which modes do not really exist, and show that this solution must be rejected upon consideration. In the third and final part of the chapter I will suggest my own solution according to which the essence of God is active and it is this feature of God's essence which requires the flow of modes from God's essence. I also suggest that Spinoza considered radical infinity and radical unity to be roughly the same, and that the absolute infinity of what follow from God's essence is grounded in the absolute infinity of God's essence itself." (pp. 206-207)

58. Michels, Robert. 2023. "Contemporary (analytical) tradition." In *The Routledge Handbook of Essence in Philosophy*, edited by Koslicki, Kathrin and Raven, Michael J., 84-99. New York: Routledge.
"Due to the strong influence of logical empiricism, the notion of essence seemed like a relic of the past to many analytic philosophers working in the first half of the 20th century. Yet, at the beginning of the 21st century, analytic philosophers considered the notion worthy of serious discussion and even relied on it in philosophical explanations and theories. This chapter gives a roughly chronological overview of the history of essence in 20th century philosophy in the analytic tradition, focusing on a number of important developments leading from the logical positivists' opposition to essence to its current renaissance in analytic metaphysics and beyond." (p. 84)

59. Morscher, Edgar. 2016. *Bernard Bolzanos Lehre von Grund und Folge. Eine axiomatische Rekonstruktion*. Sankt Augustin: Academia Verlag.

60. ———. 2022. "The Grounds of Moral 'Truths'." In *Bolzano's Philosophy of Grounding: Translations and Studies*, edited by Roski, Stefan and Schnieder,

Benjamin, 343-363. New York: Oxford University Press.

"From whatever area of knowledge you are approaching Bolzano's work-be it theology, philosophy, mathematics, or natural sciences-it is almost impossible not to come across a reference to Aristotle's distinction between the knowledge of 'that' (ὅτι), and the knowledge of 'why' (διότι). Bolzano's favourite examples for illustrating this distinction are taken from the natural sciences: From the information that the thermometer (or barometer) reading in location l_1 at time t is higher than in location l_2 we can infer that the temperature (or atmospheric pressure, respectively) in l_1 at tis higher than in l_2, The higher thermometer (or barometer) reading, however, is not the ground why the temperature (or the atmospheric pressure, respectively) is higher at t in $l1$ than in l_2, but it is exactly the other way around: the truth that the temperature (or atmospheric pressure) is higher is the ground for the truth that the thermometer (or barometer) reading is higher, which is its consequence.(1)

(...)

The present chapter of this book is concerned with Bolzano's application of this distinction within the field of ethics. In the introductory first section I will lay out the conceptual framework to be used in the third (main) section of this chapter. In the intermediate second section I will present a brief introduction to Bolzano's ethics." (p. 343)

(1) Similar examples can be found, e.g. in RW [*Lehrbuch der Religionswissenschaft*] I, §3: 6; WL *Wissenschaftslehre*] II, §162: 192f., 194; §168: 210; §177: 222;§198: 340; WL IV, §401: 34; §690: 580f.

61.   Mulligan, Kevin. 2004. "Essence and Modality: The Quintessence of Husserl's Theory." In *Semantik und Ontologie: Beiträge zur philosophischen Forschung*, edited by Siebel, Mark and Textor, Mark, 387-418. Frankfurt: Ontos Verlag.

"Even the most cursory reader of Husserl's writings must be struck by the frequent references to essences ("Wesen", "Essenzen"), Ideas ("Idee"), kinds, natures, types and species and to necessities, possibilities, impossibilities, necessary possibilities, essential necessities and essential laws.

What does Husserl have in mind in talking of essences and modalities?

What did he take the relation between essentiality and modality to be? In the absence of answers to these questions it is not clear that a reader of Husserl can be said to understand him.

Thus in the first part of Husserl's first major work, the "Prolegomena" to the *Logical Investigations* (P, LI), he mentions the essence of logic, of knowledge, the rational essence of deductive science (Preface), the essence of truth, falsity, generality, particularity, ground and consequence, affirmation and denial (§ 18), of colours and tones (§ 40), of numbers (§ 46), the essence of theoretical connections (§ 66), of process, cause, effect, time and thinking (§ 71 A). And he continues in this style throughout his later writings (cf. Smith 1989).

Husserl often mentions essences in the course of making claims to the effect that some universal proposition holds in virtue of the essence of this or that. He says that such propositions are grounded in the essence of this or that. We therefore need to understand what expressions of the form "the essence of x" mean, what Husserl took their extension to be, what he understands by "ground" and how modality, essence, grounding and universality or generality stand to one another. Answers to all these questions are required, it may seem, before we can even begin to understand Husserl's account of the epistemology of essences and essential connections." (pp. 387-388)

Refereces

Smith, B. 1989: "Logic and Formal Ontology", in: J. N. Mohanty & W. McKenna (eds.), *Husserl's Phenomenology: A Textbook*, University Press of America: Lanham, 29-67.

62.   ―――. 2020. "Austro-German Phenomenologists." In *The Routledge Handbook of Metaphysical Grounding*, edited by Raven, Michael J., 90-101. New York:

Routledge.

"Brentano's heirs, in particular Husserl and Meinong, as well as their students and many philosophers influenced by them, rely heavily on grounding (*begründen*), founding (*fundieren*), and related ties such as dependence (*Abhängigkeit*) and existential relativity.

(...)

In this section, we look at how Brentano's heirs understood grounding and foundation, in particular their relation to essentialism and modality, and say something about the variety of the claims they put forward that employ grounding and foundation. In the following sections, we look in more detail at a handful of philosophical claims formulated in terms of foundation (§2) and grounding (§§3–5)." (p. 90)

63.		———. 2022. "Logic, Logical Norms, and (Normative) Grounding." In *Bolzano's Philosophy of Grounding: Translations and Studies*, edited by Roski, Stefan and Schnieder, Benjamin, 244-275. New York: Oxford University Press.

"In what follows I expound and evaluate Husserl's views about 'because' and grounding (section 8.2) and then consider some specific questions where his views are opposed to those of Bolzano. I begin with Husserl's ground-theoretical argument against Bolzano's account of the general structure of a proposition (section 8.3), which bears on the controversy between operationalist and predicationalist views in the contemporary debate about grounding. I then briefly outline Husserl's very non-Bolzanian views about essence and foundation (section 8.4), and finally examine (section 8.5) Hussserl's account of the nature of logic, which he himself contrasts with Bolzano's account, and his views about grounding relations between normative facts (such as logical norms) and non-normative facts (such as logical principles)." (pp. 244-245)

64.		———. 2023. "Contemporary (phenomenological) tradition." In *The Routledge Handbook of Essence in Philosophy*, edited by Koslicki, Kathrin and Raven, Michael J., 67-83. New York: Routledge.

"The phenomenologists' confidence in their ability to intuit essences and connections between them (essential connections) seems to have done much to discredit phenomenology and to have led to a lack of interest in their views about essence and its roles, in particular its relation to modality and grounding, not least amongst later so called phenomenologists. Meinong, unlike Husserl and his followers, did not go in for intuiting essences and was never philosophically intoxicated. But he, too, thought that essences and natures play a central role in philosophy. What, then, did the phenomenologists take essences and their connections to be? What rôles, philosophical and non-philosophical, did they assign to essence? What sort of contact, epistemic and non-epistemic, with essence did they take themselves to enjoy?" (p. 67 a note omitted)

65.		Newlands, Samuel. 2018. *Reconceiving Spinoza*. New York: Oxford University Press.

Chapter 3: *Conceptual Dependence Monism*, pp. 57-89.

"2.5 *Eliminativism and the Nature of Grounding*.

We have seen Spinoza account for claims and facts about some putative forms of metaphysical dependence, such as causation and inherence, in terms of conceptual dependence, without ever moving in the reverse direction. I suggested that this unidirectional explanatory priority follows from Spinoza's more general privileging of conceptual dependence over all other putative forms of dependence. Causation, inherence, following-from, and existential dependence obtain *in virtue of* conceptual connections between *relata*. But what is this further in-virtue-of, if not itself a kind of dependence?

In contemporary parlance, how are causal facts dependent on or grounded in conceptual facts, according to Spinoza? By Spinoza's own explanatory demands, we need an explanation of *that* form of dependence too." (p. 79)

(...)

