

ARTICLE

Backing as Truthmaking

Alexios Stamatiadis-Bréhler 

School of Philosophy, Religion, and History of Science, University of Leeds, Leeds, UK
Email: A.Brehler-Stamatiadis@leeds.ac.uk

Abstract

Separatists about grounding take explanations to be separate from their corresponding grounding-facts. Grounding-facts are supposed to underlie, or back, such explanations. However, the backing relation hasn't received much attention in the literature. The aim of this paper is to provide an informative definition of backing. First, I examine two prominent proposals: backing as explaining (Kovacs 2017; 2019a) and backing as grounding (see Sjölin Wirling 2020). Finally, I put forward my own proposal. I argue that under plausible assumptions about the role of backing and the nature of explanation, backing should be understood as a form of truthmaking, minimally construed.

Keywords: Backing; separatism; metaphysical explanation; grounding; truthmaking

1. Introduction

Grounding is a worldly noncausal determination relation that is widely thought to be linked with a particular kind of noncausal explanation.¹ Typical examples of grounding-facts include mental states being grounded in their physical features, chairs by their constituents, and sets by their instances. Unionists about grounding take grounding-facts to be identical to their corresponding explanations. Separatists, on the other hand, argue that explanations are distinct from grounding-facts: grounding-facts underlie, or *back*, explanations (Raven 2015).² Explanations of the form 'A explains B' are backed by facts of the form [A grounds B].³ Still, the backing relation has not received much attention in the literature. The aim of this paper is to provide an informative definition of backing.

Why is this important? First, the backing-locution appears in many contexts other than the grounding literature. For example, causal or constitutive explanations are said to be backed in an analogous manner but, again, backing-talk is left unspecified.⁴ Providing a unified account of backing would allow us to make sense of backing-talk across many different contexts. Secondly, separatists are at a disadvantage in comparison to unionists when they cannot specify what

¹These explanations are usually called *metaphysical explanations* (Fine 2012). Spelling out the nature of metaphysical explanations is hard and a matter of ongoing discussion (see, e.g., A. Wilson 2020). In the context of this paper, I will treat metaphysical explanations as species of noncausal explanations (perhaps they are noncausal explanations that are of some particular interest to metaphysicians). I will also take 'explanation' to refer to *noncausal* explanation unless stated otherwise.

²Proponents of separatism include Schaffer (2016) and J. Wilson (2016). On the unionist camp we could include Rosen (2010), Fine (2012), and Litland (2018a) (still, see fn. 5).

³For readability, I assume that grounding and explanation-claims involve one-to-one relations. This is unusual. Most grounding theorists take the grounding relation to be many-to-one (Bliss and Trogdon 2016) (cf. Litland 2016).

⁴See e.g., Kim (1988, 226; 1994, 58, 60, 67), Ruben (1990, 232), Glennan (2002, 342).

backing-talk is supposed to designate. If we expect to do any sort of progress vis-à-vis the unionism/separatism debate, we should know more about what backing is supposed to be.⁵ Finally, a definition of backing might be important for functionalist theories of grounding. Such theories do not define grounding in terms of their first-order formal features but in terms of their functional role. The most obvious role that grounding relations can play is their ability to back noncausal explanations (Rettler 2017). A primitive or unspecified notion of backing would count significantly against such views.

In section 2, I propose and motivate some constraints about the nature of backing. In section 3 and 4, I examine two prominent proposals: backing as explaining (B=E) and backing as grounding (B=G). In short, I argue that both (B=E) and (B=G) generate more questions than they answer. In section 5, I put forward my own proposal. Briefly, I argue that under plausible assumptions about the role of backing and the nature of explanation, backing should be understood as truthmaking, minimally construed. Finally, I tackle some objections.

2. Platitudes about backing

Separatism is the view that explanations are separate from the facts that make them obtain. In this sense, separatism is a minimal thesis (although some of its versions might be more plausible than others).⁶ Still, since the focus of this paper is the backing relation that obtains between these two separated entities, I will bring up plausible features of separatism that are relevant to my discussion when appropriate.

In this section, I will propose a functional definition of backing based on minimal assumptions about its nature. Then, I will clarify and motivate these features, thus showing that they can act as prior constraints for any proposed theory of backing. The functional characterization I want to propose is the following:

(Functional) [A grounds B] (G) backs ‘A explains B’ (E), iff, there is a relation R with the following features:

- (1) R holds nontrivially between G and E,
- (2) R is cross-categorical, and,
- (3) R’s obtaining (at least partially) makes it the case that E’s success conditions are met.

A couple of specifications are in order. First, the nontriviality clause makes sure that relations such as ‘being in the same world as’ do not come out as backing relations. Secondly, the success conditions of an explanation are those conditions that, once they are met, necessitate that the explanation is successful. When a grounding-fact backs an explanation, then that fact contributes to the satisfaction of the success conditions of that explanation.⁷ Thirdly, this characterization involves

⁵Two clarifications. First, I do not wish to imply that an informative definition of backing would *settle* the debate. It could be that there are independent reasons for why someone should be a separatist (Maurin 2019, 20). Still, the question about the nature of backing plays a significant dialectical role in the relevant debate (see, e.g., Wallner [2021, 3]). Secondly, I am also assuming that the separatism/unionism debate is a substantial one. For the view that the debate is largely verbal see Dasgupta (2017, 94 fn. 8), Skiles and Trogon (2019, 160), and Kovacs (2019a, 4). Note that if it turns out that unionists also need to countenance a backing relation, then they would also need to provide an account of backing.

⁶Sjölin Wirling (2020, 2–3) takes separatism to be primarily driven by the idea that explanation necessarily involves some epistemic or pragmatic dimension. But unionists also recognize that feature and actively try to accommodate it, either by adopting some nonmonotonicity clause or by countenancing multiple (often primitive) grounding relations (e.g., Litland 2018b).

⁷Of course, I do not need to commit to the view that a given grounding-fact is *sufficient* for the relevant success conditions to be fully met. Perhaps, there are facts other than grounding-facts (e.g., pragmatic/epistemic facts as per Sjölin Wirling [2020, 2–3, 5]), which are also necessary. Or, it could be that grounding-facts are sufficient on their own given that the relevant

grounding-facts but there is no reason to think that it cannot be extended to other kinds of facts as well.⁸ I begin my discussion by focusing on grounding since backing has received attention primarily in the context of grounding (Raven 2015; Schaffer 2016). Even though, as mentioned, the backing-locution can also be found in other domains, it is fair to expect that the main source of my audience are people interested in grounding.⁹ Finally, I take backing to be cross-categorical in the sense that backers (in this case, grounding-facts) are different in *kind* from the explanations they back. This is perhaps the most contentious proposed feature of backing and for this reason it requires further discussion.

Why think that backing is cross-categorical? First, I take cross-categoricity to be a *default* feature of backing. Taking at face value the way the term *backing* is used in the literature entails that backing is cross-categorical. Grounding-facts are taken to be worldly and broadly stance independent, whereas explanations are *about* such facts (thus, representational in character). This is particularly salient if one considers the relation between causal events and the explanations which they back. As Schaffer (2016, 36) puts it:

[O]ne wants to distinguish between causation—a concrete relation in the world—and causal explanation—an abstract pattern over facts or sentences. And one wants to connect these notions by allowing causal relations in the world to back causal explanations among facts or sentences. Or so orthodoxy has it, and so I take for granted here.

Secondly, it is independently plausible that explanations are ontologically different from their backers. Consider causation again. Causal explanations are apt to pragmatic/epistemic constraints whereas the causal relation itself typically is not.¹⁰ To compare, separatists about grounding make analogous remarks (Sjölin Wirling 2020, 2–3). In this sense, it is no accident that separatists about grounding model their view according to the relation between causation and causal explanation.

