Grounding Legalism*

Derek Christian Haderlie & Jon Erling Litland†

Abstract

Many authors have proposed that grounding is closely related to metaphysical laws. However, we argue that no existing theory of metaphysical laws is sufficiently general. In this paper we develop a general theory of grounding laws, proposing that they are generative relations between pluralities of propositions and propositions. We develop the account in an essentialist language; this allows us to state precisely the sense in which grounding might be reduced to laws. We then put the theory to use in showing how moral laws can play a role in grounding particular moral facts, in defending monism about ground, and in showing in what sense there is no gap between the grounds and the grounded. Finally, we make a novel proposal about what grounds facts about ground.

1 Introduction

Many philosophers have held that grounding is intimately related to laws.[1] However, existing accounts have not provided a sufficiently general conception of grounding laws— or so we will argue. This paper provides such an account—what we call Grounding Legalism. According to the Grounding Legalist grounding laws are generative relations between (pluralities of) propositions and propositions. We argue for Grounding Legalism by showing how it can give novel and uniform accounts of a range of issues in the theory of ground.

For the reader's benefit here is an overview of the paper. After some preliminaries in § 2 we develop the core theory in § 3. We then apply the theory to four issues. In § 4 we show how moral laws play a role in the grounding of particular moral facts, answering a challenge due to Berker (2019). In § 5 we show how to define normative, natural, and metaphysical ground in terms of a generic notion of ground. In § 6 we consider the claim that there is "no gap" between the grounds and the grounded, make it precise, and

[1]See e.g. Rosen 2017a; Schaffer 2017a; Wilsch 2015a,b; Wilson 2018b.

argue that it holds for metaphysical ground, but not for normative and natural ground. Finally, in § 7, we propose a novel account of what grounds grounding facts.

2   Preliminaries

Philosophers have distinguished an almost embarrassing number of distinct notions of ground. The notion of ground that interests us here is *left-collective, non-factive, full, immediate* ground. We will treat this as a relation between pluralities of propositions and propositions. This notion of ground is *left-collective* in that many propositions $p_0, p_1, \ldots$ can ground a proposition q without any one of $p_0, p_1, \ldots$ grounding q on its own.[2] It is *non-factive* in that we allow $p_0, p_1, \ldots$ to ground q even when neither q nor any of $p_0, p_1, \ldots$ are true.[3] It is *full* in the sense that if $p_0, p_1, \ldots$ ground q then nothing needs be added to $p_0, p_1, \ldots$ to fully explain q. It is *immediate* in the sense that if $p_0, p_1, \ldots$ ground q, this need not be mediated through $p_0, p_1, \ldots$ grounding some propositions $s_0, s_1, \ldots$ that in turn ground q.[4]

To express our claims rigorously we adopt a higher-order language.[5] We present our language somewhat informally; the readers who care will be able to fill in the relevant type-theoretic details. We should stress that our goal in this paper is not to engage in metalogical studies of these higher-order languages, but rather to state metaphysical views *using* them.

We use $x, y, z, \ldots$ as singular variables, $xx, yy, \ldots$ as variables for pluralities of objects, and $pp, qq, \ldots$ as variables for pluralities of propositions. We use uppercase $P, Q, R, \ldots$ as variables for (monadic, dyadic, …) relations, and uppercase fraktur $\mathfrak{P}, \mathfrak{Q}, \mathfrak{R}, \ldots$ for properties of properties (relations). We write $pp = [p_0, p_1, \ldots, p_n]$ to stand for the plurality of propositions containing exactly $p_0, p_1, \ldots, p_n$; and we write $qq = [p \colon \phi]$ for the plurality of propositions containing exactly the propositions that satisfy the condition ϕ. We use $\ll$ for the relation of immediate full non-factive ground.

We will also need to make various essentialist claims. To express these rigorously we opt for a higher-order version of Fine's logic of essence. When $x, R, U, \ldots$ are any items (of any types) then $\square_{x, R, U, \ldots}$ is the sentential operator: "true in virtue of the nature of $x, R, U, \ldots$".[6] Throughout we work with a consequential notion of essence, one closed under the following restricted notion of consequence: if $\square_x \phi$ and ψ is a logical consequence of ϕ such that every non-logical constituent of ψ is also in ϕ, then $\square_x \psi$.[7]

---

[2] The present framework can be extended to deal with the *bicollective* notions of ground explored in Dasgupta 2014a; Litland 2016, 2018a.

[3] $p_0, p_1, \ldots$ *factively* ground q iff each of $p_0, p_1, \ldots$ is the case and they non-factively ground q. At the cost of clunkier formulations the theory can be formulated taking factive ground as the primitive notion.

[4] We do *not* assume that ground is non-circular in the sense that if Γ mediately grounds q then there are no propositions Δ such that q, Δ mediately grounds any $\gamma \in \Gamma$. While this is the orthodoxy, none of the applications in this paper turn on accepting this. The puzzles of ground (Fine 2010a) provide some reason to think that the (basic) notion of ground allows cycles; it therefore seems prudent to remain neutral on non-circularity.

[5] We opt for the higher-order formalization because of its elegance; we remain neutral on whether the same work could be done within a first-order theory of properties.

[6] For a rigorous account of a higher-order logic of essence we refer the reader to Ditter 2022.

[7] For more on constitutive vs consequential essence, see Fine 1994.

3 The Theory of Laws

3.1 Laws as Mechanisms

It is widely held that there are grounding laws. But some—see e.g. Berker 2019; Giannotti 2022—take a *humean* view: the grounding laws are mere summaries of the facts about what grounds what. Our view is non-humean: the laws play an indispensable role in making the grounds ground the grounded. The idea of non-humean grounding laws is by no means novel to us—Schaffer's tripartite view of grounding is a notable precedent (Schaffer 2017a,b)—our distinctive contribution lies in giving a precise account of what such laws are.[8]

The following picture is useful for motivating the view. The structure of non-factive grounding may be illustrated by a machine that, when fed some propositions, churns out propositions grounded in the propositions it is fed.[9] Think of the machine as being composed of more specific grounding *mechanisms*. For the propositions pp to immediately *non-factively* ground q is for there to be a mechanism M that when applied to input propositions pp yields output q. In this picture the mechanisms correspond to the laws of ground. Propositions of different forms are the output of different mechanisms (laws). For instance, conjunctions are the output of a mechanism that takes the conjuncts (together) as inputs; disjunctions, on the other hand, are outputs of a mechanism that takes each disjunct as an input.

3.2 Laws as functions?

The machine metaphor suggests that laws are certain *functions*: what characterizes a mechanism, after all, is that it takes some *inputs* and yields certain *outputs*. A view of laws as functions can be read into Schaffer's work and it is explicitly endorsed by Wilsch (2021, 924).[10] Thinking of grounding laws as functions works well in some paradigm cases—the grounding of conjunctions in their conjuncts, for example.

However, a naïve treatment of laws as functions fails with *disjunctions*: a given proposition p grounds the distinct disjunctions $p \vee q$, $p \vee r$, $s \vee p$—and so on. Since

---

[8]Here is a brief, non-exhaustive survey of such non-humean views. Wilson (2018a,b) develops Schaffer's tripartite of ground further. Glazier (2016) has developed a tripartite view of metaphysical *explanation*. (Whether this is a tripartite view about *ground*, depends on one's views about the relation between ground and explanation; for discussion see Raven 2015 and Kovacs 2019.) Epstein (2015, 77-85) introduces the notion of a *frame principle*, which "gives the grounding condition [for a type of proposition] not just for the actual world, but for all possibilities." These play the role of laws of ground. Wilsch (2015a,b) and Litland (2017, 2018c) have both tied ground closely to explanatory *arguments*. In Wilsch's account *metaphysical laws*—which for him are certain universally generalized conditionals $\forall x(Fx \to Gx)$—take centre stage: an explanatory argument from pp to q is a derivation of q from pp where the only auxiliary premises are the metaphysical laws and the only rules used are *modus ponens* and Universal Instantiation. For Litland explanatory arguments are made up of basic *explanatory inferences*; metaphysical laws enter the picture if we think of *rules* of explanatory inference as laws of metaphysics. Bader (2017) holds that laws (what he calls principles) mediate the connection between the grounds and the grounded, but he seems to think that their role is restricted to the normative domain; a similar view is advocated by Fogal and Risberg 2020.