"In the end, I am inclined to think Spinoza embraces the starker eliminative option. There are no distinctions between causation, inherence, following-from, and the rest of his non-conceptual laundry list. All forms and instances of metaphysical dependence just are conceptual in the stronger sense that there are neither extensional nor intensional differences among the conceptual relations that are the truth-makers for ascriptions of causation, inherence, and the rest. Or, if the appeal to truth-making seems worrisome here (what is making, if not yet more dependence?), we could say that for Spinoza, all and only features of conceptual dependence relations are the features of every form and instance of metaphysical dependence. That is, in addition to affirming conceptual sensitivity of causation and the rest, Spinoza affirms conceptual identification as well. This would also explain why Spinoza treats conceptual dependence as explanatorily prior to (what others take to be) other forms of dependence." (p. 81, a note omitted)

66.   ———. 2024. "Leibniz on Modality." In *Modality: A History*, edited by Melamed, Yitzhak Y. and Newlands, Samuel, 118-143. New York: Oxford University Press.
"Leibniz contributed to three distinct projects involving modality, all of which were lively points of debate in the 17th century. The first concerns the distribution of necessity and contingency. What exists, happens, or is true necessarily? What exists, happens, or is true contingently? The second project concerns the analysis of modality.
What is the nature and true account of necessity and contingency? We might expect an analysis of modality to provide answers to the distribution question, but for Leibniz, the order of discovery usually went in the other direction. He antecedently wanted to avoid certain distribution answers, and he developed various analyses of modality in order to secure the desired distribution. I will present several of his most prominent efforts, some of which seem more promising than others.
Leibniz was also interested in the grounds of modality. Like many early moderns, Leibniz thought that God was the ultimate ground of both modal truths and modal truthmakers. But there was fierce disagreement about exactly how God serves as the ultimate ground of modality.
Leibniz defends an intellectualist account of the divine grounds of possibility and he offers pointed criticisms of the main alternatives.
After exploring Leibniz's grounding account in Section 3, I will conclude by sketching how Leibniz's different modal projects could work in tandem." (p. 119)

67.   Normore, Calvin G. 2024. "Up in the Air: Buridan's Principled Rejection of Grounding." In *Grounding in Medieval Philosophy*, edited by Normore, Calvin G. and Schmid, Stephan, 239-250. Cham (Switzerland): Springer.
Abstract: "The fourteenth-century theorist Jean Buridan claimed that in a thoroughly bivalent framework central semantic concepts such as truth and signification are both free of paradox and ungrounded. This paper outlines and defends Buridan's approach and suggests that it may give reason to think that ungroundedness is not problematic in semantics or in metaphysics."

68.   Normore, Calvin G., and Schmid. Stephan, eds. 2024. *Grounding in Medieval Philosophy*. Cham (Switzerland): Springer.
Contents: 1. Magali Roques: Introduction: Grounding Then and Now 1; 2. Riin Sirkel: Ontological Priority and Grounding in Aristotle's Categories 33; 3. Petter Sandstad: Grounding and Aristotle's Posterior Analytics 65; 4 Paul Thom: Ground in Avicenna's Logic 83; 5. Christopher J. Martin: Abelard on Grounding in Ontology and Logic 103; 6. Jacob Archambault: Grounding Medieval Consequence 129; 7. Simona Vucu: Thomas Aquinas, Henry of Ghent, and John Duns Scotus on the Causation of Proper and Inseparable Accidents 147; 8. J. T. Paasch: Ockham on Priority and Posteriority 177; 9. Magali Roques: William of Ockham on Essential Dependence and Causation 203; 10. Thomas M. Ward: The Incoherence of Ockham's Ethics 225; 11. Calvin G. Normore: Up in the Air: Buridan's Principled Rejection of Grounding 239; 12. Mikko Yrjönsuuri: Valid on Formal Grounds 251; 13. Stephan Schmid: Two Kinds of Grounding? Suárez on Natural Resultance and

Foundation 281; 14. Ricki Bliss: Some Work for a Theory of Grounding? 307; Index 331-333.

69.   Oberst, Michael. 2021. "Kant on Real Grounds and Grounds of Being." In *The Court of Reason: Proceedings of the 13th International Kant Congress. Vol. 1*, edited by Himmelmann, Beatrix and Serck-Hanssen, Camilla, 591-597. Berlin: de Gruyter.

"In recent years, some scholars have argued that Kant embraces a theory of "real grounds" that is akin to contemporary accounts of grounding. In their view, Kantian real grounds are 'explanatory' grounds, and (real) grounding is an ontological dependence relation.[1] Whilst they acknowledge causality as the paradigmatic case of grounding, these readers think that causality is by no means the only one (Stratmann 2018, 6–7). Other examples allegedly include mathematical grounding, grounds of possibility, substance-accident and whole-part relations, and noumenal affection.

I shall argue that this reading is mistaken. A compelling textual case can be made that, according to Kant, all real grounds are causes(2). Thus, if one wanted to argue against this view, one would need to establish that he considers certain kinds of non-causal grounds as real grounds. The arguably most promising candidate for that are "grounds of being" (*rationes essendi*). Although Kant put some efforts into finding a place for grounds of being within his classification of grounds, he apparently did not reach a solution that he himself considered satisfactory.

Notwithstanding this, I argue that an account would have been available to him that captures the modal intuition behind grounds of being without being real grounds in Kant's sense. I conclude that grounds of being cannot serve as an example for non-causal real grounds" (p. 591)

(1) For example, Stang argues that the grounding relation is a "non-logical non-causal asymmetric real grounding relation between mutually necessarily entailing propositions" (Stang 2016, 236). See also Chignell 2012, 650, Massimi 2017, 156–158, Stratmann 2018, 3–7, Stang 2019.

(2) My view is actually more complex. For some grounds of possibility are not actual causes, but nonetheless potential causes which are actualized under appropriate causal circumstances. As I see it, Kant follows the broadly Aristotelian tradition of understanding possibility in terms of potentiality, yet ultimately goes beyond it. I cannot argue for this view in the present paper.

References

Chignell, Andrew (2012): "Kant, Real Possibility, and the Threat of Spinoza". In: *Min*d 121/483, 635–675.

Massimi, Michela (2017): "Grounds, Modality, and Nomic Necessity in the Critical Kant". In M. Massimi/A. Breitenbach (Eds.): *Kant and the Laws of Nature*. Cambridge: Cambridge University Press, 150–170.

Stang, Nicholas F. (2016): *Kant's Modal Metaphysics*. Oxford: Oxford University Press.

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Stratmann, Joe (2018): "Kant, Grounding, and Things in Themselves". In: *Philosophers' Imprint* 18/7,

70.   Paasch, J. T. 2024. "Ockham on Priority and Posteriority." In *Grounding in Medieval Philosophy*, edited by Normore, Calvin G. and Schmid, Stephan, 177-201. Cham (Switzerland): Springer.

Abstract: "Does William Ockham believe in a metaphysical form of grounding? In particular, does Aristotelian natural priority (as Ockham understands it) qualify as a kind of metaphysical grounding? I offer a close analysis of Ockham's texts, and I suggest that the answer is probably no. In the course of my analysis, I show that Ockham sparks a debate about priority that was taken up by other fourteenth century thinkers, and I show that Ockham's view is striking because he so sharply separates natural priority and causal priority. Unlike certain other scholastics who understand natural priority as a kind of dependence, Ockham insists that natural priority is

entirely non-causal, and qua natural priority, it involves no dependence between the entities involved. This leads Ockham to deny that natural priority applies to certain cases which otherwise might count as standard candidates."

71.   Poggiolesi, Francesca. 2022. "Bolzano, (the Appropriate) Relevant Logic, and Grounding Rules for Implication." In *Bolzano's Philosophy of Grounding: Translations and Studies*, edited by Roski, Stefan and Schnieder, Benjamin, 319-342. New York: Oxford University Press.
"In the first part of this paper the main aim is to take a closer look at exact deducibility and its relations to contemporary logic. More precisely, we will show that there exists a particular connection between Bolzano's notion of exact deducibility and the relevant logic *CR* introduced by Tennant (1984). These reflections will not only clarify the notion of exact deducibility per se, but also, in virtue of the connection between exact deducibility and grounding, shed further light on the general Bolzanian conception of grounding In the second part of the paper we will focus on the recent studies on the logic of grounding and in particular on the grounding rules for implication, a topic that, as far as we know, has received relatively little treatment. We will try to argue that the logic CR can again play a role: it is indeed a useful and interesting framework for formulating the grounding rules for implication. The paper is organized as follows. In section 11.2 we will recall Bolzano's notions of deducibility and exact deducibility, emphasizing their logical properties.
In section 11.3 we will introduce the logic *CR*, while in section 11.4 we will explain why this is the adequate contemporary counterpart of Bolzano's notion of exact deducibility. We will use section 11.5 to discuss the issue of the grounding rules for implication. We will show that even in this context the logic CR has a role to play." (pp. 319-320)
References
Tennant, N. 1984. 'Perfect Validity, Entailment and Paraconsistency'. *Studia Logica* 43 (1-2): 179-98.

