



Self-Explanation and Empty-Base Explanation

ABSTRACT: *This paper explores a novel notion of self-explanation that combines ideas from two sources: (1) the tripartite account of explanation, according to which a proposition can help explain another either in the capacity of a reason why the latter obtains or in the capacity of an explanatory link, and (2) the notion of an empty-base explanation, which generalizes the ideas of explanation by zero-grounding and explanation by status. After having introduced these ideas and the novel notion of self-explanation, I argue that the latter has the potential to resist extant arguments against the possibility of self-explanation. In the remainder of the paper, I discuss candidates for such self-explanatory propositions and suggest possible applications for Humeanism about laws of nature, the debate on the grounds of ground, the rationalist tradition, and philosophical theology.*

KEY WORDS: self-explanation, empty-base explanation, zero-grounding, null-explanation, Humeanism about laws of nature, *causa sui*

Introduction

The purpose of this paper is to explore a novel notion of self-explanation. The idea of self-explanation is as controversial as it is philosophically interesting. On the one hand, certain alleged fundamental facts or first principles—for example, the existence of God—have sometimes been taken to be self-explanatory. Proponents of the principle of sufficient reason (PSR) are sometimes drawn to ideas like this (cf. Guigon 2015). For example, Spinoza considers God to be a *causa sui* (cf. Lærke 2011). The idea can also be found in the literature on the question of why there is anything at all (e.g., Nozick 1981: 115ff.). On the other hand, self-explanation is frequently considered to be incoherent and unintelligible (for example, see Oppy [2006: 277ff.]; Kovacs [2018]; and relatedly Schnieder [2015] on the asymmetry of ‘because’).

This is the plan: After having introduced some general assumptions about explanation in section 1, section 2 approaches the notion of self-explanation and presents a family of arguments against its possibility. Section 3 disambiguates two notions of (self-)explanation, one of which it is then argued avoids the arguments

Special thanks to Stephan Krämer, Stephan Leuenberger, Gideon Rosen, Stefan Roski, and Benjamin Schnieder, as well as the anonymous referees for very valuable discussion and helpful comments! I also thank the Deutsche Forschungsgemeinschaft for funding work on this paper through the project The Structure of Fundamentality (Grant No. SCHN 1137/5-1).

from the previous section. Section 4 uses these findings to offer a solution to a circularity problem for Humeanism about laws of nature.

Section 5 introduces the notion of an empty-base explanation that is then in section 6 combined with the previous results to introduce the notion of an empty-base link-self-explanation; its application to the idea that first principles or God's existence are self-explanatory is investigated. Section 7 concludes by showing that certain historical ideas about the explanation of God's existence give rise to a proposal for a self-explanation in the developed sense.

1. Preliminaries

The following exclusively concerns explanation *why*, as opposed to explanation *how* or *what*. (This section draws from my discussion of empty-base explanation in Kappes [2020b] and Kappes [2020a]). In particular, much of what follows concerns explanations involving grounding, a notion of metaphysical priority that has received much attention in recent years. (For accounts of this notion see, for example, Rosen [2010], Fine [2012], and the introduction by Correia and Schnieder [2012]). Following Schaffer (2017b), I assume that explanations consist of three components. First, that which is to be explained—the explanandum or explanatory *result* that P , for example, that a rose r is red. Second, the explanatory *base*—a set of reasons why P , such as the proposition that r is crimson. Third, an explanatory *link* that connects the base with the explanandum, such as a law of nature or a fact that involves an explanatory notion like causation or grounding; in our example this is the fact that r 's being crimson grounds r 's being red. The explanatory base and the explanatory link together constitute what is often called the 'explanans'. I assume that the constituents of explanations (i.e., the result, the link, and the reasons why) are true propositions or facts, and unless noted otherwise I use the terms interchangeably in this context. Here, note for later that there is an inclusive sense of 'explains', in which we can say that the base (or its elements) and the link of an explanation why P together explain why P .