[9]This metaphor is originally due to Fine 2012, 47–48. For other uses of the metaphor, see Litland 2017; Miller 2022; Trogdon 2018.

[10]Schaffer is explicit that laws have the identity-conditions of functions but it would be rash to conclude that laws *are* functions. Our criticism of the functional view applies also to this weaker claim.

there is no unique disjunction grounded by a given disjunct the law governing how disjunctions are grounded cannot be identified with a function from grounds to the grounded.

Schaffer's structural equations framework for ground provides a subtler functional account.[11] Take the case of a disjunction $p \lor q$. Schaffer models this by means of a system where p, q are independent variables that can take the values $0, 1$ and $p \lor q$ is a dependent variable that can also take the values $0, 1$. The value taken by $p \lor q$ is the *maximum* of the values taken by p and q. The law governing the grounding of $p \lor q$ is represented by the function that assigns the maximum of the values assigned to p, q to $p \lor q$. The problem with this view is that it is insufficiently general. There is not one law governing disjunctions in general; rather, each disjunction $r \lor s$ is associated with a function E specifying how the value of $r \lor s$ is determined by the values of r and s.[12]

3.3 Laws as generative relations

We propose that laws of ground are certain *relations* holding between the grounds and the grounded;[13] for instance, the law governing the grounding of disjunctions is a relation $L_\lor$ that holds between any proposition and any disjunction of which that proposition is a disjunct. So grounding laws are relations between pluralities of propositions and propositions.[14] But not just any relations will do; the relations have to be, in an intuitive sense, *generative*.[15]

---

[11] For formal details see Schaffer 2016a.

[12] To get around this problem one could try to augment Schaffer's account by identifying the law governing disjunctions with the function that takes pairs of propositions p, q to the system where p, q are independent variables, $p \lor q$ is a dependent variable, and the value of $p \lor q$ is the maximum of the values of p, q. Something like this can probably be made to work; however, in more interesting cases the formulation will get very complicated. Since there is a much simpler account available we will set emendations of the structural equations approach aside.

[13] A terminological note. Some readers will have noticed that we use "law" in a non-standard way. In the common usage a law is the prevailing of a certain condition; in a simple case, the condition could be that all Fs are G. On this usage, laws are the worldly correlates of expressions of type $\langle\rangle$. (Different views disagree about the logical form of laws, but they agree that laws are expressed by sentences.) For us, on the other hand, laws are worldly correlates of expressions of type $\langle[\langle\rangle], \langle\rangle\rangle$. Taking the machine metaphor seriously, we hold that, in addition to the prevailing of the condition that all Fs are G there is the mechanism that takes as its input propositions of the form Fa and yields as its outputs propositions of the form Ga. This mechanism is responsible for the prevailing of the condition. We reserve the word "law" for the mechanisms that underwrite the prevailing of the relevant conditions. Nothing turns on the terminology here. If someone wants to reserve the word "law" for the prevailing of a certain type of condition, we suggest that they use "lawmaker" for what we call "laws".

[14] Why not take laws to be functions from the ground to the set (plurality) of propositions grounded in accordance with it? In a concessive mood we take this to be a notational variant of our view; in a less concessive mode we offer the following argument. Suppose one thinks a disjunctive proposition depends (for its existence) on its disjuncts. Suppose further that it is contingent which propositions there are. In that case it is contingent which set (plurality) contains all the disjunctions of which p is a disjunct. But that means that there is not a unique function with which to identify the law governing how disjunctions, in general, are grounded.

[15] We are not the first who have stressed the importance of generation. Bader (2020, 41) talks about generative *operations*:

> Whereas relations presuppose the existence of their relata, generative operations generate outputs from inputs and are thus prior to their outputs [...] Generative operations [...] only presuppose their inputs. The outputs are not presupposed by the operation. They are instead generated by applying the operation to the inputs.

Standardly, a relation combines with its relata to form a proposition (state-of-affairs, fact). But this is not all we want from grounding laws. Consider again the law $L_\vee$ that governs the grounding of disjunctions. We do not just want this law to apply to propositions $p, p \vee q$ to yield (the truth of) the proposition $L_\vee(p, p \vee q)$. Rather, when p obtains we want $L_\vee$ to apply to p and, thereby, generate (the truth of) $p \vee q$ itself. In this respect laws are analogous to *rules of inference*: in following a rule of inference from the premises to the conclusion one ends up with a (conditional) assertion of the conclusion, not (just) with the proposition that the rule of inference allows one to move from the premises to the conclusion.[16]

One way forward would be to give a precise definition of generative relations (in general) and then to define grounding laws as a special class of generative relations. This will not be our approach. (We do not know how to do this.) Rather, in developing grounding legalism, we will take the notion of a grounding law as primitive, taking for granted that they are generative relations in the intuitive sense gestured at above. Of course, taking a notion as primitive does not mean that there is nothing illuminating to say. Beginning in the next section, we propose and argue for numerous principles governing grounding laws.[17]

3.4   Principles for Laws

We shall use $\mathfrak{L}$ to stand for the property of being a law of ground, writing $\mathfrak{L}(L)$ to express that the relation L is a law of ground. We first state legalism precisely. Whenever some propositions pp ground a proposition q they do this in accordance with a law of ground; moreover, that this is so is a matter of the essence of ground. Thus:

(Grounding Legalism) $\Box_\ll \forall pp \forall q(pp \ll q \leftrightarrow \exists L(\mathfrak{L}(L) \wedge L(pp, q)))$

(Grounding Legalism) is, by itself, not very informative—for instance, it is compatible with there being exactly one law of ground: immediate ground itself! This is not our view: we think there are many different laws of ground, with propositions of different

---

Bennett talks about "superinternal" relations:

> A superinternal relation is one such that the intrinsic nature of only one of the relata—or, better, one side of the relation—guarantees not only that the relation holds, but also that the other relatum(a) exists and has the intrinsic nature it does (Bennett 2011, 32).

While we inspired by Bader's and Bennett's discussions we have three problems with their framing. First, they are concerned with the generative character of grounding itself, whereas we are concerned with the generative character of grounding *laws*. Second, their formulations only make sense working with *factive* notions whereas we work with non-factive notions. Third, in regards to Bennett, we are uncertain about how to understand the talk about the "intrinsic nature" of the relata—see further footnote 21.

We should also note that the notion of a (broadly speaking) generative relation appears outside of the esoterica of the grounding literature. In their work on laws of nature Armstrong (1978, 1983, 1993), Tooley (1987), and Dretske (1977) argue that law(makers) are certain necessitating higher-order universals N holding between first-order universals F, G. These relations are generative in the sense that when N relates F and G, then anything's being F *causes* its being G.

[16]See on this point Bader 2017, Litland 2017, 288-289, and Schaffer 2017b, 20-21. In case of rules of inference the point goes back to Carroll 1895; strikingly, in the case of grounding the point goes back to Bolzano 1972, §199.