There are ways to resist the cross-categoricity of backing. Sjölin Wirling (2020, 4, 5, 6), in an interesting move, argues that *explanations* are not the proper kind of relatum for the backing relation. Rather, she argues, a grounding-fact like [A grounds B] backs the *fact* that ‘A explains B’ is an explanation. In other words, backers back the explanatoriness of that which represents them. In this sense, backing is not cross-categorical since both of its relata are facts.

It could be argued that one *can* translate explanation-talk into fact-talk: saying ‘a grounding-fact G backs an explanation E’ can be translated into ‘G backs the fact that E is an explanation.’ But it is unclear if one *should* do so. First, translating talk of one ontological category to another does not come for free. To compare, consider operator-based views of grounding being translated into relational-talk. This is certainly possible, but one would need to make some substantive ontological assumptions along the way (i.e., countenancing a *relation* of grounding). In this sense, it is unclear if the results of such translation procedures can be trusted. More importantly, it seems to me that the explanation ‘A explains B’ and the fact that ‘A explains B’ is an explanation are importantly different

pragmatic/epistemic conditions are *built into* the relevant grounding-fact (e.g., by taking grounding to be a quaternary relation ranging over contrast classes).

⁸The standard view is that explanations are backed by determination-facts (broadly construed) (see Taylor [2018]). But there might be other ways to back an explanation. For example, Lange (2016) claims that some explanations are distinctively modal (in cases where the explanandum holds with a weaker modality than the explanans). Glazier (2020) also mentions explanations backed by *nomic* facts. Kovacs (2019a, sec. 4.3; 2019b) argues that noncausal explanations are backed holistically. deRosset (2013, 12) takes explanations to be backed by arguments. Taylor (2020) has also argued that there is room for an antirealist view of backing.

⁹I will transition to a more generalized conception of separatism when dialectically appropriate (e.g., secs. 4, 5, 7; see also fn. 8).

¹⁰The point that causal explanation and causation are significantly different kinds of entities goes all the way back to Davidson (1967). Still, there are unorthodox exceptions (cf. Kim 1981).

entities. The former is an explanation, whereas the latter is a fact *about* that explanation. To my mind, backing concerns the former.

Identifying the facts that determine the fact that ‘*A explains B*’ is an explanation is an interesting (albeit different) question. There are two versions of this question. The first reading concerns the fact that ‘*A explains B*’ is a *successful* explanation (Sjölin Wirling [2020, 4] seems to adopt this reading). But this fact is not “backed” in the original sense. Rather, it holds in virtue of the fact that ‘*A explains B*’ is *fully backed* (in the sense that its success conditions are fully met). The second reading concerns the fact that ‘*A explains B*’ is an explanation (successful or not). I cannot settle this question here, but I am inclined to think that facts about the explanatoriness of a putative explanation are grounded in certain of its structural features. For example, on Kim’s proposal (1994), explanations are propositions that have three “slots”: one for the explanans (or explanantia), one for the explanandum, and one for the determination-relation that connects the underlying phenomena (more on this later). At any rate, I take the question concerning the nature of the relations that are involved in these two readings to be an open question (and distinct from the issue concerning the nature of backing).

Finally, it could be argued that even if Sjölin Wirling is wrong about the exact details of the explanation-relatum, backing is still monocategorical in the following sense (bracketing translatability worries): backing could be the relation between *the fact that A grounds B* and *the fact that A explains B*.¹¹

I have the following response. The cross-categoricity of backing should be understood in a general, nonfetishistic, way. A relation is cross-categorical when it relates entities that are importantly different from one another, even if those entities belong (strictly speaking) to the same ontological category. As noted, grounding relations are worldly items whereas explanations are representational entities about those items. In this sense, even if explanations are facts, the kinds of facts that they are differ significantly from the kinds of facts that grounding-facts are.¹²

2.a On the nature of explanations

(Functional) in its current state is nontrivial but not very informative. Its content will become more determined once we answer the following question: What sort of *entity* is an explanation? There are two plausible types of answers to this question. The first view takes explanations to be vessels that report or represent determination-facts. For example, some take explanations to be arguments (Kitcher 1989) or sets of propositions (Kim 1994). Alternatively, according to the so-called ontic conception, explanations are determination-facts *themselves*. In this sense, explanations are (quite literally) discovered in the same way causal events are discovered.¹³

¹¹It could be suggested that given that grounding and explanation typically relate facts, we can infer that backing relates facts. I have two responses. First, this inference can be doubted: backing doesn’t relate the *relata* of a given explanation but that explanation *as a whole*. To compare, explanations might relate propositions, but it doesn’t follow that explanations are propositions *themselves*. They could, for example, be arguments as per Hempel (1965). Secondly, we should resist the claim that explanation relates facts. Bracketing controversial views, standard accounts in the literature take the relevant *relata* of explanation to be sets of interpreted sentences (Kitcher 1989) or constituents of propositions (Kim 1994). The so-called ontic view of explanation *might* be a plausible candidate for the view that the *relata* of the explanation-relation are facts (in saying this, I assume that such facts would be *worldly* in the same way the typical *relata* of the grounding relation are). Still, as it will become apparent, the ontic view is incompatible with separatism (see sec. 2.a).

¹²To compare, the monocategoricity of explanation goes beyond the sameness in the ontological category of its *relata*. Take the classic Hempel view (1965) according to which an explanation is a relation between a set of sentences involving reference to a law of nature, and a sentence having a nomologically expected state as its content. Both *relata* occupy the same ontological category, while also being importantly similar: they both have a representational function vis-à-vis the phenomenon under examination.

¹³Conceptions of explanations should be distinguished from *theories* of explanation (Bokulich 2016, 263; Wright and van Eck 2018, 998). Theories propose a model of how explanations are supposed to work (e.g., law-based theories, à la Hempel, take

The ontic conception cannot accommodate the cross-categoricity of backing and is incompatible with separatism. According to the ontic view, the explanation of B in terms of A is *identical* to a fact like A grounds B. If explanations *just are* determination-facts, then there is nothing separating them from those very determination-facts. So, it seems that the ontic view is a unionist-friendly account. Instead, the thesis that we should plug in to (Functional) to get a more substantive account is the one that identifies explanations with vessels that have some sort of representational or reporting capacity.¹⁴

Simply saying that explanations are vessels that report determination-facts does not get us very far since this idea can be cashed out in many different ways. For example, explanations could be arguments, sets of propositions, models, or something along those lines. Still, I think there is a way forward by taking explanations to be sets of propositions. This is not a costly assumption. For one, it is not clear that the competitors of such a view have anything more to offer in terms of features. The only contestable feature I can think of concerns the datum that many explanations are complex. The view that takes explanations to be arguments can accommodate this datum rather naturally. An argument can have many different premises each capturing a different kind of explanans: singular causes, background conditions, laws of nature, etc. But I see no reason why the explanations-as-propositions view cannot deliver the same result. Propositions can be complex or structured too.

3. Backing as explaining

So, what would the relation between an explanation and its backer be? The first proposal I will examine has been advanced by Kovacs (2017, 2934; 2019a, 6) who identifies “backing” with “explaining”:

(B=E) [A grounds B] backs ‘A explains B,’ iff, [A grounds B] *explains* ‘A explains B.’¹⁵

For example, according to (B=E), an explanation of a specific mental state in virtue of a brain state is *explained* by the fact that the latter grounds the former.

I have two worries against this proposal. The first worry concerns the cross-categoricity of backing. As mentioned, the grounding separatist view does not simply claim that explanations are distinct from their corresponding grounding-facts. Specifically, the claim is that explanations are separate from grounding-facts *and* different in kind. But (B=E) cannot accommodate this datum. I take it that the explanation-relation obtains between the explanandum and the relevant explanans (or explanantia). In this sense, every theory of explanation takes explanations to relate the same kind of entities. As mentioned, some views take explanations to be arguments: explanantia and explananda are both propositions or sets of sentences (Kitcher 1989). Others take the explanation-relation to be a connective: explanantia and explananda are nonreified, linguistic, entities

reference to laws to be a constitutive feature of explanations). Conceptions, on the other hand, concern the *metaphysics* of explanations (i.e., what explanations *are* in the most literal sense). For interpretative issues see Craver (2019).