72.   Priest, Graham. 2018. "Buddhist dependence." In *Reality and its Structure: Essays in Fundamentality*, edited by Bliss, Ricki and Priest, Graham, 126-139. New York: Oxford University Press.
"Many issues in Western philosophy were discussed with great sophistication in the Eastern philosophical traditions. A prime example of this is metaphysical dependence.(1)
This is absolutely central to Buddhist metaphysics. Indeed, there is a wide variety of views about, in particular, the structure of metaphysical dependence.
In this essay, I will explain some of these views, and some of their ramifications. The aim is neither to give a scholarly account of any of these views, nor to argue for or against any one of them. Rather, the point of the essay is to open the eyes of philosophers who know little of the Eastern philosophical traditions to important possibilities of which they are likely to be unaware.
In Section 3 of this essay, I will explain three Buddhist positions concerning metaphysical dependence: those of Abhidharma, Madhyamaka, and Huayan. In Section 4, I will turn to some ways in which these positions engage with some Western debates. But first, for those readers whose knowledge of the history and development of Buddhist philosophy may be incomplete, I will explain enough of this in Section 2 to situate what is to follow." (p. 126, two note omitted)
(1) In contemporary Western philosophy, the topic is discussed under a variety of names, such as ontological dependence and grounding. Moreover, there seems to be little unanimity as to whether there is just one relationship here, or, if not, how the different varieties of the species are related.(...).

73.   Puryear, Stephen. 2020. "The Logic of Leibniz's Borrowed Reality Argument." *The Philosophical Quarterly* no. 70:350-370.
Abstract: "Leibniz argues that there must be a fundamental level of simple substances because composites borrow their reality from their constituents and not

all reality can be borrowed. I contend that the underlying logic of this 'borrowed reality argument' has been misunderstood, particularly the rationale for the key premise that not all reality can be borrowed. Contrary to what has been suggested, the rationale turns neither on the alleged viciousness of an unending regress of reality borrowers nor on the Principle of Sufficient Reason, but on the idea that composites are phenomena and thus can be real only insofar as they have a foundation in substances, from which they directly 'borrow' their reality. The claim that composites are phenomena rests in turn on Leibniz's conceptualism about relations. So understood, what initially looked like a disappointingly simple argument for simples turns out to be a rather rich and sophisticated one."

74. Raven, Michael J. 2019. "(Re)Discovering Ground." In *The Cambridge History of Philosophy, 1945–2015*, edited by Becker, Kelly and Thomson, Iain D., 147-159. Cambridge: Cambridge University Press.
"Recently, there has been a rapid growth of literature on questions of determination. It has become increasingly clear that subtly different notions of determination are involved. Nevertheless, much of this literature operates under the working hypothesis that there is a distinctive kind of determination that is at issue in these questions and is itself a topic worthy of study on its own.
"Ground" has emerged as the popular, quasi-technical term for this kind of determination. A question of ground asks in virtue of what some phenomenon obtains and is answered either by stating its grounds or that it has none.
Much has recently been written about ground.1 Here the focus is on its history in the Western analytic philosophical tradition since 1945.(2)" (p. 147)
(2) Although ground does not only appear in the Western analytic philosophical tradition, space requires omitting its appearances elsewhere.

75. Roques, Magali. 2024. "Introduction: Grounding Then and Now." In *Grounding in Medieval Philosophy*, edited by Normore, Calvin G. and Schmid, Stephan, 1-32. Cham (Switzerland): Springer.
"Sincde the contributions in this volume cticically examines medieval views on non-causal explanation by referring to the current debate on non-causal explanation, I will open the volume with an introduction to this debate, which will motivate the examination of medieval texts. I will begin with an overview of the philosophical background to the neo-Aristotelian turn in metaphysics, in which non-causal explanation occupies a central place. This will lead me to introduce the core features of the notion of non-causal explanation as it is understood in the current debate. I will then present the current state of the debate on the history of non-causal explanation, and will explain why an investigation into medieval views on non-causal explanation is much needed. Before giving a summary of the contributions, I will present the core result to which they converge—namely, that in medieval thought grounding claims are not seen as instances of a univocal concept of non-causal explanation. For medieval thinkers, the kind of claim which we would describe as a grounding claim is either a complex sentence that includes a hyperintensional sentential operator, or an atomic sentence that includes a predicate referring to a relation of priority that relates things that may be of different categories.(2) They are not troubled by working with two different types of grounding claims at the same time, since I will suggest that medieval authors need both kinds of grounding claims in order to articulate their logic and metaphysics." (pp. 2-3)
(2) See Stephan Schmid's chapter in this volume, p. 292, for another scholastic view on this interpretation of the grounding operator. According to Suárez, on Schmid's interpretation, the thought 'Snow is white' is true in virtue of its object being the fact that snow is white and of its being the case that snow is white.

76. ———. 2024. "William of Ockham on Essential Dependence and Causation." In *Grounding in Medieval Philosophy*, edited by Normore, Calvin G. and Schmid, Stephan, 203-223. Cham (Switzerland): Springer.

Abstract: "It has become a commonly held view that Ockham does not defend a reductionist account of efficient causality, and that for him causal powers cannot be eliminated from causal statements. This paper argues that this reading can be refined, and that according to Ockham the analysis of causality can go one step further. In reaction to Scotus's concept of essentially ordered causes, Ockham claims that a relation of "essential dependence" holds between a total cause and its effect. I argue for a reading of this relation in counterfactual terms. If this reading is correct, Ockham's account is close in spirit to the "neo-Humean" account of causality defended by David Lewis, according to which efficient causality is counterfactual dependence plus restrictive clauses concerning cases of counterfactual dependence that are not causal and cases of redundant causation. From this view point, Ockham's view is close in spirit to the positivist conception of metaphysics that was prevalent before the "neo-Aristotelian" turn in metaphysics."

77.   Roski, Stefan. 2017. *Bolzano's Conception of Grounding*. Frankfurt: Vittorio Klostermann.

Contents: Preface IX; I. Introduction 1; 2. Objective truth, variation & truth-preservation 19; 3. Explanatory priority: Bolzano's pure logic of grounding 55; 4. Simplicity and economy: Bolzano's impure logic of grounding 109; 5. Bolzano's logic of grounding and the logic of metaphysical grounding 215; 6. Conclusion 233; l ist of abbreviations 251; List of symbols, definitions, and principles 253; Bibliography 257; Index 267-269.

"Overview of the book

As each of the following chapters will be accompanied by a detailed overview of its content and line of argumentation, I will confine myself here to a brief overview of the main line of argumentation of the book.

At the core of Bolzano's theory of grounding lies a set of general principles that express properties the relation exhibits according to him. An analysis of these principles, their interrelation, and their role in Bolzano's methodology will form the main bulk of the book. It is heuristically useful to divide these principles into two classes. The first class contains principles that hold for every case of grounding, irrespective of any specific properties of the relata. These principles capture, as it were, minimal conditions an explanatory relation has to satisfy according to Bolzano. The second class consists of more specific principles that mostly apply only to truths from deductive or a priori sciences. Adapting a distinction by Kit Fine, I will call the former Bolzano's *pure logic of grounding* and the latter his *impure logic of grounding*.(52) Before we can dive into the details of Bolzano's theory, we will have to gain some familiarity with the nuts and bolts of his logical framework. This will be done in Chapter Two. Chapter Three then discusses Bolzano's pure logic of grounding, while Chapter Four is concerned with the impure logic of grounding. Chapter Five wraps up and draws some connections to the recent debate on grounding. In what follows I will sketch the content of each of these chapters in a little more detail." (p. 16)

(52) Cf. (Fine [The Pure Logic of Ground. *Review of Symbolic Logic* 5(1) 1-25] 2012b). The justification for employing this distinction will be given further below.

78.   ———. 2019. "Bolzano and Kim on Grounding and Unification." *Synthese* no. 196:2971-2999.

Abstract: "It is sometimes mentioned that Bernard Bolzano'swork on grounding anticipates many insights of the current debate on metaphysical grounding. The present paper discusses a certain part of Bolzano's theory of grounding that has thus far not been discussed in the literature. This part does not so much anticipate what are nowadays common assumptions about grounding, but rather goes beyond them. Central to the discussion will be a thesis of Bolzano's by which he tries to establish a connection between grounding and (deductive) unification. The paper spells out this thesis in detail and discusses the assumptions on which it rests. Next to this mainly historical aim, the paper also presents reasons why philosophers who are not interested in the historical Bolzano should find the thesis interesting by relating it to a certain view on unification and explanation that has been put forward by Kim. A

final part of the paper provides a critical evaluation of the thesis against the background of current accounts of grounding."