[17]While taking these principles to partially elucidate the notion of a grounding law, we stress that we do not take these principles together to amount to an implicit definition of the notion. We are very grateful to Louis deRosset and Martin Glazier for forcing us to get clearer on this point.

forms being associated with different laws. (Our reasons for thinking this will become clearer below.)

We have said that laws are generative; that is, when combined with the grounds laws will yield the grounded. Given this, we clearly have to accept

(Conditional Factivity) $\Box_{\mathfrak{L}} \forall L(\mathfrak{L}(L) \to \Box_L \forall pp \forall q(L(pp, q) \land (\bigwedge pp \to q)))$

(Conditional Factivity) says that it is essential to *being a law* that when a relation L is a law, it is essential to L itself that whenever it holds between pp and q and all the propositions pp are the case then q is the case.

In accepting (Conditional Factivity) we take a stand on the so-called "inference problem". This problem was originally raised by Lewis against Armstrong's view that what underwrites that all Fs are Gs is the holding of a necessitating universal N between the universals F and G. Lewis thought that the posited necessary connection was unintelligible and he objected that "The mystery is somewhat hidden by Armstrong's terminology. He uses 'necessitates' as a name for the lawmaking universal N; and who would be surprised to hear that if F 'necessitates' G and a has F, then a must have G? But I say that N deserves the name of 'necessitation' only if, somehow, it really can enter into the requisite necessary connections. It can't enter into them just by bearing a name, any more than one can have mighty biceps just by being called 'Armstrong'" (Lewis 1986, 366).[18]

We do not share Lewis's worries about necessary connections between distinct existences. Anyone who theorizes in terms of ground is already committed to the necessary connection of distinct existences: after all, the non-factive grounding claim $pp \ll q$ entails the distinct fact $\bigwedge pp \to q$. We thus do not take the inference problem to pose a threat to the *intelligibility* of there being laws satisfying (Conditional Factivity). As Rosen (2017b, 156n10) remarks in a discussion of non-humean moral laws "[w]hether one fact can intelligibly entail another depends on the natures of the properties (and other items) involved. Lewis and van Fraassen assume, in effect, that a relation between properties can't have a nature of the sort that would ground the required entailment." But this assumption begs the question against the non-humean whose view *just is* that there are certain relations that have this feature.[19]

The intelligibility of legalism is, of course, no argument for its *truth*. Like the arguments for non-humean laws of nature, the arguments for non-humean grounding laws will turn on their theoretical utility. (We begin making that case in §§ 4 to 7.)

(Grounding Legalism) and (Conditional Factivity) are consistent with its being contingent which laws there are. There are two ways of accounting for the contingency of laws. We can either let it be contingent whether a given relation is a law; or we can let it be contingent whether a given law exists. For present purposes nothing hinges on the difference between these views. For convenience, we adopt the latter view and write

---

[18] See also van Fraassen 1989, 38-39.

[19] In this respect our response to the inference problem is similar to Schaffer 2016b; Wilsch 2018, 2021. We note that Schaffer merely holds that it is *necessary* that if it is a law that ϕ then ϕ. But this is too weak. Suppose it is a law that all Fs are G (i.e. the Fs stand in the L relation to G, where L is a law). Schaffer's formulation leaves open that all the laws together with the possible circumstances conspire to ensure that all Fs are G without this being solely the responsibility of the law that all Fs are G. The essentialist formulation pins the responsibility where it belongs: on the law itself.

$E(L)$ for the claim that the law L exists. On this view, while it is contingent whether a law exists, each law is essentially a law:

(Essentially Laws) $\Box_{\mathfrak{L}}\forall L(\mathfrak{L}(L) \to \Box_L \mathfrak{L}(L))$

Whenever a law fails to exist, it relates nothing; equivalently, when a law relates some propositions and a proposition, the law exists. We are thus committed to

(Law Existence) $\forall L(\mathfrak{L}(L) \to \Box_L \forall pp \forall q(L(pp,q) \to E(L)))$

Given that laws of ground are just relations between propositions we can partially specify which laws there are by specifying the extension of a relation, and claiming that there is a law with just that extension.

For instance, a conjunction is grounded in exactly its conjuncts (taken together); and the negation of a conjunction is grounded in the negation of the conjuncts (taken separately). Here we must take care: we need to specify the grounds for a proposition and its negation separately.[20] The law $L_\wedge$ governing conjunction is thus really a pair of laws $\langle L_\wedge^+, L_\wedge^- \rangle$ such that:

$(L_\wedge)$ (+) $\forall pp \forall q(L_\wedge^+(pp,q) \leftrightarrow \exists p_0 \exists p_1(pp = [p_0,p_1] \wedge q = (p_0 \wedge p_1)))$
         (-) $\forall pp \forall q(L_\wedge^-(pp,q) \leftrightarrow \exists p_0 \exists p_1((pp = [\neg p_0] \vee pp = [\neg p_1]) \wedge q = \neg(p_0 \wedge p_1)))$

We must stress that we do not *identify* laws with (pairs of) extensions. Consider the relation that holds between a proposition and any disjunction of which it is a disjunct while Trump is or is not indicted ($\lambda p,q.\exists r(q = p \vee r) \wedge (It \vee \neg It)$). While this relation has the same extension as the law governing disjunctions, it is not, itself, a grounding law. After all, Trump's being indicted or not has nothing to do with how disjunctions, in general, are grounded. That we cannot identify laws with the extensions of relations leaves it open *which* relations (with a given extension) are laws. We will have more to say about this issue in § 6.

When a law L relates some propositions and a proposition, is it also a contingent matter that it does so? We answer "no" and instead accept:

(Law-Internality) $\Box_{\mathfrak{L}}\forall L \forall pp \forall q(\mathfrak{L}(L) \wedge L(pp,q) \to \Box_{pp,q,L}(E(L) \to L(pp,q)))$

(Law-Internality) says that if the law L relates some propositions and a proposition then it is essential to the propositions, the proposition, *and* the law that the law relates the propositions to the proposition (when the law exists). For example, consider again the law governing the grounding of disjunctions, $L_\vee$, and the propositions p and $p \vee q$. It is plausibly essential to $L_\vee$, p, and $p \vee q$ that, whenever the law exists, it relates p and $p \vee q$. Two comments about (Law-Internality) are in order.

First, it is commonly observed that ground has a certain *generality*. That Trump won the election grounds that either Trump won or Hilary won. But this has nothing to with Trump, or the election: any disjunction is grounded in its disjuncts. It may be helpful to put this in terms of essential dependence. Following Fine (1995a), say that a essentially *depends* on b iff $\exists P \Box_a Pb$. What we then want to say is that the law

---

[20]The phenomenon is familiar from truthmaker semantics where one usually deals with the problem by introducing the separate notion of *false*making (cf. Litland 2022).

that governs how disjunctions are grounded does not depend on Trump (or Hilary for that matter).[21] Fortunately, (Law-Internality) does not have this consequence. If L is a law that relates pp and q, it does not follow from (Law-Internality) that it is essential to L that it relates pp and q; nor does it follow that it is essential to L and pp that $L(pp, q)$. However, it is plausibly part of the natures of $L_\vee$ and $p \vee q$ taken together that $L_\vee(p, p \vee q)$.[22]

However, this is not generally the case. Consider, the law $L_\exists$ governing existential generalizations. If it was essential to $L_\exists$ and the proposition that someone was a philosopher that $L_\exists$ related the proposition that Socrates is a philosopher to the proposition that somebody is a philosopher, the law $L_\exists$ would depend on Socrates the man. This makes the law governing existential quantification depend on every object, but this dependence claim seems wrong (cf. Fine 2012, 74-75). Thankfully it does not follow from (Law-Internality) that when $L(pp, q)$ it is essential to L and q that $L(pp, q)$.[23]

Second, some philosophers distinguish between grounds and background conditions. For them grounding is *conditioned*: pp grounds q on conditions rr.[24] Such views are not compatible with (Law-Internality) as stated, but the emendations are obvious: take the laws to be relations between pluralities of propositions (the grounds), pluralities of propositions (the conditions), and propositions (the grounded) and make the obvious changes in (Law-Internality) and similar principles.