¹⁴For this reason, we can reject Glazier’s (2020, 125) recent proposal that backing is a version of the part-whole relation. If explanations were themselves worldly facts, then it could (perhaps) be said that an instance of a determination *relation* literally composes an explanation. But this view does not seem to deliver the right results once one understands explanations as vessels that report. It is a category mistake to claim that instances of determination-relations are literally proper parts of the entities that represent them.

¹⁵Kovacs cites Rodriguez-Pereyra (2005, 28) and Schnieder (2010, 326–28) as others who share this view. But it is not so clear from these passages that they do. Rodriguez-Pereyra (2005, 18) takes explanations to be truth-apt and backing to be a form of primitive grounding. But primitive grounding is arguably distinct from the explanation-relation unless one is a unionist about grounding in this latter instance (which is bizarre and unmotivated). Similarly, Schnieder’s view is that backing is grounding, but grounding is construed as a connective and not as a reified relation (2010, 327; see also MacBride [2020, sec. 3.5]). I consider backing-as-grounding in the next section.

(Schnieder 2010).¹⁶ Or, perhaps, explanations are relations between worldly items as per the so-called ontic conception of explanation.¹⁷ No theory of explanation, which I know of, takes (or can take) the explanation-relation to be cross-categorical.¹⁸

My second worry against (B=E) appeals to a particular version of the separatist view. If the separatist view is that *every* successful explanation is backed, and if to be backed is to be explained, then we get the following thesis:

(Explanation Maximalism) Every successful explanation is explained.

But (Explanation Maximalism) leads to a regress since it requires the existence of an infinite series of explanations.

The proponent of (B=E) might respond by saying that the resulting regress is benign. But this move does not come cheap. First, it is not that clear what counts as a vicious regress. Some believe that vicious regresses are regresses that have some specific structural feature. Others disagree and take viciousness to be context relative. So, it seems that in order for the proponent of (B=E) to claim that the relevant regress is benign, additional (and controversial) assumptions about the nature of regresses must be made.¹⁹ Secondly, even if we accept that (Explanation Maximalism) leads to a benign regress, it is still the case that (B=E) has to countenance a regress. And even benign regresses have implications for one's ontology. Specifically, (Explanation Maximalism) leads to the existence of infinite explanations. This is still a cost for (B=E).²⁰

The obvious move for the proponent of (B=E) would be to reject (Explanation Maximalism) and claim that only *some* successful explanations are explained. Such a view is entailed by the weaker separatist view that only some successful explanations are backed. This move avoids the regress worry. It does so, however, at a significant cost. Again, more questions are raised. Which explanations are not backed? And (once we identify them), why is it the case that *these* explanations are as such that they do not require a backer? Again, I take these questions to not have obvious or easy answers.²¹

¹⁶One might worry that some representational accounts of explanation *are* cross-categorical. For example, a model of some phenomenon (a representation) would, presumably, explain that very phenomenon (a worldly entity). This is false. A model involves an explanandum and some explanantia in the same way an explanatory proposition or an explanatory argument does. In this sense, the explanation *relation* obtains between those entities (which, in turn, are literally *components* of that model); not between the explanation and the phenomenon itself.

¹⁷I addressed the ontic conception in the previous section.

¹⁸Sjölin Wirling (2020, 7) prefers an interpretation of (B=E) according to which the relevant 'is' is not the 'is' of identity. Rather, the slogan "backing is explanation" should be read elliptically as the claim that the backing relation is explanatory. But this, in turn, is compatible with the claim that such explanations are underwritten by some other relation (with which backing *would* be identical). I agree that the explanatoriness of backing can be cashed out in this way (I return to this point in section 7). But Kovacs's view is that backing is *literally* the explanation-relation. After all, this is what allows him to respond to one version of the meta-grounding problem (i.e., the problem of what explains facts of the form: [A explains B]) in a new and interesting way (2019a, sec. 4.3.).

¹⁹The most straightforward way of doing this would involve claiming that a regress is benign in virtue of its objective features *and* showing that (Explanation Maximalism) leads to a regress with such features. Alternatively, one could adopt a context-relative account of benign regresses and claim that (Explanation Maximalism) leads to a benign regress *in the relevant contexts*. For example, Maurin (2013) argues that a series is vicious insofar as the task that that series was *supposed* to fulfil isn't met. So, now the question arises: what kind of task is a second-order explanation supposed to fulfill? Again, this indicates that, either way, the proponent of (B=E) needs to do a lot of additional work in order to claim that (Explanation Maximalism) leads to a benign regress.

²⁰Of course, evaluating the severity of such a cost requires *further* assumptions about the relevant metric of parsimony. Also, it is worth mentioning that Kovacs, in other work, accepts that countenancing regresses (regardless of their form) counts against a theory (2019b, 7–8).

²¹Note that the issue here concerns *successful* explanations in particular, as per (Explanation Maximalism). Separatism should allow for unbacked *unsuccessful* explanations.

Finally, and perhaps more importantly, accepting that only some explanations are explained requires the existence of successful but *unbacked* (or *bare*) explanations (bare explanations, henceforth). Bareness should be distinguished from fundamentality. An explanation can be fundamental but still backed in the sense that it holds in virtue of a fundamental fact. Bare explanations, on the other hand, are “naked”: they do not hold in virtue of anything else. Some successful explanations would have to be unbacked for the regress worry to be avoided.

Bare explanations are controversial in themselves but, more importantly, they seem to be in tension with separatism. This is a significant cost for (B=E). Separatism wants to capture the intuition that successful explanations are higher-order, macro, phenomena that do not “float-free.” Bare explanations go against this intuition. To be clear, I am not claiming that the existence of bare explanations is *incompatible* with separatism. If separatism is construed minimally as the thesis that explanations are separate from their backers, then bare explanations do not pose a threat (bracketing their controversial nature). My point is that positing successful unbacked explanations is in tension with a philosophically *attractive* version of separatism. Such a view would say that *every* successful explanation is backed, in the same way physicalists say that *every* state is nothing over and above a physical state. In this sense, proponents of (B=E) who wish to argue that only some successful explanations are explained need to adopt an unattractive version of separatism.²²

4. Backing as grounding

The natural alternative to (B=E) is the view that backing is a form of grounding. As previously noted, explanations hold *in virtue of* the facts that back them. Since in-virtue-of talk and priority-talk are often taken to be indicators for the existence of grounding relations, backing-as-grounding is a view that deserves consideration:

(B=G) [A grounds B] backs ‘A explains B,’ iff, [A grounds B] *grounds* ‘A explains B.’

Saying that the explanation of a mental state in terms of its corresponding brain state is backed by the relevant grounding-fact means that the former is grounded by the latter. Still, the proponent of (B=G) needs to do a lot of additional work in order to make (B=G) an illuminating definition of backing.

Before critically evaluating (B=G), I should make the following clarification. The most developed version of (B=G) has been recently proposed by Sjölin Wirling (2020).²³ However, her account is different from my understanding of (B=G) in two ways. First, as already noted, she takes backing to relate facts of the form [A grounds B] with facts concerning the explanatoriness of the proposition ‘A explains B.’ Secondly, she defines backing as *partial* grounding.

I have addressed the first point in section 2. Concerning the second point, I agree with Sjölin Wirling that if backing is a form of grounding, then grounding-facts *partially* ground their corresponding explanations.²⁴ It is plausible that for an explanation’s success conditions to be fulfilled certain epistemic/pragmatic conditions should also be in place (in addition to the relevant grounding-facts). But I see no reason to insist that the first relatum of backing should *always* be a grounding-fact. In this sense, these epistemic/pragmatic conditions would *also* be partial grounds.