79.   ———. 2020. "Bolzano." In *The Routledge Handbook of Metaphysical Grounding*, edited by Raven, Michael J., 76-89. New York: Routledge.
"This chapter provides an overview of Bernard Bolzano's views about grounding. On Bolzano's account, grounding is an objective priority relation among true propositions that has certain explanatory features.The chapter briefly highlights historical influences on Bolzano's account of grounding and subsequently provides an overview of the most important aspects of it. As we shall see, Bolzano's account resembles current accounts of metaphysical grounding in many respects and can thus easily be related to many positions in the current debate.This is going to be a main focus of this chapter.Apart from that, we shall investigate some Bolzanian ideas about grounding that differ from the current orthodoxy but may constitute interesting additions, challenges or inspirations for those working in the current debate." (p. 76)

80.   Roski, Stefan, and Rumberg, Antje. 2016. "Simplicity and Economy in Bolzano's Theory of Grounding." *Journal of the History of Philosophy* no. 54:469-496.
Abstract: This paper is devoted to Bolzano's theory of grounding (*Abfolge*) in his *Wissenschaftslehre*. Bolzanian grounding is an explanatory consequence relation that is frequently considered an ancestor of the notion of metaphysical grounding. The paper focuses on two principles that concern grounding in the realm of conceptual sciences and relate to traditionally widespread ideas on explanations: the principles, namely, that grounding orders conceptual truths from simple to more complex ones (Simplicity), and that it comes along with a certain theoretical economy among them (Economy). Being spelled out on the basis of Bolzano's notion of deducibility (*Ableitbarkeit*), these principles are revealing for the question to what extent grounding can be considered a formal relation."

81.   Roski, Stefan, and Rusnock, Paul. 2014. "Bolzano on Necessary Existence." *Archiv für Geschichte der Philosophie* no. 96:320-359.
Abstract: "This paper is devoted to an examination of Bolzano's notion of necessary existence, which has so far received relatively little attention in the literature.
We situate Bolzano's ideas in their historical context and show how he proposed to correct various flaws of his predecessors' definitions. Further, we relate Bolzano's conception to his metaphysical and theological assumptions, arguing that some consequences of his definition which have been deemed counterintuitive by some of his interpreters turn out to be more reasonable given the broadly Leibnizian background of his metaphysics. Finally, we consider some difficulties that arise from Bolzano's evolving views on freedom, which, at least in his early thought, was intimately linked with contingency. In an appendix, we discuss a recent debate on Bolzano's notion of necessary truth between Textor and Rusnock that has some bearing on our overall line of interpretation of Bolzano's notion of *necessary existence*."
References
Rusnock, P. 2012. "On Bolzano's Conception of Necessary Truth". *British Journal of the History of Philosophy* 20, 817-837.
Textor, M. 2013. "Bolzano on the Source of Necessity: A Reply to Rusnock". *British Journal of the History of Philosophy* 21, 381-392.

82.   Roski, Stefan, and Schnieder, Benjamin. 2016. "Gründe aller Arten? Der Anspruch auf Vereinheitlichung in Bolzanos Abfolgetheorie." In *Geschichte - Gesellschaft - Geltung: XXIII. Deutscher Kongress Für Philosophie 28. September - 2. Oktober 2014 an der Westfälischen Wilhelms-Universität Münster. Kolloquienbeiträge*, edited by Quante, Michael, 891-912. Hamburg: Meiner.

83.   ———. 2019. "Fundamental Truths and the Principle of Sufficient Reason in Bolzano's Theory of Grounding." *Journal of the History of Philosophy* no. 57:675-706.

Abstract: "Bernard Bolzano developed his theory of grounding in opposition to the rationalists' Principle of Sufficient Reason (the PSR). He argued that the PSR fails because there are fundamental, that is, ungrounded truths. The current paper examines Bolzano's views on fundamentality, relating them to ongoing debates about grounding and fundamentality."

84.   ———. 2022. "A Survey of Bolzano's Theory of Grounding." In *Bolzano's Philosophy of Grounding: Translations and Studies*, edited by Roski, Stefan and Schnieder, Benjamin, 4-34. New York: Oxford University Press.
"Reality is not an unordered blob of phenomena. Instead, the diverse elements of reality are structured by a web of priorities so that not all of them are on a par: some elements hold in virtue of prior elements. The prior elements may be called grounds of the posterior elements that hold because of them; the relation connecting them may be called grounding.
This view, popular in contemporary metaphysics, is as ancient as philosophy itself. It is rooted in ideas that go back at least to Plato and Aristotle and that have remained influential throughout the entirety of Western philosophy until the twenty-first century.Bernard Bolzano's theory of grounding is a peak in the history of these ideas, as it exceeds most earlier theories in scope, depth, and rigour.
Moreover, it anticipates a range of ideas that take a prominent place in the contemporary metaphysical debate.
In this survey paper, we pursue three aims:
- First, we briefly sketch the origins of Bolzano's views on grounding and the role that grounding plays in his philosophy.
- Second, we give an overview of Bolzano's mature conception of grounding, focussing on its most detailed exposition, which can be found in his *Theory of Science*.
- Third, we introduce elements and terminology from Bolzano's conceptual framework that are required to understand his theory of grounding." (p. 4)

85.   ———, eds. 2022. *Bolzano's Philosophy of Grounding: Translations and Studies*. New York: Oxford University Press.

"Premble: One of the liveliest debates in contemporary philosophy concerns the notions of grounding and metaphysical explanation. Many consider these notions to be of prime importance for metaphysics and the philosophy of explanation, or even for philosophy in general, and lament that they had been neglected for far too long. Although the current debate about grounding is of recent origin, its central ideas have a long and rich history in Western philosophy, going back at least to the works of Plato and Aristotle.(1) Bernard Bolzano's theory of grounding, developed in the first half of the nineteenth century, is a peak in the history of these ideas. On Bolzano's account, grounding lies at the heart of a broad conception of explanation encompassing both causal and non-causal cases. Not only does his theory exceed

most earlier theories in scope, depth, and rigour, it also anticipates a range of ideas that take a prominent place in the contemporary debate. But despite the richness and modernity of his theory, it is known only by a comparatively small circle of philosophers predominantly consisting of Bolzano scholars.

This book is meant to make Bolzano's ideas on grounding accessible to a broader audience. The book gathers translations of Bolzano's most important writings on these issues, including material that has hitherto not been available in English. Additionally, it contains a survey article on Bolzano's conception (see Chapter 2) and nine research papers critically assessing elements of the theory and/or exploring its broad range of applications in Bolzano's philosophy and beyond (for a more detailed overview of the book's contents, see Chapter 3)." (p. 3)

1 See Raven, M. (ed.) 2020. [The Routledge Handbook of Metaphysical Grounding. Oxford and New York: Routledge], chs 1-6.

86.   ———. 2022. "On the Contents of This Volume." In *Bolzano's Philosophy of Grounding: Translations and Studies*, edited by Roski, Stefan and Schnieder, Benjamin, 35-42. New York: Oxford University Press.
"Bolzano's published works do not contain any self-standing treatise on grounding. What comes closest to this would be a part in his *Theory of Science* (WL II, §§198-222) that is exclusively dedicated to the topic of grounding. But for a full apprehension of Bolzano's views on grounding one has to take into account several other passages-scattered across the *Theory of Science*, but also across many of his other writings-in which he illuminates his ideas on grounding and/or applies them to a broad range of philosophical issues. Moreover, a complete picture of Bolzano's views should also take into account how some of his ideas significantly changed over the years. So in this book, we not only present the central
part on grounding from the *Theory of Science*, but also gather a selection of further passages on grounding, taking into accounts texts from Bolzano's entire philosophical career." (p. 35)

87.   ———. 2022. "[Bolzano's Writings on Grounding] Early Period: Scientific Method and the Foundations of Mathematics." In *Bolzano's Philosophy of Grounding: Translations and Studies*, edited by Roski, Stefan and Schnieder, Benjamin, 45-84. New York: Oxford University Press.
"This chapter contains translations of excerpts from three early texts by Bolzano (written around 1810):
- the booklet *Contributions to a Better-Grounded Presentation of Mathematics* (published 1810);
- the unpublished manuscript *Aetiology*;
- the unpublished manuscript *General Mathematics*." (p. 45)