3.5   Reductionism

(Grounding Legalism) posits an essential connection between laws and ground. We are inclined to explain this necessary connection by adopting

(Reductionism)   For pp to ground q just is for there to be some L such that $\mathfrak{L}(L)$ and
$L(pp, q)$

Two preliminary points in favor of (Reductionism). It gives a pleasing explanation of the essential connection between ground and law posited by (Grounding Legalism): the reason every instance of ground is underwritten by a law is that that is what it is for the instance of ground to obtain. Second, it reduces the number of primitive notions: the only notion that has to be taken as primitive is that of a (generative) *law*.

[21] Above (in footnote 15) we mentioned Bennett's notion of "superinternality" and expressed some uncertainty about how to understand the talk about the "intrinsic character of the relata". An initially natural way of taking it is as saying that it lies in the nature of the grounds that the grounds ground the grounded. Understood in this way superinternality trivializes the notion of essential dependence.

[22]Here is an argument: it is plausibly part of the nature $L_\vee$ that $\forall p \forall q(L_\vee(p, p \vee q))$. It then follows in the higher-order logic of essence (Ditter 2022) that it is essential to $p \vee q, p, q$ and $L_\vee$ that $L_\vee(p, p \vee q)$. But since p, q are constituents of $p \vee q$ it follows by the "Chaining" principle of the logic of essence that it is essential to $L_\vee, p \vee q$ that $L_\vee(p, p \vee q)$.

[23] This indicates how challenging it is to represent the law governing existential generalizations in a structural equations framework. One proposal is this. The law is represented by a function that takes a plurality of objects aa and a property P to the system where the independent variables are the propositions of the form Pb, for b amongst the aa, and the dependent variable is the proposition $\exists x Px$ and the value of the dependent variable is the maximum of the values of the independent variables. This gives the right results; however, it should be clear that this is much more complicated than the relational approach developed here.

[24]For discussion of views like this see, e.g. Bader 2016; Baron-Schmitt 2021; Cohen 2020; Leuenberger 2013; Moran 2018; Skiles 2015; Trogdon 2013.

We should stress that we are by no means the first to have suggested reductionist views; however, without a theory of laws reductionism cannot be stated precisely and with the required generality.[25] The fact that Legalism provides such a theory recommends it to those with reductionist leanings.

An opponent of (Reductionism) might object that we need an account of what unifies the various laws, and that if we are non-reductionists we can say that what unifies them is that whenever a law relates some pp to a q then pp *grounds q*.[26] This argument suggests that rather than adopt (Reductionism) we should define being a law in terms of ground:

(Non-Reductionism) $\mathfrak{L}(L) =_{\mathrm{def}} \lambda L.\square_L \forall pp \forall q(L(pp,q) \rightarrow p \ll q)$

Below we will give some further arguments against (Non-Reductionism); for now let us just observe that the Reductionist has an account of what unifies the laws. The laws are unified by instantiating $\mathfrak{L}$. This is not a trivial claim. We have to distinguish $\mathfrak{L}$ from the disjunctive property $\lambda R.(R = L_1 \vee R = L_2 \vee R = L_3 \vee \cdots)$, where $L_1, L_2, \ldots$ are, in fact, all the laws of ground. Clearly, that the laws of ground instantiate this disjunctive property does not in any way unify them. (Similarly, each colour has the property $\lambda x.x = \mathrm{red} \vee x = \mathrm{blue} \vee \cdots \vee \cdots$; but having this property does not in any way unify the colour properties.) As long as the reductionist distinguishes the property of being a law of ground from any such disjunctive property there is no objection to the various laws being unified by having $\mathfrak{L}$. (Similarly, if the property of being a colour is distinct from the corresponding disjunctive property then there is no objection to saying that *being a colour* unifies the colours.)

4   The Explanatory Character of Moral Principles

The legalist claims that laws are involved in every case of ground. Berker (2019) has developed the *redundancy-or-circularity* dilemma to argue that moral laws play no role in grounding particular moral facts. If Berker is right, the legalist is refuted: how can we respond?

To illustrate the dilemma, take as an example of a moral law the principle of utility. Berker (2019, 908) formulates this as follows:

(PU$_h$)   Necessarily, an action is required if and only if, and because, it maximizes happiness

Berker argues that (PU$_h$) cannot be a partial ground for an action's being right.[27]

---

[25] Let us consider two reductionist views from the literature. Wilsch (2015a,b) proposes that for pp to ground q just is for there to be a derivation of q from premises pp using just the metaphysical laws as auxillary premises. The problem with Wilsch's account is that it is unacceptably meta-linguistic. Schaffer (2016a, 74) says that his "preferred view on the metaphysics [of grounding] is that grounding is a real but derivative phenomenon, derivable from the laws of metaphysics". For the reasons given in § 3.2 Schaffer's account is insufficiently general.

[26] The reductionist can also *say* this, but for them this is a sham unity. The claim that when a law relates pp and q then pp grounds q is just the triviality that when a law relates pp and q then a law relates pp and q.

[27] He also argues against treating (PU$_h$) as a (partial) ground for the grounding fact that the action's

9

On a straightforward reading (PU$_h$) renders itself *redundant*: what (PU$_h$) says is that, for any action, that action's maximizing happiness (fully) grounds that action's being required. This means that the principle (PU$_h$) plays no essential role in making the action required: the action's maximizing happiness, by itself, suffices to ground that it is required.

On a non-straightforward and self-referential reading (PU$_h$) says that an action's maximizing happiness, together with this very principle—that is: (PU$_h$)—grounds that the action is required. But while there *might* be cases of such self-referential grounding, it is extremely implausible that every instance of the grounding of a particular moral fact is thus self-referential.

Berker's dilemma only gets off the ground if moral laws are certain facts or propositions and thus has no force against legalism. For the legalist, the utilitarian law is not a fact or proposition but is a *relation*, L_{Utility}, the extension of which is characterized by

(L_{Utility}) $\forall pp \forall q(L_{\text{Utility}}(pp, q) \leftrightarrow \exists x(pp = [Mx] \wedge q = Rx))$

(Here Rx means that the action x is required, and Mx means that x maximizes happiness.)

The reductionist avoids Berker's dilemma in a particularly satisfactory way. For the reductionist the fact that A's maximizing happiness grounds A's being required just is the fact that there is some law of ground L holding between the proposition that A maximizes happiness and the proposition that A is required. There is neither redundancy nor circularity.[28]

The situation is more delicate if one accepts (Non-Reductionism). Consider the law L_{Utility}. According to (Non-Reductionism) there is an essential connection between L_{Utility} and grounding: what explains this?[29] An initially tempting thought is that the non-reductionist can explain this essential connection by defining L_{Utility} in terms of grounding: L_{Utility} is the relation that holds between propositions of the form Mx and Rx when the former grounds the latter. But if we are to avoid Berker's redundancy objection this is a non-starter: on the proposed definition the holding of the law L_{Utility} between the propositions Ma and Ra plays no role in making Ma ground Ra, but rather presupposes Ma's grounding Ra.