²²The proponent of (B=E) would need to show in what way, if any, the principle that every explanation is backed should be rejected. So far, I have argued that the rejection of that principle generates more questions than it answers. Also, a philosophically attractive version of separatism takes every successful explanation to be backed. In this sense, it is not just that backing has some pretheoretical content that puts pressure on (B=E). There are also philosophical reasons to *prefer* a notion of backing with the features I have highlighted.

²³J. Wilson (2016), Thompson (2018), and Kovacs (2019a) also consider (B=G).

²⁴Naturally, Sjölin Wirling would frame things using her preferred backing relatum (i.e., facts about the explanatoriness of propositions instead of explanations themselves). Still, my formulations are dialectically acceptable since I take the claim that backing is partial grounding to be largely orthogonal to whether backing relates explanations or facts about such explanations.

And such conditions *together* with the relevant grounding-fact would *fully* ground the relevant explanation. In this sense, backing can't be *defined* as partial grounding since there are clear instances of backing being underwritten by full grounding relations (i.e., the ones involving the *conjunction* of a grounding-fact with its appropriate epistemic/pragmatic conditions).²⁵

That being said, I take these two differences to not be particularly important. The core of Sjölin Wirling's theory (i.e., that backing is a form of grounding) is independent from these auxiliary assumptions and deserves serious consideration. Also, as it will become apparent, the challenges I will raise against (B=G) also apply to Sjölin Wirling's specific view. For this reason, my focus on (B=G) is dialectically acceptable.

Appeals to grounding can be understood in many ways. I will divide them into two groups: reductive and nonreductive accounts. The nonreductive view takes grounding to be primitive (Audi 2012). Proponents of this view argue that grounding resists analysis but is still a valuable metaphysical tool. Perhaps the most important merit of this view is that it can accommodate the thesis that every successful explanation is backed without generating a regress. The resulting picture would simply be the view that every successful explanation is grounded.

Still, nonreductive versions of (B=G) have an important shortcoming: they are uninformative. First, if grounding is primitive and backing is a form of grounding, then (B=G) simply collapses to the view that backing is ultimately unanalyzable.²⁶ In this sense, it simply is not illuminating enough to say that backing is a form of grounding. Instead, we should prefer views which reduce backing to more familiar phenomena. Secondly, the grounding literature is still relatively young in comparison to other literatures. This unsurprisingly leads to a lack of consensus concerning many of the features of grounding (cf. Rodriguez-Pereyra 2015). In this sense, it would be better to appeal to a less controversial entity when we wish to define backing.

At this point it could be objected that, for separatists, the existence of grounding is already assumed. In this sense, separatists would not take grounding to be unfamiliar. This is certainly true for *some* separatists. But, as noted in section 1, backing is a phenomenon that appears in other domains as well (e.g., causal explanation). One needn't believe in the existence of grounding in order to be a separatist. In this sense, a separatist about causal explanation who is also a grounding-skeptic would find (B=G) unconvincing.

Finally, another way to illustrate the fact that (B=G) is uninformative is by considering that a characterization of grounding *in terms of backing* would be explanatorily underwhelming.²⁷ Even if one does not aim to *define* grounding in terms of its backing role toward explanation, it would be nice to be able to *characterize* grounding in terms of its function. Grounding is the relation that, among other things, backs explanations. If backing is a form of grounding, then that way of illuminating grounding would not be available anymore.

I should note that I agree with Sjölin Wirling (2020, 7) that a circular characterization of grounding is *permissible*. She presents the following case: the property of being a blood relative is realized by the property of parenthood. But it is plausible that in characterizing blood relatedness, one would refer to the property of parenthood. Indeed, it would not "*obstruct* understanding" (Sjölin Wirling [2020, 7]; my emphasis) to say that grounding is that which grounds certain kinds of

²⁵The point that such epistemic/pragmatic conditions are partial grounds is in line Sjölin Wirling's own remarks (2020, 5). Still, it could be argued that even if such conditions are partial grounds, they should not be understood as *backers* of the relevant explanation (the same worry might also apply to the *conjunction* of these conditions and the relevant grounding-fact). Presumably this is because the first relatum of backing is supposed to be restricted to grounding-facts or determination-facts broadly construed. But, again, I do not see the motivation for this restriction.

²⁶Of course, taking backing itself to be primitive is different from taking backing to reduce to grounding and *then* taking grounding to be primitive. In the latter instance, backing reduces to something 'more familiar' which, among other things, has a primitive nature. In this sense, (B=G) is superior to the view that backing is primitive simpliciter in terms of ontological parsimony.

²⁷Versions of this objection can be found in J. Wilson (2016) and Thompson (2018).

explanations. My weaker point is that it would be *desirable* to be able to illuminate grounding in this *additional* way (i.e., by appealing to its function to back explanations). In this sense, a characterization of grounding in terms of backing qua grounding would be uninformative (albeit, possible).

What about reductive versions of grounding? A promising way of reducing grounding is by appealing to the set of, what Wilson calls, “small-g” relations (2014). A small-g relation is, roughly, a determination relation that has a very similar profile to grounding. For example, the relation of constitution is also said to capture priority-talk and is also taken to be explanatory.

A reductive account of grounding in terms of small-g relations can be articulated in two ways. The first one would be to say that backing is a form of grounding and grounding is multiply realizable by different small-g relations (J. Wilson 2014, 567-8; Rettler 2017). In this sense, backing would be identical to the *realized* entity which would entail that backing *itself* is multiply realizable by small-g relations.²⁸ This option is very implausible. Many paradigmatic small-g relations are not plausible realizers of backing (e.g., set-formation).

A more promising way of understanding backing as a kind of reduced grounding is by taking backing to be identical to one of the (potentially many) *realizers* of grounding. In this sense, (B=G) would be the view that backing is identical to some small-g relation. Still, it is impossible to assess this proposal without specifying which small-g relation backing is supposed to be. For this reason, (B=G) is unilluminating and, at best, only the first step toward an informative definition of backing.

5. Backing as truthmaking

In this section, I propose a new definition of backing. According to (Functional), the backing relation connects grounding-facts with explanations. Also, explanations, as mentioned in section 2, are certain kinds of propositions. But what kind of relation connects propositions with grounding-facts? A very plausible candidate for this role is the truthmaking relation.

(B=T) [A grounds B] backs ‘A explains B,’ iff, ‘A explains B’ is *made true* by [A grounds B].

(B=T) satisfies all three clauses of (Functional). It is a nontrivial and substantive issue whether a given worldly fact serves as a truthmaker for a proposition. Also, truthmaking is a cross-categorical relation par excellence (Tahko 2016). Finally, it is plausible that in order for an explanation to be successful it is (at least) necessary for that explanation to be true.

What is the nature of the truthmaking relation? According to Armstrong’s (2004) classic picture, truthmaking is the internal relation of necessitation. As a quick example, take the following psychophysical explanation:

(M) The fact that Mary has mental state M_1 is noncausally explained by the fact that Mary has brain state B_1 and that a psychophysical law connecting M-type mental states with B-type brain states obtains.

What backs (M)? Plausibly, worldly facts such as the relevant psychophysical law partially grounding the fact that Mary has mental state M_1 . Adopting Armstrong’s account, this means that Mary’s brain state B_1 together with the relevant psychophysical law necessitate the truth of (M). On the face of it this seems plausible. Of course, there are well known objections to the view that truthmaking is the relation of necessitation, which I am not going to rehearse here (MacBride 2020, sec. 1.2.). Thankfully, (B=T), on its own, takes no particular stance toward the specifics of the truthmaking relation. In this sense, I intend for my proposal to be minimal. Truthmaking, in this

²⁸I think this is the most promising reductive theory of grounding currently in the literature (hence my focus). Another option would involve reducing grounding to essences (e.g., Correia and Skiles 2019). I do not have the space to properly discuss this interesting alternative.

context, is supposed to designate whichever relation is posited by one's background truthmaker theory.