In the case of causal explanation, the distinction between links and base is particularly clear. Laws are not causes and vice versa; yet they are—in different roles—both involved in causal explanations. Here I follow Schaffer in assuming that laws (rather than individual instances of causation, for example) play the role of link. If not in this terminology, something like the distinction between base and links is widely recognized in the literature on explanation. (See, for example, Hempel and Oppenheim [1948]; Lewis [1986]; Kim [1994]; Woodward [2003]; and Schnieder [2010].) In line with this view, I assume that grounding explanations involving a single ground have this structure:

Base:	P
Link:	$P < Q$
Result:	Q

This structure corresponds to 'because' claims: The left-hand clause expresses the explanandum, the right-hand clause expresses an explanatory base (or the reasons

why the explanatory result obtains), and the ‘because’ claims themselves are underwritten by the corresponding explanatory link. Obviously, the explanatory use of ‘because’ is salient here (for treatments of ‘because’ and the notion of a reason why that support these assumptions, see Schnieder [2010: 10]; Schnieder [2015: 142ff.]; and Skow [2016]). That the link of a grounding explanation has this form is not uncontroversial. For example, Litland (2018b) can be understood as claiming that links are arguments or inferences, and Schaffer (2017a) conceives of links as metaphysical laws, modeled as a structural equation. In what follows, I will assume pace Litland that links are propositions or facts (rather than arguments or inferences), but I allow that links can have the form of laws, cf. section 6.3.

2. Approaching Self-explanation

Here is a conceptual platitude: For a proposition x to be self-explanatory is for x to explain x . Here, the relational sense of ‘explains’ is salient in which it expresses a relation that relates propositions or facts, viz. the entities constituting explananda and explanantia. Note that the platitude already helps to distinguish self-explanation from Dasgupta’s (2014b, 2016) related notion of explanatory autonomy, which might play a similar theoretical role. An explanatorily autonomous proposition is not explained, rather *qua* being autonomous it is such that it does not require an explanation. (Perhaps it is possible that a proposition does not *require* an explanation and nevertheless *has* an explanation, but even this case does not capture the idea of a proposition *explaining itself*.) Therefore, it is not self-explanatory in the platitudinous sense. (Something analogous holds for the notion of an empty-base explanation introduced in section 6.) Here, I investigate the self-explanation as captured by the platitude. Indeed, the possibility of self-explanation in this sense is heavily contested. While this often happens on the basis of raw intuition, I focus here on the following arguments:

From ‘because’:

- (P1) For any P, Q : If the proposition that P explains the proposition that Q , then Q because P .
- (P2) For no P : P because P .
- (P3) For any x : If x explains x , then there is a proposition that P such that the proposition that P explains the proposition that P .
- (C1) For no x : x explains x .

For an argument like this see Oppy (2006: 277f.). Let us ignore complications that might arise from quantifying into the contexts of ‘explains’ and ‘because’: My purpose here is to present a notion of self-explanation that can avoid these arguments independently of such concerns.

From explanatory dependence:

- (P4) For any x, y : If x explains y , then y stands in an explanatory dependence relation to x .
- (P5) For no x : x stands in an explanatory dependence relation to x .
- (C1) For no x : x explains x . (An argument like this is suggested in Schnieder [2015].)

From reasonhood:

- (P6) For any x, y : If x explains y , then x is a reason for y .
- (P7) For no x : x is a reason for x .
- (C1) For no x : x explains x .

These arguments are similar in form: The first premise establishes a link between explanation and a further notion, the second premise establishes the asymmetry of that notion, and from this the asymmetry of explanation follows. The arguments are valid; therefore, the proponent of self-explanation has to address the premises.