The non-reductionist thus has to posit an essential connection that is not explicable in terms of the definition of either the law L_{Utility} or of grounding. While We do not think that such essentialist connections give rise to either circularity or redundancy, the fact that the reductionist does not have to posit them makes her view more parsimonious. We take this to favor (Reductionism) over (Non-Reductionism).

For the legalist, moral laws are thus involved in the grounding of particular moral facts; but are they involved in the right way? Many have endorsed the claim that moral laws play a role in grounding particular moral facts because they have been

---

maximizing happiness grounds its being right. Our response deals with this case as well.

[28] If we adopt the alternative terminological convention and use "law" to refer to a fact like (PU$_h$) and reserve "lawmaker" for a relation like (L_{Utility}) we actually agree with Berker that laws (such as (PU$_h$)) play no role in grounding particular moral facts—only lawmakers such as (L_{Utility}) do.

[29] There is no problem accounting for the essential connection between $\mathfrak{L}$ and grounding; according to the non-reductionist the former is defined in terms of the latter. But the explicability of the connection between $\mathfrak{L}$ and $\ll$ does nothing to explain the connection between *each* law and $\ll$.

non-naturalists seeking to safeguard the "autonomy" of the moral. The legalist can accommodate autonomy— and also make this elusive notion more precise—but showing this is tied up with the issue of the unity of ground, to which we now turn.

5 The Unity of Ground

There is a dispute about whether there is a single "generic" notion of ground in terms of which other notions of ground can be defined; monists like Berker (2018) hold that there is, while pluralists like Fine (2012) hold that there is not. (We here focus on the pluralism of Fine according to which metaphysical, natural, and normative ground are irreducibly distinct notions of ground (Fine 2012, 38-40).)[30] Existing attempts at defining the specific notions of ground in terms of a generic notion have failed (Fine 2012, 40). Grounding legalism allows us to do better.

For pp to generically ground q is for there to be some law L such that $E(L)$ and $L(pp,q)$. Any property X of laws gives rise to a notion of X-grounding as follows:

(Legalist Monism) For pp to (immediately) X-ground q is for there to be a law L such that $X(L)$, $E(L)$, and $L(pp,q)$

By taking X to be the property of being a normative (natural) law we get a definition of normative (natural) ground in terms of the generic notion of ground.[31] We make three points about this proposal.

First, (Legalist Monism) of course raises the further question of how the property of being a metaphysical (normative, natural) law should be defined. This is not the place to settle how this should be done, so let us just note that as long as the property of being a metaphysical (normative, natural) law is not defined in terms of metaphysical (normative, natural) ground, (Legalist Monism) provides a non-circular definition of the specific notions of *ground*.[32]

Second, Rosen (2017b, 137-138) points out that monists can give a natural and non-disjunctive definition of fundamentality:[33] a fact is fundamental if it is generically ungrounded.[34] In contrast, pluralists face the challenge of saying what non-fundamental facts genuinely have in common. To see this, compare two intuitively non-fundamental

---

[30]We are setting aside the yet more radical pluralist views defended by Koslicki (2015) and Wilson (2014, 2016).

[31]For further discussion see Haderlie Forthcoming.

[32]We are, however, attracted to a view that characterizes the properties in terms of the distinctive modal force of the laws. Following Fine 2002 let us distinguish between the metaphysical, natural, and normative *modality*. (For criticism, see Lange 2018; Leech 2016.) We then propose that the property of being a metaphysical (natural, normative) law is the property of its being in one's nature that one exists with metaphysical (normative, natural) necessity if one exists. Formally, using $\Box$ ambiguously for the relevant modality, the property is: $\lambda L.(\Box_L(E(L) \to \Box E(L)))$.

[33]Berker (2018) offers related arguments, but unlike Rosen's argument they are vulnerable to certain *recherché* cases involving self-reference (cf. Litland 2018b).

[34]We may then say that an object is fundamental if it figures in a generically ungrounded fact. This formulation assumes that all facts are grounded in ungrounded facts; Raven (2016) shows how we can define the notion of a fundamental object without this assumption (see also Fine 2010b).

11

facts: the fact that Bob is a bachelor and the fact that Bob's kicking Alice was wrong. We can, of course, say that these are both non-fundamental because they are both such that they are either metaphysically *or* normatively *or* naturally grounded *or* …. But this does not show that they have something genuinely in common.

For the legalist what is common to all non-fundamental facts p is that there is a law L and some facts qq such that $L(qq, p)$. To see that this is satisfactory it is, again, important to distinguish sharply between the property $\mathfrak{L}$ of being a law of ground and the disjunctive property of being one of $L_1, L_2, \ldots$, where $L_1, L_2, \ldots$ are in fact all the laws of ground.

Third, Berker (2018, 751-752) points out that the following mixed transitivity principle is very plausible:

(Mixed Transitivity)   If ϕ metaphysically grounds ψ and ψ normatively grounds θ then ϕ grounds (in some non-rigged up sense) θ

The pluralist can of course obtain a transitive notion of mixed ground by taking the transitive closure (of the union) of metaphysical and normative ground, but it is not clear that this is not a "rigged-up" notion of ground.[35] But there is nothing "rigged-up" about the legalist's notion of generic mediate ground. What is true is that when pp mediately generically grounds q disparate types of laws might be involved in making it the case that pp mediately grounds q, but that does not make the notion of generic mediate ground itself "rigged-up". (Compare: having a heart is realized in disparate ways, but that does not mean that having a heart is a rigged-up property.)[36]

A central motivation for pluralism has been to safeguard the autonomy of the normative.[37] We now turn to making good the claim that legalism can accommodate the autonomy of the normative.

6 Gaps and Autonomy

Fine (2012, 38-39) claims that in the case of metaphysical ground there is no explanatory gap between the grounds and the grounded. In contrast, many have held that the normative is autonomous from the descriptive in that there is an explanatory gap between the two. Bridge-law non-naturalists like Enoch (2019), Maguire (2015), and Rosen (2017a,b) propose to bridge the gap by holding that moral laws are amongst the grounds for particular moral facts; pluralists bridge the gap by positing a distinctive form of ground, holding that the normative is only normatively grounded in the descriptive. Suppose metaphysical ground is gapless while other kinds of ground are gappy: in what does this difference consist?

One way of going is to deny that there is any difference. For example, Schaffer (2017b, 2) says that "explanatory gaps are everywhere". In particular, there is just as much a gap between the grounds and the grounded in the metaphysical as in the natural and normative case:

---

[35]Berker (2018) also presents an argument for monism based on mixed *asymmetry* principles. For reasons given in Litland 2018b we should not expect mixed asymmetry principles to hold in general.

[36]See also cf. Schaffer 2016a, 89 on chaining together ground and cause.

[37]Bader (2017) is very explicit, though see also Enoch 2019.

> in order to explain the existence of {Socrates} from the existence of Socrates, the principle
> of set formation is needed to give the *connection* [our emphasis]. Without set formation,
> the existence of Socrates and the existence of {Socrates} are just two facts with no special
> connection. (Schaffer 2017a, 310)

Schaffer's position is defensible, but it is not forced on one by legalism. For the legalist laws *always* play an ineliminable role in bringing about the grounded—even in paradigmatic cases of metaphysical ground. Nevertheless, there is a way of having there be no gap in the case of metaphysical ground but a gap in the case of normative (and natural) ground.

The sense in which there is no gap between the metaphysically grounded and its grounds is that *metaphysical* ground is a strongly internal relation: the natures of the grounds and the grounded together ensure that the grounds metaphysically ground the grounded. Or formally:[38]

(Strong Internality)   If $pp \ll q$ then $\Box_{pp,q} pp \ll q$

Not only is (Strong Internality) compatible with legalism, our theory of laws allows us to state the motivations behind (Strong Internality) with more precision than before.