Deferring to one's background truthmaker theory is dialectically acceptable. Figuring out which truthmaker theory is the correct one is a substantive philosophical problem that requires our attention *anyway*, independently of the discussion around backing, grounding, and the separatism/unionism debate. In this sense, the fact that the final details of my proposal are "hostage" to one's background truthmaker theory is not a significant cost.²⁹

The minimality of (B=T) is worth emphasizing in at least three additional ways. For one, nothing in (B=T) entails a robust notion of truthmakers. Opponents of truthmaker theory usually argue that one can make sense of truth being dependent on reality without having to posit separate entities called "truthmakers." (B=T) is neutral toward this objection. One is free to adopt a thin understanding of truthmakers according to which such entities are not separate and distinct *facts* but are simply those bits of reality that account for the truth of the relevant proposition.³⁰

Secondly, there is an ongoing discussion about the level of *grain* of the truthmaking relation. For example, some opponents of the correspondence theory of truth argue that a robust understanding of correspondence (perhaps, as causal regulation) is explanatorily superfluous. Again, (B=T) is neutral toward this discussion. Following Armstrong, proponents of (B=T) can take the truthmaking relation to be an internal relation without reifying it by appealing to some external determination relation.

Thirdly, so far, I have been focusing on backing as a relation that holds between explanations and grounding-facts. But, as mentioned in section 2, there is no reason why backing should be constrained in this way. Truthmaking, as such, can be used to define diverse metaphysical theses (from antirealism to realism about a given domain). Analogously, an explanation could be backed by determination-facts (broadly construed), nomic facts, or facts about essences. But they could also be backed by facts which are not worldly, at least in the traditional sense. For example, it could turn out that explanations are true in virtue of the fact that they are appropriately related to other explanations. In a case like this, such explanations would be backed by the fact that they figure in an appropriately defined set of explanations.³¹

Finally, (B=T) is more informative than both construals of (B=G) while staying minimal toward the details of the truthmaking relation itself and pluralistic concerning the different kinds of entities that can serve as truthmakers. In this sense, (B=T) could be compatible with (B=G) *if* one takes grounding to be reducible and truthmaking to be one of its realizers. Still, such assumptions are controversial, and I take it that (B=T) has merit independently of its connection to grounding. This is particularly evident if one considers that skepticism about truthmaking is, in general, more controversial (and less widespread) than skepticism about grounding. As mentioned, grounding is a relatively new metaphysical tool whereas my notion of truthmaking is minimal. Under these considerations, I take it that (B=T) should be the default view concerning the nature of the backing relation. In the following two sections, I consider two objections against my view.

²⁹The relevant literature has made a number of proposals concerning the nature of truthmaking. Perhaps, truthmaking is a version of the supervenience relation (Heil 2016) or, as mentioned, some kind of necessitation (Armstrong 2004). Truthmaking could also be a version of grounding (*cf.* footnotes 30 and 34).

³⁰See Rodriguez-Pereya (2005, 24) and MacBride (2014, 378) for the distinction I am appealing to. Truthmaking relations which do not seem to require a robust ontological category of truthmakers include most traditional correspondence-relations (e.g., Barnard and Horgan 2006, 29) and deflationary truthmaking (Hornsby 2005). For discussion see Asay and Baron (2019, 10).

³¹As Daly (2005, 97) correctly notes, coherentists about truth can argue that a true proposition is "backed" by the fact that this proposition is a member of a maximally coherent set of propositions. For the analogous view on explanation, see Kovacs (2019b).

6. The inheritance worry

Grounding theorists often appeal to the nature of explanation to justify the fact that grounding has certain formal features. Grounding is supposed to be irreflexive because explanation is irreflexive (grounding *inherits* its formal features from explanation) (Maurin 2019). However, it could be objected that (B=T) is implausible because the truthmaking relation (in any of its forms) cannot plausibly fulfill the inheritance function. Specifically, it is implausible that truthbearers have the same formal features as their truthmakers.

To illustrate, compare truthmaking to relations that plausibly *do* license inheritance claims. The identity relation is the most obvious example. If explanations are identical to grounding-facts, then it follows that they have the same formal features. A less trivial case can be found in the literature on mental causation. Some philosophers argue that mental states hold in virtue of brain states and, because of that, the causal profile of the latter is transmitted to the former.³² But backing is neither the identity relation nor the relation that holds between minds and brains.

There are two ways in which (B=T) can be defended against this. The first strategy involves directly meeting the challenge by arguing that truthmaking *can* license inheritance claims. To that effect, it could be claimed that truthmaking should be understood as an *isomorphic* relation. More specifically, truthmaking could be isomorphic in the sense that truthbearers are structurally identical to their corresponding truthmakers. The *proposition* that the cat is on the mat involves a certain relation between its constituents that “mirrors” the structure of the *fact* that the cat is on the mat. If this is true, then those explanations that are backed plausibly share the same formal features with the grounding-facts that back them.

Against this move, it should be noted that knowing about the features of explanation cannot tell us anything about grounding-facts that *do not* serve as truthmakers. Looking into the features of explanation (asymmetry, irreflexivity, etc.) can only serve to illuminate the features of those (and only those) grounding-facts which back explanations. In this sense, even if one assumes that truthmaking is isomorphic, this at best provides only limited access to the inner workings of grounding. Also, the very claim that truthmaking is isomorphic is far from obviously true (Schipper 2020).

So far, I have been mostly focusing on how explanations relate to their corresponding grounding or determination-facts. But, as previously mentioned, there is no good reason to restrict backing in this way. Backing is supposed to be the relation that connects explanations with *whichever* entity makes them true. Assuming isomorphism would beg the question against views that allow for successful explanations to be true but cash out their success holistically (to mention one example). Such views would say that an explanation of the form ‘A explains B’ is not made true by a grounding-fact of the form [A grounds B] but by a plurality of different facts that bear no isomorphic relation to the original explanation.

My preferred strategy involves denying that we should expect to find out about the nature of grounding by looking at the explanations which grounding-facts back. Grounding should be examined in the same way every other phenomenon is examined: by hypothesizing and testing such hypotheses against a background of a well-established body of beliefs. The analogy with causation is helpful at this point.³³ It is uncontroversial that there are causal events which are not explanatory. Still, there are other ways in which philosophers have proceeded to learn about the nature of causation. Being able to back causal explanations is *one* of the roles that causal relations have. Other roles include, for example, figuring in our best scientific and folk theories. Philosophers, based on certain folk and scientific platitudes about causation, propose certain hypotheses about what the causal relation *really* is (e.g., counterfactual dependence, energy transfer, etc.). At best,

³²Such inheritance theses are usually articulated by appealing to functional realization or immanent causation (Robb and Heil 2021, sec. 6.4).

³³For the tight connection between causation and grounding, see Fine (2012), Schaffer (2016), and A. Wilson (2018).

looking into the nature of causal explanations can be one of the many ways in which we can uncover the true nature of causation.

7. The regress worry

Recall that one of my worries against (B=E) was that given (Explanation Maximalism), a regress is generated. (B=T) is supposed to avoid this worry. But it could be plausibly argued that (B=T) also leads to a regress if one takes truthmaking to be an explanatory relation. If truthmaking is explanatory, then (B=T) seems to collapse into (B=E). A way to raise this worry is to take truthmaking to be a form of grounding and then take grounding to be explanatory. But the objector does not even need to make this move.³⁴ The link between truthmaking and explanation is usually highlighted in the relevant literature, so I take the claim that truthmaking is explanatory to be well-motivated independently of whether it is a grounding relation.

What does it mean to say that truthmaking is explanatory? Asay (2017, 10) identifies two possible answers: either truthmaking is *itself* an instance of the explanation-relation or explanation is simply a constraint on truthmaking (i.e., P makes <P> true only if P *explains* <P>). The first option is a form of unionism about truthmaking whereas the second is a form of separatism about truthmaking.

Ruling out the first option seems fairly easy. It is simply bizarre to be a separatist about grounding and a unionist about truthmaking. Even if one does not take truthmaking to be a form of grounding, it could still be argued that the two notions are similar enough. So, separatism can be motivated for both relations on similar grounds.

