Fabrice Correia, Benjamin Schnieder (eds), *Metaphysical Grounding. Understanding the Structure of the World*, Cambridge: Cambridge University Press, 2012, vii +311 pp., £ 55, ISBN 9781107022898.

Philosophers have long invoked certain priority relations among facts to characterize their views. Materialists, for example, typically hold that mental facts obtain in virtue of, or because of, physical facts; and ethical naturalists typically hold that moral facts are grounded in non-moral ones. But for a long time, the relation indicated by those locutions – "in virtue of", "because", and "grounded in" – has not been made the topic of inquiry in its own right. This has changed in the last few years: grounding has become a lively and fertile area of research. To the best of my knowledge, the work under review, edited by two of the most pre-eminent contributors to the topic, is the first book-length publication that is mainly devoted to grounding. It also contains paper on the related topics of ontological dependence and metaontology.

The book consists of a 36 pages long introduction by the editors, and eleven research papers of excellent quality. If one paper deserves to be especially highlighted, it is surely Kit Fine's "Guide to Ground" (ch. 1). Grounding is a topic in what we might call "hyperintensional metaphysics", which is concerned with distinctions that cannot be illuminated in the framework of possible worlds. It is largely due to Fine's influence (in particular, his paper "Essence and Modality", *Philosophical Perspectives* 8 (1994)) that hyperintensional metaphysics has become a respectable and flourishing field in the last twenty years. Fine also seems at the source of contemporary interest in grounding. His article "The Question of Realism" (*Philosophers' Imprint*, 2001) argues that the debate about realism is most fruitfully framed in terms of ground. But Fine did not articulate the notion in detail in that paper. He did so in subsequent years, however, presenting his work all over the world, and circulating drafts. But much of his work on the topic remained unpublished for a long time. Two technical papers have come out in recently years, but the 44-pages "Guide to Ground" appears to be the flagship article among Fine's contributions to the topic. As its title suggests, it starts with a helpful and accessible introduction to grounding, and Fine's approach to it. The reader then soon finds herself on a guided *tour de force*, though. Fine presents a host of intriguing distinctions, observations, and applications. A particular gem is the distinction between something being ungrounded – like a fundamental fact – and something being zero-grounded – like, perhaps, the existence of the empty set. Many of the points noticed and visited *en passant* by Fine are likely to be explored in detail by other authors.

Another important selling-point of the collection is the authoritative introduction, where the editors describe the state of the art in the debate. It will serve as a useful reference work. Correia and Schnieder also helpfully identify questions for further research, for example in the section on the logic of grounding. Their summaries of the papers in the collection are also a welcome service to the reader. They illuminate the relationship between the different papers, as well as to the wider literature, which is occasionally obscured by terminological differences between authors.

The introduction also does a very good job at relating current work to the history of philosophy. The editors touch on Plato's Eutyphro contrast and on Bolzano's theory. Further, they note that grounding is reminiscent of the relation of providing a sufficient reason, deployed by the rationalists. The principle of sufficient reason

(PSR) requires that the converse of that relation is serial – everything has a sufficient reason. The editors find that "[w]hat is perhaps most puzzling about the rationalist tradition is the steadfast certainty with which the *PSR* was often accepted" (p. 5). Since the arguments offered for it were spurious, the rationalists are most charitably interpreted as taking the principle to be self-evident. Interestingly, many contemporary theorists of grounding do not require that grounding is serial. They allow that some facts are ungrounded. But they tend to take the irreflexivity of grounding to be self-evident. But if the relation in question is transitive and well-founded, as many think it is, then the rationalists' seriality and the contemporary theorists' irreflexivity are incompatible. Perhaps the rationalists would be puzzled by the certainty which some contemporary theorists assert that grounding is irreflexive.

At any rate, the contemporary discussion is likely to benefit from confrontation with some relevant historical work. Michael Della Rocca's contribution, "Violations of the Principle of Sufficient Reason (in Leibniz and Spinoza)" (ch. 5) tries to illustrate this point, and more ambitiously, to "elide the apparent differences between historical and non-historical approaches to philosophy" (p. 164). There is much illuminating material in this essay. However, the reader's patience gets a bit strained when she is led down some false alleys before being shown the monistic dénouement she has probably been expecting for a while.

The deployment of grounding and cognate notions in the history of philosophy shows that grounding is not just an industry of some isolated corner of contemporary analytic metaphysics, as is sometimes alleged. So the historical work in this volume may help convince more philosophers that it is a legitimate and worthwhile topic of study. Since many would deny it that status, in conversation if not in print, much of the existing literature on grounding is apologetic in character. An influential article on grounding, which appeared as late as 2010, starts with the sentence "This essay is a plea for ideological toleration" (Gideon Rosen, "Metaphysical Dependence: Grounding and Reduction", in Bob Hale and Aviv Hoffmann (eds.) *Modality. Metaphysics, Logic, and Epistemology*, Oxford University Press). It is a very useful feature of this volume that it gives a voice to the critics of grounding. It is hard to say why one finds a concept intelligible, and for that reason, sceptics rarely do it. Chris Daly, in "Skepticism about Grounding" (ch. 2), does a good job articulating his reasons.