88.   ———. 2022. "[Bolzano's Writings on Grounding] Middle Period: Theology and Metaphysics." In *Bolzano's Philosophy of Grounding: Translations and Studies*, edited by Roski, Stefan and Schnieder, Benjamin, 85-106. New York: Oxford University Press.
"This chapter contains translations of excerpts from three texts by Bolzano: the *Athanasia*, the *Treatise of the Science of Religion*, and his *Philosophical Notebooks*." (p. 85)

89.   ———. 2022. "[Bolzano's Writings on Grounding] Mature Period: A Theory of Grounding." In *Bolzano's Philosophy of Grounding: Translations and Studies*, edited by Roski, Stefan and Schnieder, Benjamin, 107-218. New York: Oxford University Press.
"This chapter contains translations of texts in which Bolzano develops and applies his mature theory of grounding. The heart of the chapter are excerpts from Bolzano's main work *Theory of Science*, where he gives the most comprehensive account of his conception of grounding and discusses the role of grounding in several philosophical areas ranging from the methodology of science, to the philosophy of causation, to metaphysics. In addition to that, the chapter includes a brief excerpt from a survey of Bolzano's *Theory of Science* and his *Theory of the*

Science of Religion, in which Bolzano gives a succinct summary of central ideas of his mature theory. Finally, the chapter includes the complete translation of Bolzano's essay *What Is Philosophy?* which defends a ground-theoretical conception of philosophy." (p. 107)

90.   Rumberg, Antje. 2013. "Bolzano's Concept of Grounding (*Abfolge*) Against the Background of Normal Proofs." *Review of Symbolic Logic* no. 6:424-459.
       Abstract: "In this paper, I provide a thorough discussion and reconstruction of Bernard Bolzano's theory of grounding and a detailed investigation into the parallels between his concept of grounding and current notions of normal proofs. Grounding (*Abfolge*) is an objective ground-consequence relation among true propositions that is explanatory in nature. The grounding relation plays a crucial role in Bolzano's proof-theory, and it is essential for his views on the ideal buildup of scientific theories. Occasionally, similarities have been pointed out between Bolzano's ideas on grounding and cut-free proofs in Gentzen's sequent calculus. My thesis is, however, that they bear an even stronger resemblance to the normal natural deduction proofs employed in proof-theoretic semantics in the tradition of Dummett and Prawitz."

91.   Rusnock, Paul. 2022. "Grounding in Practice. Bolzano's Purely Analytic Proof in Light of the *Contributions*." In *Bolzano's Philosophy of Grounding: Translations and Studies*, edited by Roski, Stefan and Schnieder, Benjamin, 364-393. New York: Oxford University Press.
       "Introduction
       Bolzano's best-known mathematical work, the *Rein analytischer Beweis* of 1817, promises to deliver a 'purely analytic' proof of a theorem from the theory of equations.(1) He also claims that this proof is not a mere certification (*Gewissmachung*), but rather a ground-revealing proof *(Begrundung)* of this truth. In this paper I will undertake to explain and assess these claims against the background of his early account of mathematical method and the relation of grounding, with occasional reference to the later development of his thought. I begin with an overview of the *Contributions to a Better-Grounded Presentation of Mathematics*,(2) which presents Bolzano's early views on these and related matters." (p. 364)
       (1) Bolzano 1817a =RB. English translation in Russ 2004 [*The Mathematical Works of Bernard Bolzano*, edited and translated by Steve B. Russ. Oxford: Oxford University Press]
       (2) Bolzano 1810 = BD; English translation in Russ 2004

92.   Sandstad, Petter. 2024. "Grounding and Aristotle's *Posterior Analytics*." In *Grounding in Medieval Philosophy*, edited by Normore, Calvin G. and Schmid, Stephan, 65-81. Cham (Switzerland): Springer.
       Abstract: "Abstract Fabrice Correia and Benjamin Schnieder suggest that Aristotle's account of formal causation in the *Posterior Analytics* is a type of grounding. While there are many similarities, I will argue that what Aristotle had in mind differs from contemporary standard accounts of grounding. First, I give a brief account of formal causation as presented in the *Posterior Analytics*. Second, I show that formal causation differs from grounding in at least two crucial respects. (1) Formal causation involves a priority relation between different ontological categories, namely, states of affairs and substantial forms. In allowing for transcategorial grounding, Aristotle's theory is similar to that of Jonathan Schaffer and Bernard Bolzano. (2) Formal causation is not transitive, both because there are no chains of formal causes, and because Aristotle is interested only in the full and ultimate, yet at the same time immediate, ground. There are two further differences: Aristotle does not think that a conjunction is always grounded in its conjuncts, nor that a universal quantification is always grounded in its instances. His theory is in some sense narrower than grounding, in that it allows only for full immediate grounds. In another sense it is closer to truthmaking, both in that truthmaking is transcategorial and that it does not allow for chains. However, Aristotle's formal cause should

rather be seen as a "beingmaker," since truthmaking has to do with linguistic entities and truthbearers. Aristotle's formal cause thus fits well into the framework of grounding, as an immediate full ground, but fits poorly with the standard claims about grounding."

93.   Schaffer, Jonathan. 2009. "On What Grounds What." In *Metametaphysics: New Essays on the Foundations of Ontology*, edited by Chalmers, David, Manley, David and Wasserman, Ryan, 347-383. Oxford: Clarendon Press.
"On the now dominant Quinean view, metaphysics is about what there is. Metaphysics so conceived is concerned with such questions as whether properties exist, whether meanings exist, and whether numbers exist. I will argue for the revival of a more traditional Aristotelian view, on which metaphysics is about what grounds what. Metaphysics so revived does not bother asking whether properties, meanings, and numbers exist. Of course they do! The question is whether or not they are fundamental.
In §1 I will distinguish three conceptions of metaphysical structure. In §2 I will defend the Aristotelian view, coupled with a permissive line on existence. In §3 I will further develop a neo-Aristotelian framework, built around primitive grounding relations." (p. 347)

94.   Schechtman, Anat. 2023. "Modern." In *The Routledge Handbook of Essence in Philosophy*, edited by Koslicki, Kathrin and Raven, Michael J., 41-52. New York: Routledge.
"The early modern period in the history of philosophy—roughly, from the middle of the seventeenth century to the end of the eighteenth century—was a time of dramatic shifts in philosophical positions and traditions. At the beginning of this period, the Aristotelian paradigm that shaped most medieval philosophy was still dominant. But early modern thinkers increasingly subjected it to scrutiny, criticism, and creative reinterpretation.
Naturally, discussions of essence by central figures in the period exemplify this dynamic.
My aim here is to survey some of the most important developments, highlighting the ways in which early modern thinkers gradually leave the medieval Aristotelian tradition behind.
A central theme is how differing conceptions of the scope of essence lead to differing conceptions of its theoretical roles." (p. 41)

95.   ———. 2024. "Modality and Essence in Early Modern Philosophy: Descartes, Malebranche, and Locke." In *Modality: A History*, edited by Melamed, Yitzhak Y. and Newlands, Samuel, 61-84. New York: Oxford University Press.
"Philosophers in the 17th century engaged in a range of debates about modality, including its nature (what it is for something to be necessary, possible, or impossible), scope (what is necessary, possible, or impossible), and knowability (how, if at all, we can know modal facts). They also debated the explanation or ground of modality: that in virtue of which something is necessary, possible, or impossible. My interest in this essay is to explore this latter debate, and to tentatively defend two theses about it.
The first thesis is that for central philosophers in the period, a range of important modal facts are grounded in essences. That is, what explains why something is necessary, possible, or impossible is that some entities have the essences they do—where an entity's essence, as will be discussed further below, is what it is to be that entity. The second thesis is that as the 17th century progresses, we witness growing reluctance to admit that some facts are necessary, due to growing reluctance to admit that certain properties belong to essences, or even that essences exist." (pp.61-62, a note omitted)

96.   Schmid, Stephan. 2024. "Two Kinds of Grounding? Suárez on Natural Resultance and Foundation." In *Grounding in Medieval Philosophy*, edited by Normore, Calvin G. and Schmid, Stephan, 281-306. Cham (Switzerland): Springer.

Abstract: "In contemporary metaphysics the notion of grounding plays a crucial role, and though its precise meaning is debated, there seems to be a widespread consensus that grounding is the same in all its typical instances. In this chapter I show that the late scholastic philosopher Francisco Suárez (1549–1617) can be seen as challenging this consensus since he gives an altogether different account of the way vital capacities are "grounded" in their underlying soul and the way the truth of a thought is "grounded" in its object: while a vital capacity is something over and above the soul, from which it "naturally results," the truth of a thought is no additional entity apart from the thought and its object, in which it is "founded." So, in addition to contributing two intriguing accounts of vital capacities and truth, Suárez's theories of natural resultance and foundation make an interesting case for the possibility that grounding might not be a single and unified form of metaphysical dependence as contemporary metaphysicians seem to presuppose."