Is grounding similar to truthmaking? It is not obvious that it is. As previously mentioned, it is controversial that truthmaking is a form of grounding. Perhaps, as Audi (2019) notes, truthmaking is not a grounding relation because it should not be understood as a *determination* relation. But if that's the case, then the putative similarity between the two relations becomes thin. Against this, I propose that separatism about both grounding and truthmaking should be motivated differently. Rather, separatism is primarily a view about *explanation*. Successful explanations are certain kinds of propositions which do not float free. So, insofar as one is a separatist about explanations involving grounding one should also be a separatist about explanations involving truthmaking. In other words, separatism about grounding and truthmaking are simply instances of separatism simpliciter.

The second option is trickier. According to this form of separatism, truthmaking and explanation are distinct, but every truthmaking-fact ([P makes <P> true]) has a corresponding explanation (<P explains <P>>). This version of separatism is different from the kind of separatism I have been considering so far (call my version, *standard separatism*). An important and desirable feature of standard separatism is that grounding-facts can exist in the absence of explanation. In an analogous sense, separatism about truthmaking should allow for certain truthmaking-facts to exist in the absence of a corresponding explanation. Does this compromise the well-established link between truthmaking and explanation? It does not. It can still be said that truthmaking is explanatory even if it is not the case that *every* truthmaking-fact figures into an explanation. Causation is also explanatory by anyone's lights even though there are clear cases of causal events which are not involved in causal explanation.

Still, one could wonder whether standard versions of separatism coupled with (B=T) can successfully deal with the regress worry. Can truthmaking-facts exist in the absence of explanation? In essence, the answer to this question depends on one's view about the ontological status of explanations (i.e., the ontological status of propositions). According to one influential view,

³⁴Especially since cashing out the relation between grounding and truthmaking is controversial (see Liggins 2012; Tahko 2016; Asay 2017). For recent and direct rejections of the thesis that truthmaking is a case of grounding see Griffith (2014), Saenz (2018), and Audi (2019).

propositions are reified abstracta that are expressed by particular sentences. Such views take explanations to be stance independent in the sense that explanations exist independently of whether they are expressed or conceived by agents. But if that's the case, then the regress worry looms large again. Every truthmaking-fact would have a real, stance independent, corresponding explanation. Such truthmaking-facts (e.g., the fact that [P makes <P> true] makes <P explains <P>> true) would, in turn, have their own corresponding explanations, and so on ad infinitum. So, it seems that (B=T) faces the same worry as (B=E) in terms of generating regresses.

One thing to immediately notice is that even if we accept that (B=T) generates a regress, the *kind* of regress it generates is significantly different from the one (B=E) generates. (B=E) coupled with the thesis that every explanation is backed entails that every explanation is explained. This means that if an explanation exists, then an infinite series of explanations is generated. Under closer inspection, this is a regress that runs “downward.” A second-order explanation is more “fundamental” than the explanation it explains (in the sense that first-order explanations *depend* on second-order explanation, second-order explanations depend on third-order explanations, and so on ad infinitum). This means that the infinite regress (B=E) generates runs toward the fundamental level. (B=T), on the other hand, leads to an “upward” regress. In this case, the first element of the series is a truthmaking-fact which, in turn, gives rise to another truthmaking-fact, and so on *ad infinitum*. This means that the order of dependence goes from a truthmaking-fact (of the form [P makes <P> true]) toward its corresponding “meta” truthmaking-fact (of the form [[P makes <P> true] makes <P makes <P> true> true]). This is a significant difference because upward regresses are generally regarded as less problematic than downward regresses (Cameron 2008).

Still, it should be noted that there is a way for the separatist to deny that (B=T) generates a regress altogether. Specifically, the separatist should deny that propositions exist stance independently.³⁵ Notice that if the existence of explanations directly depends on the deliberation of conscious agents, then there will not be an infinite series of explanations unless an agent can generate one. If a truthmaking-fact makes its corresponding explanation true, this presupposes that that explanation *exists*. The demand for a truthmaker arises only once the relevant proposition is formed. But according to the view I am considering, whether an explanation is formed depends on the relevant agents and their explanatory demands. To compare, (B=E) faces a regress worry that cannot be avoided using similar means. It is independently plausible that every successful explanation requires a backer. (B=T) can meet that demand: explanations, insofar as they are formed, require truthmakers. Rather, the proponent of (B=T) should deny the converse thesis, namely, that every truthmaker has a corresponding explanation.³⁶

I do not have the space to fully defend a stance-dependent view about the existence of propositions. Still, it suffices to say that such a view is both powerful and already assumed by many philosophers working on explanation. Kim (1988), for example, adopts a view of propositions akin to contemporary conceptualist theories (i.e., propositions as abstractions of mental tokenings) (King 2007).³⁷ The alternative would be to understand propositions as entities

³⁵It could be objected that my solution is plausible insofar as explanations are propositions. But what if they are physical structures representing some phenomenon (say, two rocks representing the sun and the moon)? Surely, the rocks would continue to exist even in the absence of an explanation involving them. It is certainly possible to construe explanations in this way. But, sticking to the framework that explanations are propositions (entailing that the existence of that explanation is nothing over and above the existence of that proposition), it could be said that such physical systems illustrate or *express* the content of the relevant explanation (without being, themselves, explanations).

³⁶This also means that A grounding B is compatible with there being an *explanatory gap* between A and B (see J. Wilson 2016, 11). The fact that A grounds B does not entail, on its own, that A explains B.

³⁷Philosophers adopting similar views include Armstrong (1997), Wright (2012, 375–76, 376), Koslicki (2012, 212–13), Wright and van Eck (2018, 1005). One can also trace this line of thinking in the literature on scientific representation (Giere 2010).

whose existence-conditions are completely independent of human agency. But such views are notorious for their inability to explain how they get their truth-conditions and their representational capacities. In comparison, the agent-dependent view has a clear-cut explanation: propositions get their truth-conditions and their ability to represent in virtue of the capacities of conscious agents.

There are ways to resist these points, but it should be noted that whichever way the relevant dialectic plays out, at least as far as regresses are concerned, (B=T) is superior to (B=E). If (B=T) generates a regress, then it is a regress that is more palatable than the one (B=E) generates. Finally, I have highlighted a plausible, albeit not completely nonparochial, way for the proponent of standard separatism to completely bypass the regress worry.

A final point about (B=T) and regresses. I have argued that (B=E) leads to a downward regress, whereas (B=T) leads to an upward one. But it could be argued that (B=T) leads to a downward regress *as well*. After all, we can still ask: What explains why [A grounds B] makes 'A explains B' true? And, then, we can ask what explains that further truthmaking-fact ad infinitum. In this sense, (B=T) might not be superior to (B=E) in that regard after all.

Note that in order for (B=T) to generate a regress in the above sense, (B=T) needs to be coupled with the two following triggering statements:³⁸

- (1) Every truthmaking-fact has a ground.
- (2) Every grounding-fact involving a truthmaking-fact (of the form "P grounds the fact that Q makes <Q> true") has a corresponding explanation (of the form "P explains the fact that Q makes <Q> true").

Both statements can be contested. (2) presumably follows from the principle that determination-facts always have explanations which they back. But I have already indicated that an attractive version of separatism would want to accept the possibility of determination-facts occurring in the absence of explanation. I also proposed a plausible way to deliver this result by taking propositions to be stance-independent entities.

(1) can also be resisted. Even if some truthmaking-facts have grounds, it is not obvious that this should apply to *every* truthmaking-fact. For all we know, some truthmaking-facts might be brute or fundamental. Perhaps (1) can be motivated by appealing to a principle of sufficient reason according to which *everything* has a ground. Compare with (B=E). The triggering statement that (B=E) needs to be coupled with is, as noted, simply a plausible version of separatism: "Every successful explanation is backed." But, surely, *that* principle is much less controversial than the principle that everything has a ground.