Paul Audi's paper, "A Clarification and defense of the notion of grounding" (ch. 3), ably responds to some of Daly's argument. Audi also articulates a distinctive conception of grounding, on which its relata are "wordly" rather than "conceptual", and correspondingly rather coarse-grained.

Jonathan Schaffer's "Grounding, transitivity, and contrastivity" (ch. 5) fruitfully applies theoretical tools from the study of causation to grounding. Schaffer argues that the binary relation of partial grounding is not transitive, contrary to received wisdom. He suggests a framework in which grounding does not relate facts, but differences, and expressed by contrastive locutions of the form "the fact that *A* rather than *B* grounds the fact that *C* rather than *D*". There is a certain mismatch, however, between Schaffer's explanation of why the assumption of transitivity is natural (p. 122), and his counterexample to transitivity. The former only applies to the notion of full grounding, while the latter only concerns partial grounding. If there are

counterexamples to the transitivity of full grounding, they will be of a different sort from Schaffer's.

The contributions mentioned so far are explicitly concerned with grounding (or, in one case, providing a sufficient reason). Two further contributions are so implicitly. David Liggins' "Truth-makers and dependence" (ch. 10) discusses the relationship between truth-maker theory and the theory of grounding – or "dependence", in his terminology. Stephen Barker's "Expressivism about making and truth-making" (ch. 11) argues that grounding claims – "making-the-case" claims, in his terminology – express a commitment to a derivation only using certain introduction rules.

The rest of the book deal with related topics. Kathrin Koslicki's "Varieties of ontological dependence" (ch. 7) and E.J. Lowe's "Asymmetrical dependence in individuation" (ch. 8) are concerned with the topic of ontological dependence. Koslicki argues that extant accounts of ontological dependence conflate two importantly different relations, which she calls constituent-dependence and feature-dependence. The first paradigmatically holds between a set and its members, and the latter between an accident and the substance to which it belongs. Lowe argues against certain structuralist ontologies.

Grounding and ontological dependence (henceforth simply "dependence") are both topics in hyperintensional metaphysics, and both have to with a certain kind of metaphysical priority: the ground is thought to be prior to what it grounds, and the dependent thing posterior to what it depends on. But beyond that, the relationship between the two topics is not straightforward, and deserves more discussion than it receives in this volume.

Paradigmatically, grounding relates facts, while dependence relates entities in other categories, such as objects or properties. But even if we are happy to acknowledge dependence among facts, that relation seems different from grounding. To a first approximation, grounding has to do with sufficient conditions, and dependence with necessary conditions: if A grounds B, then A is a sufficient condition for B, and if A depends on B, then B is a necessary condition for A. A disjunctive fact is grounded by its true disjunct, for example, but it does not typically depend on it. So there appear to be instances of grounding without dependence. Moreover, a conjunctive fact presumably depends on each of its disjuncts, but is not grounded by it – at least not fully grounded. Whether a fact is always partially grounded by a fact it depends on is not clear to me.

In their introduction, Correia and Schnieder suggest that one might wish to define a notion of dependence among entities – "existential dependence", they call it – in terms of grounding: "x existentially depends on y iff some fact about y grounds the fact that x exists" (p. 25). But it would not appear to be possible to define grounding in terms of dependence. So a theory of dependence does not tell us anything directly about grounding. Of course, one might discuss ontological dependence as an example of a concept that can be defined or at least illuminated in terms of grounding. This, however, is not what Koslicki and Lowe are doing. Moreover, ontological dependence is hardly unique as a concept that can be illuminated in terms of grounding. If Gideon Rosen (*op. cit.*) is right, the notion of an intrinsic property has an analysis in terms of ground. But we would not, on that account, expect to find papers on intrinsicality in a

volume on grounding. So either there is a further, non-obvious connection between grounding and dependence, or the book under review is best seen as dealing with ontological dependence as a subject in its own right, rather than one that is included because of its tight relationship to grounding.

The two papers not yet mentioned, J. Robert G. Williams' "Requirements on Reality" (ch. 6) and Jody Azzouni's "Simple Metaphysics and 'ontological dependence'" (ch. 9), contribute to the debate on metaontology. What sort of entities should we believe exist, and what is the ontological footprint of a given theory? On the face of it, these questions are not concerned with grounding, or dependence. However, Jonathan Schaffer ("On what grounds what", in David J. Chalmers, David Manley, and Ryan Wasserman (eds), *Metametaphysics. New Essays on the Foundations of Ontology*, Oxford University Press, 2009) has influentially created a link between these questions (whether Schaffer is concerned with grounding or dependence, in our terminology, is not clear to me). The link goes roughly as follows: if an entity is grounded (or dependent), then it is an "ontological free lunch" – we should believe in its existence, and we do not thereby increase our ontological foot-print. Both Williams and Azzouni, whose contributions build on work published elsewhere, can be seen as challenging Schaffer's link. They outline strategies of keeping one's ontology small without rejecting entrenched tenets of common sense or science. Williams ends by comparing his account to theories of grounding, and Azzouni by arguing against theories of ontological dependence.

This excellent collection is not only a welcome addition to the still relatively sparse literature on grounding, but will also set the stage for much subsequent literature. The book will be indispensable to those working on grounding or ontological dependence, and is likely to be useful to many in other areas of philosophy as well.

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