97. Schnieder, Benjamin. 2014. "Bolzano on Causation and Grounding." *Journal of the History of Philosophy* no. 52:309-337.

"This paper is an exploration of Bolzano's views on causation, which have not been thoroughly examined yet. The paper reconstructs Bolzano's position, with a focus on his analysis of the concept of causation, on its ontological presuppositions, and on how he relates causation to his theory of grounding.(1) A comparison with standard positions from the contemporary debate on causation will prove his views to be quite original. Moreover, they are a valuable addition to the more recent debate on metaphysical grounding,(2) in which grounding is sometimes informally described as something like metaphysical causation with the exact connection of the two notions seldom being elaborated. Bolzano's theory explicitly addresses the issue and takes an innovative stance. However, it will also be revealed that his account is beset with problems. But even if his position should ultimately not be tenable, discussing it can deepen our understanding of problems raised in the current debates about causation and grounding and shed new light on them." (p. 309)

(1) The paper concentrates on general conceptual and metaphysical issues of causation. It will not discuss Bolzano's views on the epistemology of causation, nor his views on detailed matters of fact perhaps better to be treated in physics and its philosophy (such as the question of how causal powers are actually distributed in the world, what kind of basic causal powers there are, etc.).

(2) See e.g. Rosen, "Metaphysical Dependence"; Schaffer, "What Grounds"; and Fine, "Guide to Ground."

References

Fine, Kit. "Guide to Ground." In *Metaphysical Grounding*, edited by F. Correia and B. Schnieder, 37–80. Cambridge: Cambridge University Press, 2012.

Rosen, Gideon. "Metaphysical Dependence: Grounding and Reduction." In *Modality*, edited by Bob Hale and Avrid Hoffmann, 109–35. Oxford: Oxford University Press, 2010.

Schaffer, Jonathan. "On What Grounds What." In *Metametaphysics*, edited by David Chalmers et al., 347–383. Oxford: Oxford University Press, 2009.

98. ———. 2022. "A Fundamental Being. Bolzano's Cosmological Argument and Its Leibnizian Roots." In *Bolzano's Philosophy of Grounding: Translations and Studies*, edited by Roski, Stefan and Schnieder, Benjamin, 418-443. New York: Oxford University Press.

"Bernard Bolzano believed he can offer an a priori proof of the existence of a fundamental entity, relying on his conception of grounding. It seems fair to say that the argument is a philosophical gem, whether or not one endorses it in its entirety (no vulgar suspense: I will argue we should not follow in Bolzano's footsteps here). Since the conception of grounding Bolzano works with is, moreover, remarkably modern in spirit, his argument can be treated and discussed like a contribution to the contemporary debate about grounding and fundamentality. This paper will reconstruct Bolzano's reasoning, explain its historical context, and put his argument under scrutiny." (p. 418)

99. Schnieder, Benjamin, and Werner, Jonas. 2021. "An Aristotelian Approach to Existential Dependence." In *Neo-Aristotelian Perspectives on Formal Causation*, edited by Jansen, Ludger and Sandstad, Petter, 151-174. New York: Routlege.
"5 Conclusion
We think that there are different, legitimate definitions of concepts that can go by the name of existential dependence, suited for different theoretical purposes. But we also argued that a definition in terms of grounding or metaphysical explanation, the basic idea of which can be traced back to Aristotle's *Categories* (Section 1), is particularly interesting for ontological inquiries: it yields a notion of dependence which is the converse of productive priority, so that if an entity depends on another, the latter helps bring about the existence of the dependent entity (Section 2). We discussed the role that conceptual explanations play for such a notion of dependence, and in metaphysics more generally (Section 3). And we defended the definition of dependence in terms of grounding from some recent criticisms (Section 4). We hope to have thereby shown that the definition yields a theoretically fruitful concept that deserves to be in the standard toolkit of ontology." (p. 172)

100. Shatalov, Keren Wilson. 2024. "Aristotle on Non-Substantial Particulars, Fundamentality, and Change." *Archiv für Geschichte der Philosophie*:1-31.
Abstract: "There is a debate about whether particular properties are for Aristotle non-recurrent and trope-like individuals or recurrent universals. I argue that *Physics* I.7 provides evidence that he took non-substantial particulars to be neither; they are instead non-recurrent modes. *Physics* I.7 also helps show why this matters. Particular properties must be individual modes in order for Aristotle to preserve three key philosophical commitments: that objects of ordinary experience are primary substances, that primary substances undergo genuine change, and that primary substances are ontologically fundamental."

101. Silverman, Allan. 2013. "Grounding, Analogy, and Aristotle's Critique of Plato's Idea of the Good." In *Aristotle on Method and Metaphysics*, edited by Feser, Edward, 102-120. New York: Palgrave Macmillan.
"In what follows, I want to examine some ways in which Schaffer, Fine and Aristotle think about grounding and dependence. In Section 1, I will focus on some problems arising from the manner in which the contemporary metaphysicians characterize their notion of ground. In Section 2, I will explore Aristotle's ideas of focal meaning and especially analogy, as developed in remarks on *energeia* in *Metaphysics Thet*a and his criticism of Plato's Idea of the Good in *Nicomachean Ethics* I.6, in the hope that they may help us understand how to think about the relation between ground and the various grounding relations." (pp. 102-103)

102. Sirkel, Riin. 2018. "Essence and Cause: Making Something Be What It Is." *Discipline Filosofiche* no. 28:89-112.
Abstract: "Aristotle frequently describes essence as a "cause" or "explanation" (αἴτιον or αἰτία), thus ascribing to essence some sort of causal or explanatory role. This explanatory role is often explicated by scholars in terms of essence "making the thing be what it is" or "making it the very thing that it is". I argue that this is problematic, at least on the assumption that "making" expresses an explanatory relation, since it violates certain formal features of explanation (especially the requirement that the explanans be distinct from the explanandum). I then consider whether Aristotle is vulnerable to this problem by examining the explanatory role of essence in *Posterior Analytics* and *Metaphysics* Z 17."

103. ———. 2024. "Ontological Priority and Grounding in Aristotle's *Categories*." In *Grounding in Medieval Philosophy*, edited by Normore, Calvin G. and Schmid, Stephan, 33-63. Cham (Switzerland): Springer.
Abstract: "In the *Categorie*s, Aristotle intends to ascribe to particular substances ontological priority over all other things, but it is far from obvious what notion of priority would make this plausible. This question is the focus of my paper. I will examine what has been the standard account of his notion of ontological priority—the "modal-existential" account—and the problems it entails, as well as some

scholarly alternatives to it. I will defend my own alternative account—the "explan atory-existential" account—which addresses the problems that arise for other proposed accounts, and will make plausible Aristotle's claim that particular substances have priority over all other things. I will argue that he puts forth this notion of priority in *Categories* 12, and that it bears a similarity to the notion of grounding as discussed in contemporary metaphysics."

104.		Stang, Nicholas F. 2019. "A Guide to Ground in Kant's *Lectures on Metaphysics*." In *Kant's "Lectures on Metaphysics": A Critical Guide*, edited by Fugate, Courtney D., 74-101. Cambridge: Cambridge University Press.
"The Principle of Sufficient Reason (PSR) says that everything has a reason that fully explains it. Leibniz expresses the PSR in Latin and French, respectively, as the principle that everything has a ratio or raison. When German philosophers of the eighteenth century, heavily influenced by the Leibnizian writings available to them, formulated similar ideas in their native tongue, they translated ratio as Grund and expressed the PSR accordingly as: Everything has a ground that fully explains it. This Principle of Sufficient Ground (*Satz des zureichenden Grundes*) or PSG is, so to speak, the Leibnizian PSR translated into German."
(...)
"It comes as no surprise then that Kant, steeped as he was in German rationalism and its debates, would extensively discuss the PSG and the notion of ground (*Grund*) in the metaphysics lectures he gave virtually every semester at the University of Konigsberg from 1755 until his retirement from teaching in 1796.(1)"
(...)
"While scholars have extensively discussed Kant's treatment of the PSG in the Antinomies chapter of the *Critique of Pure Reason*,(2) and, more recently, his relation to German rationalist debates about it,(3) relatively little has been said about the exact notion of ground that figures in the PSG. My aim in this chapter is to explain Kant's discussion of ground in the lectures and to relate it, where appropriate, to his published discussions of ground." (pp. 74-75)
(1) For an overview of Kant's lecture activity see Karl Ameriks's and Steve Naragon's Introduction to (Kant 1997) and the website maintained by Naragon: https://users.manchester.edu/FacStaff/SSNaragon/Kant/.
(3) E.g., Hogan (2010), Fugate (2014a).
References
Kant, Immanuel. 1997. *Lectures on Metaphysics*. Edited by Karl Ameriks and Steve Naragon. Cambridge Edition of the Works of Immanuel Kant. Cambridge: Cambridge University Press.
Fugate, Courtney D. 2014a. "Alexander Baumgarten on the principle of sufficient reason." *Philosophica - Revista Do Departamento de Filosofia da Faculdade de Letras de Lisboa*, 44: 127-47.
Hogan, Desmond. 2010. "Kant's Copernican Turn and the Rationalist Tradition." In: Guyer, Paul (ed.) *The Cambridge Companion to Kant's Critique of Pure Reason*. Cambridge: Cambridge University Press.