Separatism coupled with (B=T) entails that every successful explanation has a truthmaker, whereas separatism coupled with (B=E) entails that every successful explanation needs to be explained (which results in a regress). For this reason, the downward regress problem is avoided by (B=T) and is particularly pressing for the proponent of (B=E).³⁹

³⁸ A triggering statement is a statement that ensures that the relevant series of elements will not have a last member (Maurin 2013).

³⁹ It is also not so clear whether (B=T) coupled with (1) and (2) generates a *downward* instead of an *upward* regress (the latter of which, as noted, is generally understood as less controversial). The proposed regress runs as follows. First, a truthmaking-fact (TM) is grounded by some ground (G). Then, a grounding-fact of the form [G grounds TM] is formed. Then, that grounding-fact makes its corresponding explanation true. Then, that truthmaking-fact has a further ground, and so on ad infinitum. But the dependencies involved in this regress run in multiple directions. The first element of the series (TM) *depends* on the second element (G). But, then, the emerging grounding-fact *gives rises* to its corresponding explanation (which, in turn, *depends* on a further ground, and so on). To compare, on a paradigmatic downward regress the first element depends on the second element, which depends on the third element ad infinitum. So, even if one brackets the worries that I raised against (1) and (2), the resulting regress is not paradigmatically downward.

8. Conclusion

The aim of this paper is to argue that instances of backing are instances of truthmaking. I examined and rejected two prominent proposals: backing as explaining and backing as grounding. Then I proposed that backing should be understood as an instance of truthmaking. I also understood truthmaking minimally. Finally, I responded to two objections against my proposal: the inheritance worry and the regress worry.

Acknowledgments. Earlier versions of this paper have been presented at the Metaphysical Explanation III workshop (Lund University), at the Centre for Metaphysics and Mind (University of Leeds), and at the Explaining Philosophy conference (Wuhan University). I am very grateful to the participants of these events. For extremely substantive and detailed written comments, I would like to thank: Pekka Väyrynen, Jack Woods, Anna-Sofia Maurin (my commentator at Lund), Arthur Carlyle, Pei-Lung Cheng, Zak Gudmundsen, Olof Leffler (special thanks to Adina Covaci for her comments and for organizing the relevant work-in-progress session where I presented my paper). I have also greatly benefited from discussions on the topic of explanation with David Heering, Yorgos Karagiannopoulos, and Sotiris Paraskevopoulos. Finally, I would like to thank two anonymous referees for this journal. Both reviewers read my paper carefully, understood it, and provided comments that significantly improved it. I appreciate their work and their help with this project.

Funding statement. Research on this paper was funded by the Onassis Foundation (grant no. F ZN 056-1/2017-2018), whose support is gratefully acknowledged.

Alexios Stamatiaadis-Bréhier is a LAHRI postdoctoral researcher at the University of Leeds, UK. His main area of specialization is moral metaphysics. He also has interests in the philosophy of science and moral metasemantics.

References

- Armstrong, D. M. 1997. *A World of States of Affairs*. Cambridge: Cambridge University Press.
- Armstrong, D. M. 2004. *Truth and Truthmakers*. Cambridge: Cambridge University Press.
- Asay, Jamin, and Sam Baron. 2019. "Deflating Deflationary Truthmaking." *Philosophical Quarterly* 70 (278): 1–21. <https://doi.org/10.1093/pq/pqz036>.
- Asay, Jamin. 2017. "Run Aground: Kit Fine's Critique of Truthmaker Theory." *Philosophical Quarterly* 67 (268): 443–63. <https://doi.org/10.1093/pq/pqw072>.
- Audi, Paul. 2012. "Grounding: Toward a Theory of the In-Virtue-Of Relation." *Journal of Philosophy* 109 (12): 685–711. <https://doi.org/10.5840/jphil20121091232>.
- Audi, Paul. 2019. "Why Truthmaking Is Not a Case of Grounding." *Philosophy and Phenomenological Research* 101 (3): 567–90. <https://doi.org/10.1111/phpr.12605>.
- Barnard, Robert, and Terence Horgan. 2006. "Truth as Mediated Correspondence." *The Monist* 89 (1): 28–49. <https://doi.org/10.5840/monist200689132>.
- Bliss, Ricki, and Kelly Trogdon. 2016. "Metaphysical Grounding." In *The Stanford Encyclopedia of Philosophy* (Winter 2016), edited by Edward N. Zalta. <https://plato.stanford.edu/archives/win2016/entries/grounding/>.
- Bokulich, Alisa. 2016. "Fiction as a Vehicle for Truth: Moving beyond the Ontic Conception." *The Monist* 99 (3): 260–79. <https://doi.org/10.1093/monist/onw004>.
- Cameron, Ross P. 2008. "Turtles All the Way Down: Regress, Priority and Fundamentality." *Philosophical Quarterly* 58 (230): 1–14. <https://doi.org/10.1111/j.1467-9213.2007.509.x>.
- Correia, Fabrice, and Alexander Skiles. 2019. "Grounding, Essence, and Identity." *Philosophy and Phenomenological Research* 98 (3): 642–70.
- Craver, Carl F. 2019. "Idealization and the Ontic Conception: A Reply to Bokulich." *The Monist* 102 (4): 525–30.
- Daly, Chris. 2005. "So Where's the Explanation?" In *Truthmakers: The Contemporary Debate*, edited by Helen Beebe and Julian Dodd, 85–105. New York: Oxford University Press.
- Dasgupta, Shamik. 2017. "Constitutive Explanation." *Philosophical Issues* 27 (1): 74–97. <https://doi.org/10.1111/phis.12102>.
- Davidson, Donald. 1967. "Causal Relations." *Journal of Philosophy* 64 (21): 691–703.
- deRosset, Louis. 2013. "Grounding Explanations." *Philosophers' Imprint* 13. <http://hdl.handle.net/2027/spo.3521354.0013.007>.
- Fine, Kit. 2012. "Guide to Ground." In *Metaphysical Grounding: Understanding the Structure of Reality*, edited by Fabrice Correia and Benjamin Schnieder, 37–80. New York: Cambridge University Press.
- Giere, Ronald N. 2010. "An Agent-Based Conception of Models and Scientific Representation." *Synthese* 172 (2): 269–81. <https://doi.org/10.1007/s11229-009-9506-z>.
- Glazier, Martin. 2020. "Explanation." In *Routledge Handbook of Metaphysical Grounding*, edited by Michael J. Raven, 121–32. London: Routledge.
- Glennan, Stuart. 2002. "Rethinking Mechanistic Explanation." *Philosophy of Science* 69 (S3): S342–53. <https://doi.org/10.1086/341857>.