This is best seen by drawing a contrast between metaphysical ground and other kinds of ground like normative ground. According to (Law-Internality) when it is the case that $L(pp,q)$ it is essential to L, pp, and q together that if L exists, then $L(pp,q)$. In general, L cannot be dropped: a non-naturalist would not think that it was part of the nature of maximizing happiness together with the nature of being required alone that the law described by (L_{Utility}) relates them. Similarly, a dualist might think there is a natural grounding law linking certain physiological features to pain, without holding that it lies in the natures of pain and those physiological features that this—indeed: any—law relates them.

By contrast, however, when L is a *metaphysical* law such that $L(pp,q)$, then, we submit, it lies in the natures of just pp and q that they are related by L:

(Law-Internality$^+$) $\forall L \forall pp \forall q (\mathfrak{L}(L) \wedge \text{Meta}(L) \wedge L(pp,q) \rightarrow \Box_{pp,q} L(pp,q))$

From (Law-Internality$^+$) we can derive (Strong Internality) (for metaphysical ground).[39]

As far as (Law-Internality$^+$) is concerned the law that specifies how the grounded is grounded need not be part of the nature of the grounded itself: it could be part of the nature of the grounds or it could even arise from the natures of the grounds and the grounded together. However, building on Fine 2012, 76-77, for metaphysical laws we endorse the stronger principle:

(Law Containment) $\forall L \forall pp \forall q (\mathfrak{L}(L) \wedge L(pp,q) \rightarrow \Box_q E(L))$

---

[38]This is the place where our not assuming Non-circularity may matter. Litland (2015) argued that a Non-circular notion of ground cannot satisfy (Law-Internality). However, nothing in his arguments threatens the internality of "cycle-tolerant" notions of ground.

[39]For suppose that pp metaphysically grounds q. Then by (Legalist Monism) there is a metaphysical law L such that $L(pp,q)$. By (Law-Internality$^+$) we have $\Box_{pp,q} L(pp,q)$. Since it is presumably essential to L that it is a metaphysical law, we have $\Box_L \text{Meta}(L)$. By the definition of dependence, pp, q depend on L. It follows by the "Chaining" principle (Fine 1995b, 248-249) that $\Box_{pp,q}(L(pp,q) \wedge \text{Meta}(L))$. And thus, since we are working with a consequential notion of essence, we get $\Box_{pp,q} \exists L(\text{Meta}(L) \wedge L(pp,q))$, which is to say that it lies in the natures of pp, q that pp metaphysically grounds q.

This principle says that the law governing how a proposition q is metaphysically grounded is part of the nature of q itself.[40]

Our reason for adopting (Law Containment) is abductive: it seems true for all clear cases of metaphysical ground. How disjunctive propositions are grounded is determined by the nature of disjunction itself; how conjunctive propositions are grounded is determined by the nature of conjunction itself, and so on.[41]

Four points should be made.

First, the meta-ethical naturalist and the physicalist will, of course, say that we confuse a conceptual possibility with a metaphysical one: while we believe that the essences of normative and mental facts fail to contain laws linking them to the descriptive and physical, they do in fact contain such laws. A familiar dialectic ensues. An explanation of why the essences are "hidden" should be given—perhaps we think of the normative and mental through distinctive modes of presentation, modes of presentation that (partially) occlude their essences from us? We do not wish to enter into this debate here. Our point has been the more modest one of arguing that there is room for a distinctively metaphysical explanatory gap: rejecting (Law-Internality[+]) opens such a gap; accepting (Law-Internality[+]) closes it.[42]

Second, the gaps we are interested in are metaphysical. This sets our view apart from Schaffer's. For him there are gaps even in paradigm cases of metaphysical ground: there is just as much a gap between the existence of some H, H, O atoms (suitably bonded) and the existence of an H_2O molecule composed of those atoms as there is between certain neural stimulations and the feeling of pain. He argues that it is *conceptually* possible that the H, H, O atoms could exist without the existence of their mereological fusion. We can grant Schaffer that these are conceptual possibilities, and thus that—even in cases of metaphysical ground—the connection between the grounds and the grounded need not be transparent or *a priori* knowable. However, we deny the metaphysical significance of this point. For us gaps (and their absences) are a metaphysical matter, having to do only with the essences of the grounded, and having nothing to do with our capacity for knowledge. The conceptual possibility that the H_2O-molecule fails to exist when the H, H, O atoms exist (and are suitably bonded) is of no greater metaphysical significance

---

[40](Law-Internality[+]) follows from (Law-Internality) and (Law Containment) in the logic of essence. For let L, pp, q be such $L(pp, q)$, where L is a metaphysical law. By (Law Containment) q depends on L, and by (Law-Internality) we have $\Box_{L,pp,q} L(pp, q)$. By the "Chaining" principle we get $\Box_{pp,q} L(pp, q)$. (Law-Internality[+]) follows.

[41]Here is a potential counterexample. Something's being red grounds its being coloured. But for reasons given by Rosen (2010, 128-129) one might think that it does not lie in the nature of *being coloured* that something is coloured because it is red. (Colour does not "know about" the particular colours.) We respond that the law that is contained in colour is more general. That law makes reference just to the determinate/determinable relation and not to any particular colours. Its extension can be specified as follows:

(L_{col}) $\forall pp \forall q (L_{col}(pp, q) \leftrightarrow \exists P \exists x (P$ is a determinate of colour $\land pp = [Px] \land q = (x$ is coloured$)))$

So this law relates some propositions pp to a proposition p iff the proposition p is the proposition that some object is coloured and pp is the proposition that x is some colour-determinate. Thanks to Martin Glazier for pushing us on this point.

[42]While (Law-Internality[+]) fails for normative ground (if non-naturalism is correct), weaker internality principles are plausible. For instance, it is plausible that it lies in the nature of *being required* that an action cannot simply *be* required rather it is required *because* it has certain descriptive features (Dancy 1981). We leave the formulation and defense of such principles to another occasion.

14

than the conceptual possibility that Hesperus is not identical to Phosphorus. Schaffer (2017a, 316-317) has expressed skepticism that essence does any work in the theory of ground. We now see that essence puts in work: it makes the notion of an explanatory gap precise, and makes it a thoroughly metaphysical notion.

Third, suppose propositions of a given form Φ are always grounded in propositions of another form Ψ. Could we simply identify the law governing how propositions of form Φ are grounded, with the relation that holds exactly between propositions of forms Ψ, Φ? (If so, would not this trivialize Legalism?)[43] No: making such an identification is incompatible with non-naturalism. To see this, suppose Utilitarianism is true. Could the relation (L_{Utility}) simply be the relation that holds between an action's maximizing happiness and that action's being required? That is, could (L_{Utility}) simply be $\lambda pq.\exists x(p = Mx \wedge q = Rx)$? Not if the non-naturalist is right. For it is very plausible that it lies in the nature of the relation $\lambda pq.\exists x(p = Mx \wedge q = Rx)$ that it exists. (After all, the relation is definable from the properties of maximizing happiness and being right, each of which plausibly exists in virtue of their own natures.) But a non-naturalist may well think that no such normative law essentially exists.[44]

Fourth, even in the metaphysical case—where there is no gap between the grounds and the grounded—laws are needed. Without the law $L_\vee$ the proposition that Biden is president would not ground the proposition that Biden is president or Trump is president.[45] (Think back to the machine picture: if the disjunctive mechanism was removed from the machine and we fed the machine the truth that Biden wins, the machine would not output the truth that Biden or Trump wins.) But the situation is importantly different from the normative case. Given that the law $L_\vee$ is contained in the nature of the proposition that Biden is president or Trump is president—indeed: it is contained in the nature of disjunction itself—any situation that respects the nature of that proposition will have it be grounded in Biden's being president (or Trump's being president). In contrast—assuming that the non-naturalist is right—the law of utility does not lie in the nature of the proposition that the action is required and so one can have a situation that respects the natures of the action's maximizing happiness and its being required without the former grounding the latter.