105.		———. 2024. "Modality in Kant and Hegel." In *Modality: A History*, edited by Melamed, Yitzhak Y. and Newlands, Samuel, 171-206. New York: Oxford University Press.
"Kant and Hegel differ from all these traditional and contemporary views, and from one another, concerning the unity of modality.
According to Kant, modal concepts (categories, as we will see) do not describe properties of objects, but instead express the relation of concepts of objects to our capacities for cognition. The role of the modal categories is to express the relation of a concept of an object to the matter and form of our cognitive capacities: possibility applies to concepts that agree with the form of the relevant cognitive capacity; actuality applies to concepts that agree with the matter of the capacity; and necessity applies to concepts that follow from the matter of the capacity given its form. Since our capacity for cognition has two "stems," sensibility and understanding, this generates a distinction between two kinds of modality: logical

modality, which expresses the relation of a concept to the form and matter of the understanding alone, and real modality, which expresses the relation of a concept to the form and matter of understanding and sensibility. What unifies the modal concepts— what makes each of the modal categories *modal*— is that they all express a manner of relating to our cognitive capacities." (pp. 172-173)

106. Steigerwald, Joan. 2015. "Ground and Grounding: The Nature of Things in Schelling's Philosophy." *Symposium* no. 19:176-197.
Abstract: This paper examines the notions of ground and grounding across several of Schelling's works, from the philosophy of nature, through transcendental idealism and identity philosophy, to the Freedom essay and The Ages of the World. It contends that Schelling repeatedly returns to the same problematic, that each attempt to establish a foundation for philosophy is inscribed with the particular and the concrete, so that the work of grounding is also an ungrounding.
It reads the different expressions of Schelling's philosophy against and through one another, arguing that each offers both a foundation and critique of its others."

107. Stern, Robert. 2016. "Kreines on the Problem of Metaphysics in Kant and Hegel." *Hegel Bulletin*:1-15.
Abstract: "This article offers a discussion of James Kreines's book *Reason in the World: Hegel's Metaphysics and Its Philosophical Appeal*. While broadly sympathetic to Kreines's 'concept thesis' as a conceptual realist account of Hegel, the article contrasts two Kantian arguments for transcendental idealism to which Hegel's position may be seen as a response—the argument from synthetic a priori knowledge and the argument from the dialectic of reason—and explores the implications of Kreines's commitment to the latter over the former."

108. Stratmann, Joe. 2018. "Kant, Grounding, and Things in Themselves." *Philosophers' Imprint* no. 18:1-21.
"Despite their differences, proponents of metaphysical one- and two-object interpretations alike claim that appearances are *grounded in* things in themselves. Call this claim the *transcendental grounding thesis*." (pp. 1-2)
(...)
"A significant difficulty in making sense of the transcendental grounding thesis is that it is prima facie unclear how to characterize Kant's account of grounding — an account which has yet to be systematically explored in the secondary literature. My strategy in this paper is to begin by elucidating some core features of this account. This will enable us to understand some of the conditions under which different specific kinds of grounding relations obtain. This will, in turn, help to adjudicate the issue of which specific kind of grounding relation obtains between things in themselves and appearances, as well as the dispute concerning the distinctness of things in themselves and appearances." (p. 2, a note omitted)

109. Tahko, Tuomas E. 2013. "Metaphysics as the First Philosophy." In *Aristotle on Method and Metaphysics*, edited by Feser, Edward, 49-67. New York: Palgrave-Macmillan.
"Introduction: Aristotle talks about "the first philosophy" throughout *Metaphysics* – and it is metaphysics that Aristotle considers to be the first philosophy – but he never makes it entirely clear what first philosophy consists of. What he does make clear is that the first philosophy is not to be understood as a collection of topics that should be studied in advance of any other topics.
In fact, Aristotle seems to have thought that the topics of *Metaphysics* are to be studied after those in *Physics* (Cohen 2009). In what sense could metaphysics be the first philosophy? Let me take the liberty of applying the technical jargon of contemporary metaphysics to answer: The first philosophy is an account of what is, or what it means to be, *fundamental*.
Things that are the most fundamental are not *grounded* in anything more fundamental, they are *ontologically independent*. This does not necessarily mean that first philosophy attempts to list the most fundamental things, although this could be a part of the discipline. Rather, the study of fundamentality focuses on

giving an account of what it is for something to be fundamental. So, first philosophy studies a certain type of being – the fundamental type, and it may also involve an account of which (kind of)

things are, or could be, fundamental." (p. 49)

110.   Tatzel, Armin. 2002. "Bolzano's Theory of Ground and Consequence." *Notre Dame Journal of Formal Logic* no. 43:1-25.
"The aim of the paper is to present and evaluate Bolzano's theory of grounding, that is, his theory of the concept expressed and the relation brought into play by 'because'. In the first part of the paper (Sections 1-4) the concept of grounding is distinguished from and related to three other concepts: the concept of an epistemic reason}, the concept of causality, and the concept of deducibility (i.e., logical consequence). In its second part (Sections 5-7) Bolzano's positive account of grounding is reconstructed in axiomatic form and critically discussed."

111.   ———. 2003. "Bolzano on Grounding." In *The Logica Yearbook 2002*, edited by Childers, Timothy and Majer, Ondrej, 245-258. Prague: Filosofia.

112.   Textor, Mark. 2022. "Grounding, Simplicity, and Repetition." In *Bolzano's Philosophy of Grounding: Translations and Studies*, edited by Roski, Stefan and Schnieder, Benjamin, 301-318. New York: Oxford University Press.
"The relata of the grounding relation are true propositions (*Sätze an sich*). Let's start therefore by getting clear about those properties of propositions that are of importance for the theory of grounding.
The notion of a proposition cannot be defined, but Bolzano gives his readers pointers towards the intended concept. For example, take a non-indexical sentence like '2 + 2 = 4'. Its meaning is a proposition: something which is either true or false and never neither.(2) Not all sentences will express a proposition or express a proposition fully, but some do and this will, one hopes, suffice for Bolzano's purposes." (p. 301, a note omitted)
(2) *ML*, 47 [*MM-EX*, 40-1].
References
Bolzano, B. 1975. 'Von der mathematischen Lehrart'. In BGA [*Bolzano Gesamtausgabe*] IIA.7, pp. 46-98. [*ML*].
Translation in *On the Mathematical Method and Correspondence with Exner* by Rolf George and Paul Rusnock, Amsterdam/New York: Rodopi, 2004, pp. 39-83. [*MM-EX*]

113.   Thom, Paul. 2024. "Ground in Avicenna's Logic." In *Grounding in Medieval Philosophy*, edited by Normore, Calvin G. and Schmid, Stephan, 83-102. Cham (Switzerland): Springer.
Abstract: "Kit Fine articulates a notion of ground as a type of explanation by metaphysical constitution—a notion that happens to fit Avicenna's conception of essence fairly closely. Fine sets out from ideas that are basic to the Aristotelian tradition of which Avicenna was a part. However, despite the common Aristotelian heritage, there are also points in the further development of the notion of ground where Fine and Avicenna make different, and opposed, theoretical choices. Underlying these choices are the two thinkers' different conceptions of logic."