- Griffith, Aaron M. 2014. "Truthmaking and Grounding." *Inquiry: An Interdisciplinary Journal of Philosophy* 57 (2): 196–215. <https://doi.org/10.1080/0020174X.2013.855655>.
- Heil, John. 2016. "Truthmaking and Fundamentality." *Synthese* 198: 849–60. <https://doi.org/10.1007/s11229-016-1292-9>.
- Hempel, Carl. 1965. *Aspects of Scientific Explanation and Other Essays in the Philosophy of Science*. New York: Free Press.
- Hornsby, Jennifer. 2005. "Truth without Truthmaking Entities." In *Truthmakers: The Contemporary Debate*, edited by Helen Beebe and Julian Dodd, 33–49. New York: Oxford University Press.
- Kim, Jaegwon. 1981. "Causes as Explanations: A Critique." *Theory and Decision* 13: 293–309. <https://doi.org/10.1007/BF00126965>.
- Kim, Jaegwon. 1988. "Explanatory Realism, Causal Realism, and Explanatory Exclusion." *Midwest Studies in Philosophy* 12 (1): 225–39. <https://doi.org/10.1111/j.1475-4975.1988.tb00167.x>.
- Kim, Jaegwon. 1994. "Explanatory Knowledge and Metaphysical Dependence." *Philosophical Issues* 5: 51–69. <https://doi.org/10.2307/1522873>.
- King, Jeffrey C. 2007. *The Nature and Structure of Content*. New York: Oxford University Press.
- Kitcher, Philip. 1989. "Explanatory Unification and the Causal Structure of the Wworld." In *Scientific Explanation*, edited by Philip Kitcher and Wesley Salmon, 410–505. Minneapolis: University of Minnesota Press.
- Koslicki, Kathrin. 2012. "Varieties of Ontological Dependence." In *Metaphysical Grounding: Understanding the Structure of Reality*, edited by Fabrice Correia and Benjamin Schnieder, 186–213. New York: Cambridge University Press.
- Kovacs, David Mark. 2017. "Grounding and the Argument from Explanatoriness." *Philosophical Studies* 174 (12): 2927–52. <https://doi.org/10.1007/s11098-016-0818-9>.
- Kovacs, David Mark. 2019a. "Four Questions of Iterated Grounding." *Philosophy and Phenomenological Research* 101 (2): 341–64. <https://doi.org/10.1111/phpr.12591>.
- Kovacs, David Mark. 2019b. "Metaphysically Explanatory Unification." *Philosophical Studies* 177 (6): 1659–83. <https://doi.org/10.1007/s11098-019-01279-z>.
- Lange, Marc. 2016. *Because without Cause: Noncausal Explanations in Science and Mathematics*. New York: Oxford University Press.
- Liggins, David. 2012. "Truthmakers and Dependence." In *Metaphysical Grounding: Understanding the Structure of Reality*, edited by Fabrice Correia and Benjamin Schnieder, 254–71. New York: Cambridge University Press.
- Litland, Jon. 2016. "Pure Logic of Many-Many Ground." *Journal of Philosophical Logic* 45 (5): 531–77. <https://doi.org/10.1007/s10992-015-9386-2>.
- Litland, Jon Erling. 2018a. "Could the Grounds's Grounding the Grounded Ground the Grounded?" *Analysis* 78 (1): 56–65.
- Litland, Jon Erling. 2018b. "In Defense of the Disunity of Grounding." *Thought: A Journal of Philosophy* 7 (2): 97–108.
- MacBride, Fraser. 2014. "How Truth Depends upon Being." *Analysis* 74 (3): 370–78. <https://doi.org/10.1093/analys/anu057>.
- MacBride, Fraser. 2020. "Truthmakers." In *The Stanford Encyclopedia of Philosophy* (Spring 2020), edited by Edward N. Zalta. <https://plato.stanford.edu/archives/spr2020/entries/truthmakers/>.
- Maurin, Anna-Sofia. 2013. "Infinite Regress Arguments." In *Johanssonian Investigations: Essays in Honour of Ingvar Johansson on His Seventieth Birthday*, edited by Christer Svennerlind, Jan Almäng, and Rögvaldur Ingthorsson, 421–38. Frankfurt: Ontos Verlag.
- Maurin, Anna-Sofia. 2019. "Grounding and Metaphysical Explanation: It's Complicated." *Philosophical Studies* 176 (6): 1573–94. <https://doi.org/10.1007/s11098-018-1080-0>.
- Raven, Michael J. 2015. "Ground." *Philosophy Compass* 10 (5): 322–33. <https://doi.org/10.1111/phc3.12220>.
- Rettler, Bradley. 2017. "Grounds and 'Grounds.'" *Canadian Journal of Philosophy* 47 (5): 631–55. <https://doi.org/10.1080/00455091.2017.1282306>.
- Robb, David, and John Heil. 2021. "Mental Causation." In *The Stanford Encyclopedia of Philosophy* (Summer 2019), edited by Edward N. Zalta. <https://plato.stanford.edu/archives/sum2019/entries/mental-causation/>.
- Rodriguez-Pereyra, Gonzalo. 2005. "Why Truthmakers?" In *Truthmakers: The Contemporary Debate*, edited by Helen Beebe and Julian Dodd, 17–31. New York: Oxford University Press.
- Rodriguez-Pereyra, Gonzalo. 2015. "Grounding is Not a Strict Order." *Journal of the American Philosophical Association* 1 (3): 517–34. <https://doi.org/10.1017/apa.2014.22>.
- Rosen, Gideon. 2010. "Metaphysical Dependence: Grounding and Reduction." In *Modality: Metaphysics, Logic, and Epistemology*, edited by Bob Hale and Aviv Hoffmann, 109–36. New York: Oxford University Press.
- Ruben, David-Hillel. 1990. *Explaining Explanation*. London: Routledge.
- Saenz, Noël Blas. 2018. "An Account of Truthmaking." *Synthese* 197 (8): 3413–35. <https://doi.org/10.1007/s11229-018-1894-5>.
- Shaffer, Jonathan. 2016. "Grounding in the Image of Causation." *Philosophical Studies* 173 (1): 49–100. <https://doi.org/10.1007/s11098-014-0438-1>.
- Schipper, Arthur. 2020. "Aboutness and Ontology: A Modest Approach to Truthmakers." *Philosophical Studies* 177 (2): 505–33. <https://doi.org/10.1007/s11098-018-1192-6>.
- Schnieder, Benjamin. 2010. "A Puzzle about 'Because.'" *Logique et Analyse* 53 (211): 317–43.
- Sjölin Wirling, Ylwa. 2020. "Is Backing Grounding?" *Ratio* 33 (3): 129–37.

- Skiles, Alex, and Kelly Trogon. 2019. "Maurin on Grounding and Explanation." In *Maurinian Truths: Essays in Honour of Anna-Sofia Maurin on her 50th Birthday*, edited by Robin Stenwall and Tobias Hansson Wahlberg, 159–72. Lund, Sweden: Lund University.
- Tahko, Tuomas E. 2016. "Armstrong on Truthmaking and Realism." In *Metaphysics and Scientific Realism: Essays in Honour of David Malet Armstrong*, edited by Francesco F. Calemi, 207–18. Boston: De Gruyter.
- Taylor, Elanor. 2018. "Against Explanatory Realism." *Philosophical Studies* 175 (1): 197–219. <https://doi.org/10.1007/s11098-017-0862-0>.
- Taylor, Elanor. 2020. "Backing without Realism." *Erkenntnis*. <https://doi.org/10.1007/s10670-020-00249-w>.
- Thompson, Naomi. 2018. "Metaphysical Interdependence, Epistemic Coherentism, and Holistic Explanation." In *Reality and Its Structure*, edited by Ricki Bliss and Graham Priest, 107–25. Oxford: Oxford University Press.
- Wallner, Michael. 2021. "The Ground of Ground, Essence, and Explanation." *Synthese*. <https://doi.org/10.1007/s11229-018-1856-y>.
- Wilson, Alastair. 2018. "Metaphysical Causation." *Noûs* 52 (4): 723–51. <https://doi.org/10.1111/nous.12190>.
- Wilson, Alastair. 2020. "Classifying Dependencies." In *The Foundation of Reality: Fundamentality, Space and Time*, edited by David Glick, George Darby, and Anna Marmodoro. New York: Oxford University Press.
- Wilson, Jessica M. 2014. "No Work for a Theory of Grounding." *Inquiry: An Interdisciplinary Journal of Philosophy* 57 (5–6): 535–79. <https://doi.org/10.1080/0020174X.2014.907542>.
- Wilson, Jessica M. 2016. "Grounding-Based Formulations of Physicalism." *Topoi* 37 (3): 495–512. <https://doi.org/10.1007/s11245-019-09644-7>.
- Wright, Cory, and Dingmar van Eck. 2018. "Ontic Explanation Is Either Ontic or Explanatory, but Not Both." *Ergo: An Open Access Journal of Philosophy* 5: 997–1029. <http://dx.doi.org/10.3998/ergo.12405314.0005.038>.
- Wright, Cory D. (2012). Mechanistic Explanation without the Ontic Conception. *European Journal of Philosophy of Science* 2 (3): 375–94. <https://doi.org/10.1007/s13194-012-0048-8>.