7 Grounding Ground

The problem of Grounding Ground—if pp grounds q, what grounds that pp grounds q?—has generated a fair amount of discussion.[46] The grounding legalist offers a novel and more general account.

---

[43]Thanks to an anonymous referee for forcing us to consider this objection.

[44]We do not need to rest on the plausibility that $\lambda pq.\exists x(p = Mx \wedge q = Rx)$ exists essentially. For let a be some particular action and consider the propositions that Ma and Ra. Since $(\lambda pq.\exists x(p = Mx \wedge q = Rx))(Ma, Ra)$ if (L_{Utility}) is $\lambda pq.\exists x(p = Mx \wedge q = Rx)$ then follows by (Law Existence) that it lies in the nature of (L_{Utility}) together with Ma, Pa that (L_{Utility}) exists. But this is also unpalatable to the non-naturalist.

[45]Such counterpossibles require further discussion; but that has to await another occasion. For some initial discussion, see Wilson (2018a,b).

[46]See for instance Bennett 2011, 2017; Dasgupta 2014b, 2019; deRosset 2013, 2023; Kovacs 2019; Litland 2017, 2018c; Rosen 2010; Thompson 2019.

According to (Grounding Legalism) if the proposition $pp \ll q$ is grounded there has to be a law in accordance with which it is grounded. Let us call this meta-law L_{Meta}. We propose that the extension of L_{Meta} is characterized by:

(Meta) $\quad \forall pp \forall q(L_{\text{Meta}}(pp, q) \leftrightarrow \exists L \exists pp_0 \exists q_0(\mathfrak{L}(L) \wedge L(pp_0, q_0) \wedge pp = [E(L)] \wedge q = (pp_0 \ll q_0))$

Whenever the propositions pp ground a proposition q they do so in accordance with a law L, and it is the existence of this law L that grounds that pp grounds q.[47]

This provides an account of the *metaphysical* grounds for facts about normative and natural ground; this sets it apart from the existing proposals in the literature.

To see this consider first the view held by Rosen (2010) and Dasgupta (2014b). They hold that whenever pp grounds q, this grounding fact is grounded partly in pp and partly in its being essential to q that propositions of pp's form ground propositions of q's form. But if the non-naturalist and dualist are right, normative and phenomenal facts do not have essences like that.

Second, consider the view held by Bennett (2011, 2017, 2019), deRosset (2013, 2023). They hold that if pp factively grounds q then pp factively grounds that pp factively grounds q.[48] The principle of necessitation says that if pp metaphysically ground q then it is necessary that if the pp are all the case then q is also the case:

(Necessitation) $\quad pp \ll q \to \Box(\bigwedge pp \to q)$

On Bennett and deRosset's view necessitation fails when q is a natural or normative grounding claim. To see this, suppose that an action is required because it maximizes happiness. Further, suppose that in this world this is underwritten by a law like (L_{Utility}). However, if the laws had been different the action could have maximized happiness without being required; in that situation, the action's maximizing happiness would not ground its being required. Contra (Necessitation) it is not necessary that if the action maximizes happiness, then the action's maximizing happiness grounds its being required.[49]

The legalist captures what was right in the previous views about grounding ground. While Dasgupta and Rosen are incorrect in thinking that facts about the essence of q partially grounds that pp grounds q, in the case of metaphysical ground some law that governs how pp grounds q is contained in the essence of q and so there is a role for essence to play. And while Bennett and deRosset are not right that, in general, pp by itself grounds that pp grounds q, they *might* be right in the case of metaphysical ground. For if the grounds for pp's factively grounding q are pp together with the existence of a certain law, then the *mediate* grounds for pp's factively grounding q would just be pp—as long as the existence of the law was zero-grounded (in the sense of Fine 2012, 47-48). While it is not plausible that the existence of natural and normative laws are

---

[47]While no view like that has been developed at length in the literature, it already has a name: *nomicism* (Dasgupta 2014b, 568).

[48]This is also a consequence of the view of Litland 2017.

[49]Analogous cases show that necessitation fails also for natural ground. Thanks to Christopher Frugé for challenging us to get clearer on this argument.

zero-grounded—the entire point of non-naturalism and dualism is that the existence of these laws is ungrounded—a case can perhaps be made for thinking that the existence of metaphysical laws is zero-grounded.[50]

8 Closing

In this paper we have developed grounding legalism. At the core (§ 3) is a novel proposal about the ontology of grounding laws: we propose that they are generative relations between pluralities of propositions and propositions. We argued that this relational account is superior to the functional accounts already suggested and we used essentialist resources to characterize the laws. Our arguments in favor of the theory turned on applications. We showed—contrary to Berker (2019)—that legalism allows moral laws to play a role in grounding particular moral facts (§ 4) and we showed that legalism vindicates monism about ground (§ 5). The most important application is in § 6. Here we showed that legalism makes sense of the claim that there is no gap between the grounds and the *metaphysically* grounded; however, legalism leaves room for a gap between the grounds and the normatively (naturally) grounded, allowing the legalist to vindicate the autonomy of the normative (natural). Finally, we provided a novel account of grounding ground (§ 7), an account that also accommodates normative and natural ground.

References

Armstrong, D.M. (1978). *Universals and scientific realism*. Cambridge: Cambridge University Press.

— (1983). *What is a Law of Nature?* Cambridge: Cambridge University Press.

— (1993). "The Identification Problem and the Inference Problem". In: *Philosophy and Phenomenological Research* 53.2, 421–422.

Bader, Ralf M (2016). "Conditions, Modifiers, and Holism". In: *Weighing Reasons*. Ed. by Errol Lord and Barry Maguire. Oxford University Press, 27–55.

— (2017). "The Grounding Argument Against Non-reductive Moral Realism". In: *Oxford Studies in Metaethics* 12, ch 5.

— (2020). "Fundamentality and Non-symmetric relations". In: *The Foundation of Reality: Fundamentality, Space and Time*. Ed. by Anna Marmodoro David Glick Georges Darby. Oxford University Press. Chap. 1, 15–45.

Baron-Schmitt, Nathaniel (2021). "Contingent Grounding". In: *Synthese* 199.1-2, 4561–4580.

Bennett, Karen (2011). "By Our Bootstraps". In: *Philosophical Perspectives* 25.1, 27–41.

— (2017). *Making Things Up*. Oxford: Oxford University Press.

— (2019). "Replies to Cameron, Dasgupta, and Wilson". In: *Philosophy and Phenomenological Research* 98.2, 507–521.

---

[50]Properly arguing for this has to await another occasion; for the beginnings of an argument see Miller 2022.

Berker, Selim (2018). "The Unity of Grounding". In: *Mind* 127.507, 729–799.

Berker, Selim (2019). "The Explanatory Character of Moral Principles". In: *Nous* 53.4, 904–936.

Bolzano, Bernhard (1972). *Theory of Science. Attempt at a Detailed and in the main Novel Exposition of Logic with Constant Attention to Earlier Authors*. Trans. by Rolf George. University of California Press.

Carroll, L. (1895). "What the tortoise said to Achilles". In: *Mind* 4.14, 278–280.