114.   Thomas, Christine J. 2014. "Plato on Metaphysical Explanation: Does 'Participating' Mean Nothing?" *Studia Philosophica Estonica* no. 7:168-194.
Contents: Riin Sirkel, Tuomas E. Tahko, Editorial 1; Justin Zylstra: Dependence and Fundamentality 5; Margaret Cameron: Is Ground Said-in-Many-Ways? 29; Pablo Carnino: On the Reduction of Grounding to Essence 56; Ryan Christensen: Essence, Essence, and Essence 72; Lucas Angioni: Aristotle on Necessary Principles and on Explaining X Trough the Essence of X 88; Kathrin Koslicki: The Causal Priority of Form in Aristotle 113; Michail Peramatzis: Sameness, Definition, and Essence 142; Christine J. Thomas: Plato on Metaphysical Explanation: Does 'Participating' Mean Nothing? 168; Travis Dumsday: E.J. Lowe on the Unity Problem 195-218.

115. van den Berg, Hein. 2014. *Kant on Proper Science: Biology in the Critical Philosophy and the Opus postumum*. Dordrecht: Springer.
Chapter 2: *Kant's Conception of Proper Science*, pp. 15-52.

116. Viltanioti, Irini–Fotini. 2012. "Powers as the Fundamental Entities in Philolaus' Ontology." *Journal of Ancient Philosophy* no. 6:1-31.
Abstract: "The main claim of this paper is that powers are the fundamental entities in Philolaus' ontology.
Limiters (περαίνοντα) and unlimiteds (άπειρα) are to be respectively understood as the power to limit and the power to be limited. As powers to do something, limiters and unlimiteds are different from their individual bearers, namely the "things that are" (ἐόντα). Number or harmony, that is the power to fit together, makes, along with the basic powers to limit and to be limited, things what they are. Philolaus' φύσις should be understood as the outcome of the working of the three other powers, namely περαίνοντα, άπειρα and άρμονία coming together and coming to be realized (άρμόχθη). In other words, φύσις is the state that results from the realization of the three fundamental powers. Philolaus' ἐόντα are to be considered as coming out of the four primary powers and of what Philolaus refers to as ἑστώ. Thus, Philolaus appears to be one of the first power structuralists."

117. Vucu, Simona. 2024. "Thomas Aquinas, Henry of Ghent, and John Duns Scotus on the Causation of Proper and Inseparable Accidents." In *Grounding in Medieval Philosophy*, edited by Normore, Calvin G. and Schmid, Stephan, 147-176. Cham (Switzerland): Springer.
Abstract: "Medieval philosophers such as Henry of Ghent and John Duns Scotus defended the possibility of what I call self-agency, the view that substances bring about in themselves their own necessary and inseparable features. In this paper, I propose that self-agency should be understood as an attempt to clarify the relationship between what is necessary but still accidental, and what is essential. I explore this view in the context of two objections against the possibility of self-agency: a general one, according to which the relationship between what is essential and what is necessary (but accidental) should not be envisaged in causal terms; and a more specific one, namely, that there is no need to consider this relationship to be a case of efficient causation. Against the first objection, I show that in the thirteenth century medieval philosophers envisaged this relationship in causal terms because of the way they conceived the ontological status of accidents. Against the second objection, I show that while Henry admits the possibility of self-agency as a consequence of his view of the nature of causal powers, Scotus thinks that without self-agency one cannot account for why proper and inseparable accidents are necessarily related to their subject of inherence."

118. Wang, Jennifer. 2016. "Fundamentality and Modal Freedom." *Philosophical Perspectives* no. 30:397-418.
"The claim that fundamentality entails modal freedom (FEMF) may seem attractive. After all, if an entity 'need not look outside itself', how could it modally depend on anything else? Nonetheless, the road from fundamentality to modal freedom is not straightforward." (p. 397)
(...)
"My aim is not to assess these competing views, about which much has been written. Rather, I will examine the positive reasons that a defender of FEMF may give in favor of her thesis. I begin the next section by saying more about the notion of fundamentality and the relevant types of fundamental entities. In section 3, I give a more careful characterization of modal freedom. I then examine reasons to believe FEMF by way of 'direct' and 'indirect' routes in sections 4 and 5. Direct routes appeal to the supposed nature of fundamentality, whereas indirect routes make use of principles that appear to be motivated for independent reasons, such as Hume's dictum that there are no necessary connections between distinct existences. I argue that none of these routes provide motivation for FEMF beyond the intuitions that fundamental entities are 'self-sufficient' or 'need not look outside themselves'. In

fact, as I will suggest in section 6, there are positive reasons to hold that the fundamental entities are not modally free." (pp. 397-398)

119.   Ward, Thomas M. 2024. "The Incoherence of Ockham's Ethics." In *Grounding in Medieval Philosophy*, edited by Normore, Calvin G. and Schmid, Stephan, 225-237. Cham (Switzerland): Springer.

Abstract: "Ockham thinks that God can command creatures to hate him. He also thinks that it is right to obey any divine command. This paper investigates what it is, for Ockham, to obey divine commands, and what makes it right to do so. The most plausible explanations of what makes it right to obey divine commands are God's goodness and God's power. The textual evidence in Ockham points towards both, but I judge the preponderance of the evidence to lean in favour of grounding our obligations to obey God on God's goodness. But whichever of the two we pick, we end up with an incoherent view. Given some things Ockham says, it should not be possible for Ockham's God to make it right to hate God, yet Ockham also says that this is possible. I see no way to rescue Ockham's ethics from incoherence."

120.   Watkins, Eric. 2021. "What real progress has metaphysics made since the time of Kant? Kant and the metaphysics of grounding." *Synthese* no. 198:3213–3229.

Abstract: "This paper argues that, despite appearances to the contrary, Kant and contemporary analytic metaphysicians are interested in the same kind of metaphysical dependence relation that finds application in a range of contexts and that is today commonly referred to as grounding. It also argues that comparing and contrasting Kant's and contemporary metaphysicians' accounts of this relation proves useful for both Kant scholarship and for contemporary metaphysics. The analyses provided by contemporary metaphysicians can be used to shed light on Kant's understanding of what a real conditioning relation is, while Kant's perspective on the practice and goals of metaphysics sheds light on several claims and issues at home in the contemporary debate."

121.   Williams, Heath, and Byrne, Thomas. 2022. "Husserl's Theory of Scientific Explanation: A Bolzanian Inspired Unificationist Account " *Husserl Studies* no. 38:171-196.

Abstract: "Husserl's early picture of explanation in the sciences has never been completely provided. This lack represents an oversight, which we here redress. In contrast to currently accepted interpretations, we demonstrate that Husserl does not adhere to
the much maligned deductive-nomological (DN) model of scientific explanation. Instead, via a close reading of early Husserlian texts, we reveal that he presents a unificationist account of scientific explanation. By doing so, we disclose that Husserl's philosophy of scientific explanation is no mere anachronism. It is, instead, tenable and relevant. We discuss how Husserl and other contemporary thinkers draw theoretical inspiration from the same source—namely, Bernard Bolzano. Husserl's theory of scientific explanation shares a common language and discusses the same themes as, for example, Phillip Kitcher and Kit Fine. To advance our novel reading, we discuss Husserl's investigations of grounding, inter-lawful explanation, intramathematical explanation, and scientific unification."

122.   Yrjönsuuri, Mikko. 2024. "Valid on Formal Grounds." In *Grounding in Medieval Philosophy*, edited by Normore, Calvin G. and Schmid, Stephan, 251-280. Cham (Switzerland): Springer.

Abstract: "Could formal logic be a naturalist field of study? This paper analyses how medieval logicians committed to Aristotelian naturalism thought about the metaphysical grounding of logic. As they assumed, it is at least sometimes a fact that a conclusion follows from some premises; here it is questioned how they thought this fact, or logical validity, to be grounded. The early medieval Arabic tradition (e.g. Ibn Sinā) thought in a way comparable to Immanuel Kant's position that logic is a formal study of intellectual structures, but given their metaphysical realism concerning universals, such intellectual structures may be taken to be natural parts of Aristotelian metaphysics. On the other hand, the early medieval

Latin tradition (e.g. Abelard) thought in a way comparable to Bernard Bolzano that the subject matter logic studies is not the intellectual realm, but essentially linguistic facts, taking language to be a natural phenomenon. Robert Kilwardby endeavoured to combine these traditions, but turns out to have taken a stance much closer to Kant, and to have given little importance to linguistic facts in his account of how syllogistic validity and thereby validity in general is grounded. At the same time, Kilwardby's work enhanced the conception of the formality of logic, although he thought that only the syllogistic form is a properly logical form. Analysis of John Buridan's logic shows that he had a generalized conception of logical form that was tightly knit with linguistic form as it is found in mental language, which he took to be a metaphysically natural domain. Unlike Kant and Bolzano, both Kilwardby and Buridan can be viewed as naturalists as concerns the study of formal logic, inasmuch as they thought that logical validity is grounded in facts that their Aristotelian metaphysics would consider natural."