The arguments may perhaps be of somewhat limited dialectical value. A staunch defender of self-explanation might rather take them as *reductios* of one of their premises than be convinced by them. In particular, the premises (P2), (P5), and (P7) that establish the asymmetry of the respective notion related to explanation seem to come quite close to the conclusion that nothing explains itself. Nevertheless, these premises enjoy considerable intuitive appeal and are widely endorsed. Of course, they are not endorsed universally; for example, one reason to deny causal irreflexivity may stem from the possibility of time travel and corresponding causal loops (cf. Smith [2019]; for a critical discussion of the irreflexivity of metaphysical dependence see Jenkins [2011] and for the irreflexivity of grounding see Kovacs [2018] and the references therein).

Therefore, I consider denial of either (P2), (P5), or (P7) to be a significant cost that would require serious argument. (For the case of grounding explanations, the start of such an argument might be provided by the puzzles of ground given in Fine [2010] and Krämer [2013]; for some further discussion concerning the irreflexivity of grounding explanation see Bliss and Trogdon [2016: section 6.2].) Therefore, instead of going this route, I now distinguish a restrictive from an inclusive sense of ‘explains’: While we can maintain premises (P1), (P4), and (P6) given the restrictive sense, these premises are doubtful given the inclusive sense.

3. Two Notions of (Self-)Explanation

Recall from section 1 the *inclusive sense* of ‘explains’ in which not only the reasons (i.e., elements of the base) involved in an explanation (partially) explain_{inclusive} the explanandum, but also the link of an explanation (partially) explains_{inclusive} its explanandum. This sense of ‘explains’ stands in contrast to a more *restrictive sense* of ‘explains’, which corresponds more closely to because-statements and in

which only the elements of the explanatory base (i.e., the reasons why), but not the link of an explanation, (partially) explain_{restrictive} its result.

Correspondingly, we can distinguish self-explanation in the inclusive sense from self-explanation in the restrictive sense and then defend one type of self-explanation by arguing that the arguments against self-explanation only apply to the other type of self-explanation. Indeed, it can be argued that the first premise of each argument is false given the inclusive sense of ‘explains’. For example, so understood, (P1) is false because if a proposition that *P* explains_{inclusive} a proposition that *Q*, then it is not in general the case that *Q* because *P*. The two sentential arguments of a ‘because’-statement correspond to the base and result of an explanation, and it is normally not the case that the explanatory link of an explanation is also in the base of the relevant explanation and thereby occurs in the corresponding ‘because’-statement in this capacity. Rather, explanatory links correspond in a different way to ‘because’-statements, for example, by being tracked by the latter (cf. Schnieder 2010).

Analogous considerations arise for (P4) and (P6) of the other arguments: If *x* explains_{inclusive} *y*, then it is not in general the case that *y* suitably depends on *x*. For example, the explanandum of a causal explanation does not causally depend on the causal connection or law of nature connecting it and its cause. Likewise, the grounding connection between a ground and a groundee does not ordinarily also ground the groundee (cf. Bolzano 1837: §199, 344f.; Litland 2018a). Explanatory links involve the explanatory priority relation between an explanation’s sources and its result, but in general do not themselves stand in such a relation to the result. Similarly, (P6) is false because if *x* explains_{inclusive} *y* (viz. by being the link of an explanation of *y*), then it is not in general the case that *x* is a reason for *y*. The base of an explanation consists of reasons for the explanation’s result, but links normally do not play this role; instead, links connect the reasons that constitute the explanation’s base with its result (see section 1 and the discussion in Skow 2016).

There is a more general lesson here: ‘explains_{inclusive}’ does not necessarily share the structural features of ‘explains_{restrictive}’. On the tripartite view of explanation and ‘because’ from section 1, structural features often ascribed to explanation (e.g., asymmetry and transitivity) are captured by ascribing corresponding structural features to the link-component. Additional analogous constraints on, for example, the relation between explanatory links and results are unmotivated on this view: According to it, the relevant structural features of explanation come down to the structural features of explanatory links. But normally no additional explanatory links hold between the link and result of an explanation, and therefore there appears to be no reason to assume corresponding structural features that govern the relation between link and result. In fact, stipulating corresponding constraints in addition to the structural features of the links would result in a disjoint account. (Some may consider the tripartite view to be unsatisfactory for this very reason.)