Cohen, Shlomit Wygoda (2020). "Not All Partial Grounds Partly Ground: Some Useful Distinctions in the Theory of Grounding". In: *Philosophy and Phenomenological Research* 100.1, 75–92.

Dancy, Jonathan (1981). "On Moral Properties". In: *Mind* 90.359, 367–385.

Dasgupta, Shamik (2014a). "On the Plurality of Grounds". In: *Philosopher's Imprint* 14.20, 1–28.

— (2014b). "The Possibility of Physicalism". In: *Journal of Philosophy* 111.9/10, 557–592.

— (2019). "Privilege in the Construction Industry". In: *Philosophy and Phenomenological Research* 98.2, 489–496.

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

— (2023). *Fundamental Things*. Oxford University Press.

Ditter, Andreas (2022). "Essence and Necessity". In: *Journal of Philosophical Logic* 51, 653–690.

Dretske, Fred I. (1977). "Laws of Nature". In: *Philosophy of Science* 44.2, 248–268.

Enoch, D. (2019). "How Principles Ground". In: *Oxford Studies in Metaethics*. Ed. by Russ Shafer-Landau. Vol. 14.

Epstein, Brian (2015). *The Ant Trap*. Oxford University Press.

Fine, Kit (1994). "Senses of Essence". In: *Modality, Morality , and Belief: Essays in Honor of Ruth Barcan Marcus*. Ed. by Diana Raffman, Walter Sinnott-Armstrong, and Nicholas Ascher. Chicago: University of Chicago Press, 53–73.

— (1995a). "Ontological Dependence". In: *Proceedings of the Aristotelian Society*. New Series 95, 269–290.

— (1995b). "The Logic of Essence". In: *Journal of Philosophical Logic* 24.3, 241–273.

— (2002). "The Varieties of Necessity". In: *Conceivability and Possibility*. Oxford: Clarendon Press, 253–281.

— (2010a). "Some Puzzles of Ground". In: *Notre Dame J. Formal Logic* 51.1, 97–118.

— (2010b). "The Question of Ontology". In: *Metametaphysics: new essays on the foundations of ontology*. Ed. by D.J. Chalmers, D. Manley, and R. Wasserman. Oxford University Press. Chap. 5, 157–177.

— (2012). "Guide to Ground". In: *Metaphysical Grounding*. Ed. by Fabrice Correia and Benjamin Schnieder. Cambridge University Press. Chap. 1, 37–80.

Fogal, Daniel and Olle Risberg (2020). "The Metaphysics of Moral Explanations". In: *Oxford Studies in Metaethics*.

Giannotti, Joaquim (2022). "Fundamentality and Minimalist Grounding Laws". In: *Philosophical Studies* 179.9, 2993–3017.

Glazier, Martin (2016). "Laws and the Completeness of the Fundamental". In: *Reality Making*. Ed. by Mark Jago. Oxford University Press, 11–37.

Haderlie, Derek (Forthcoming). "How to be Monist About Ground: a Guide for Pluralists". In: *Erkenntnis*.

Koslicki, Kathrin (2015). "The coarse-grainedness of grounding". In: *Oxford Studies in Metaphysics* 9, 306.

Kovacs, David Mark (2019). "Four Questions of Iterated Grounding". In: *Philosophy and Phenomenological Research* 101.2, 341–364.

Lange, Marc (2018). "What Would Normative Necessity Be". In: *Journal of Philosophy* 115.4, 169–186.

Leech, Jessica (2016). "The Varieties of (Relative) Modality". In: *Pacific Philosophical Quarterly* 97.2.

Leuenberger, Stephan (2013). "Grounding and Necessity". In: *Inquiry* 57.2, 151–174.

Lewis, David (1986). "Against Structural Universals". In: *Australasian Journal of Philosophy* 64, 25–46.

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

— (2016). "Pure Logic of Many-Many Ground". In: *Journal of Philosophical Logic* 45.5, 531–577.

— (2017). "Grounding Ground". In: *Oxford Studies in Metaphysics* 10, 279–316.

— (2018a). "Bicollective Ground: Towards a (Hyper)graphic Account". In: *Reality and Its Structure: Essays in Fundamentality*. Ed. by Ricki Bliss and Graham Priest. Oxford University Press. Chap. 7, 140–164.

— (2018b). "In Defense of the (Moderate) Disunity of Grounding". In: *Thought* 7.2, 97–108.

— (2018c). "Pure Logic of Iterated Full Ground". In: *Review of Symbolic Logic* 11.3.

— (2022). "A Note on the Wilhelmine Inconsistency". In: *Analysis* 81.4, 639–647.

Maguire, Barry (2015). "Grounding the Autonomy of Ethics". In: *Oxford Studies in Metaethics* 10.

Miller, Taylor-Grey (2022). "Essentialist Non-Reductivism". In: *Philosophers' Imprint* 22.

Moran, Alex (2018). "Kind-Dependent Grounding". In: *Analytic Philosophy* 59.3, 359–390.

Raven, Michael J. (2015). "Ground". In: *Philosophy Compass* 10.5, 322–333.

— (2016). "Fundamentality Without Foundations". In: *Philosophy and Phenomenological Research* 93.3, 607–626.

Rosen, Gideon (2010). "Metaphysical Dependence: Grounding and Reduction". In: *Modality: Metaphysics, Logic, and Epistemology*. Ed. by Bob Hale and Aviv Hoffmann. Oxford University Press, 109–135.

— (2017a). "Ground by Law". In: *Philosophical Issues* 27.1, 279–301.

— (manuscript 2017b). "What is a Moral Law?" In: *Oxford Studies in Metaethics* 12, ch. 6.

Schaffer, Jonathan (2016a). "Grounding in the Image of Causation". In: *Philosophical Studies* 173.1, 49–100.

— (2016b). "It is the Business of Laws to Govern". In: *Dialectica* 70.4, 577–588.

— (2017a). "Laws for Metaphysical Explanation". In: *Philosophical Issues* 27.1, 302–321.

— (2017b). "The Ground Between the Gaps". In: *Philosophers Imprint* 17.11, 1–26.

Skiles, Alexander (2015). "Against Grounding Necessitarianism". In: *Erkenntnis* 80.4, 717–751.

Thompson, Naomi (2019). "Is Building Built?" In: *Analysis* 79.2, 315–327.

Tooley, M. (1987). *Causation: a realist approach*. Oxford: Clarendon Press.

Trogdon, Kelly (2013). "Grounding: Necessary or Contingent?" In: *Pacific Philosophical Quarterly* 94.4, 465–85.

— (2018). "Grounding-Mechanical Explanation". In: *Philosophical Studies* 175.6, 1289–1309.

van Fraassen, Bas (1989). *Laws and Symmetry*. Oxford University Press.

Wilsch, Tobias (2015a). "The deductive-nomological account of metaphysical explanation". In: *Australasian Journal of Philosophy* 94.1, 1–23.

— (2015b). "The Nomological Account of Ground". In: *Philosophical Studies* 12.172, 3293–3312.

— (2018). "Genuine Violations of Laws". In: *Australasian Journal of Philosophy*, 1–16.

— (2021). "The Governance of Laws of Nature: Guidance and Production". In: *Philosophical Studies* 178.3, 909–933.

Wilson, Alastair (2018a). "Grounding Entails Counterpossible NonTriviality". In: *Philosophy and Phenomenological Research* 96.3, 716–728.

— (2018b). "Metaphysical Causation". In: *Noûs* 50.4, 723–751.

Wilson, Jessica M. (2014). "No Work for a Theory of Grounding". In: *Inquiry* 57.5-6, 535–579.

— (2016). "Grounding-Based Formulations of Physicalism". In: *Topoi*, 1–18.