These considerations allow us to maintain that self-explanation_{restrictive} falls prey to versions of the three arguments in which each occurrence of ‘explains’ is understood in the restrictive sense while maintaining the intelligibility of

self-explanation_{inclusive}. In what follows, we will accordingly look at candidates for self-explanation_{inclusive} that are not candidates for self-explanation_{restrictive}.

4. On a Circularity Problem for Humeanism about Laws of Nature

According Humeanism about laws of nature (as I will understand them here), laws of nature are universal generalizations (or at least partially grounded in such). This idea is confronted with the following circularity problem that the distinction from the previous section can help solve.

Consider an explanation of $[Ga]$ whose explanatory link is identical to or grounded in the universal generalization $[\forall x(Fx \rightarrow Gx)]$, and whose explanatory base contains $[Fa]$. (I use ‘[. . .]’ to refer to the proposition expressed by the sentence inside the brackets.) Together, the link and the base explain the result, so in particular:

(2) $[\forall x(Fx \rightarrow Gx)]$ partially explains $[Ga]$.

But it is a widely accepted grounding principle about (true) universal generalizations that they are (partially) grounded in their instances; thus, $[Fa \rightarrow Ga]$ partially explains $[\forall x(Fx \rightarrow Gx)]$. Equally, it is widely accepted that if a material conditional has a true consequent, the former is grounded in the latter. So $[Ga]$ explains $[Fa \rightarrow Ga]$, and an application of transitivity for grounding yields:

(2) $[Ga]$ partially explains $[\forall x(Fx \rightarrow Gx)]$.

But (1) and (2) constitute an instance of symmetric (partial) explanation, and an application of transitivity would even yield an instance of (partial) self-explanation (for discussion of this problem see, e.g., Loewer [2012], Lange [2013], and Roski [2018] as well as the latter’s bibliography). For proponents of the relevant grounding principles, see, for example, Fine (2012: 59ff.), Schnieder (2011: 406f.), and Correia (2013: 44f.). Note that for the problem to arise, all the Humean has to postulate is that laws are sometimes partially grounded in what they explain. This arguably already follows from the idea of Humean supervenience, championed by David Lewis, according to which nomic facts arise from a “mosaic” of particular, non-nomic facts (cf. Weatherson 2016: section 5).

Several solutions to this problem have been discussed in the literature, the observations from the previous section afford a particularly straightforward solution. The derivation of a symmetric instance of ‘explains’ can only succeed given the inclusive sense of ‘explains’: (1) is true only in this sense. But as we have seen, there is reason to believe that structural features of explanation, such as asymmetry, only apply to the restrictive (‘because’-corresponding) sense of ‘explains’, and thus the problem is avoided. (Note that the application of transitivity in deriving a (partial) self-explanation from (1) and (2) could also be blocked like this.)

5. Empty-Base Explanation

While the distinction between ‘explains_{inclusive}’ and ‘explains_{restrictive}’ has proven to be useful and given Humeanism about laws of nature, the latter could, in a sense, be taken to be (partially) self-explanatory, let us now investigate whether there could be propositions that are fully self-explanatory_{inclusive} but not self-explanatory_{restrictive}.

For this, we need the notion of an empty-base explanation. In ordinary explanations, the reasons contained in the explanatory base and the link work together to explain the result, but there are possible explanations with an empty base, in which the link does the explaining on its own. I call explanations of this kind empty-base explanations. As for because-statements that correspond to empty-base explanations, I use \emptyset to stand for the empty set of reasons (i.e., the empty base of the corresponding explanation), which gives us ‘. . . because \emptyset ’. Somewhat tongue-in-cheek, we could alternatively adapt the natural language expression ‘just because’, giving us ‘. . . just because’.

This idea of an explanation why without reasons why (e.g., without causes or grounds) to do the explanatory work may appear a little strange—clearly, some work has to be done to argue that empty-base explanation is possible. I have done this in Kappes (2020b) and Kappes (2020a); here I provide a brief version of that argument. The possibility of empty-base explanations can be supported by considerations concerning explanation by *zero-grounding*, a limiting case of the notion of grounding, and explanations by *status*, that is, explanations that explain by pointing out a certain special status of their explanandum, such as its being a law of metaphysics or an essential truth.

First, zero-grounding: Normally, metaphysical grounding is taken to be a relation (or at least something approximately like a relation) between a plurality of propositions or facts, the grounds, and a single proposition or fact, the grounded proposition/fact or groundee. Zero-grounding is a limiting case of grounding in which the set of grounds is empty. A zero-grounded proposition or fact is grounded and not ungrounded, but it does not require any propositions or facts to ground it—it is grounded in zero propositions/facts. More precisely, if we assume grounding statements to have the form ‘ $\Gamma < P$ ’, then because in the case of zero-grounding statements, the ‘ Γ ’ stands for an empty plurality of grounds, statements of zero-grounding have the form ‘ $< P$ ’ (following Fine [2012], I opt for an operator view of grounding, but nothing substantial depends on this here). Assuming that instances of grounding give rise to corresponding grounding explanations, we should assume that instances of zero-grounding correspond to empty-base explanations of this form:

Base:	/
Link:	$<Q$
Result:	Q

The notion of zero-ground has been introduced by Fine (2012: 47f.), who argues for instances of zero-grounding by applying principles of the logic of ground to certain

edge cases. In particular, he argues that the conjunction of the empty set of propositions is (like any true conjunction) grounded in its conjuncts taken together, hence zero-grounded. A prominent application of the notion is Litland's (2017) account of the grounds of ground, according to which certain grounding claims are zero-grounded. Notably, Litland motivates the idea of empty-base explanations via the notion of explanatory arguments, by first arguing for certain conditions under which arguments are explanatory and then arguing that certain arguments with zero premises satisfy these conditions (for further applications of the notion see Muñoz [2020] on nonexistence, De Rizzo [2020] on necessity, and Kappes [2020b] on logical theorems).

Now, explanation by status: In Kappes (2020a) I argue that explanations by status should be understood as empty-base explanations in which the status-expressing proposition plays the role of an explanatory link (rather than ground) that can explain the corresponding explanandum on its own, without requiring help from anything in the explanatory base. Furthermore, I critically assess Glazier's (2017) rival account of explanation by status, as well as the prospects of explanation by necessary status (i.e., explaining why P in terms of its being necessarily the case that P) that for example Leibniz (1714) and more recently van Inwagen (1996) have endorsed. To get a grasp of the idea, consider the proposal that metaphysical laws or certain essential truths can play the role of explanatory link (for a defense of this idea see, e.g., Kment [2014]). Given this thought, there are explanations that have the following form [let '■' stand for the metaphysical law or essence operator (we suppress the index of the latter) and let '→' express a suitable conditional]:

Base:	P
Link:	■($P \rightarrow Q$)
Result:	Q

For example, given certain physicalistic ideas, there are explanations that have a proposition of the form of [It is a metaphysical law that if something is in physical state s , then it is in mental state m] as explanatory link. Similarly, one might think that the proposition [It is true in virtue of the essence of {Socrates} that if Socrates exists, {Socrates} exists] is the link of an explanation of why {Socrates} exists. An anonymous referee for this journal has suggested that the conditional cannot be material, for then we should equally admit [■($\neg P \vee Q$)] as an explanatory link here, which seems implausible. Let me note that proponents of links like these (e.g., Kment) do not appear to share this intuition and that the nature of the metaphysical law or essence operator may not allow for the inference from [■($P \rightarrow Q$)] to [■($\neg P \vee Q$)], but I am open to consider other conditionals here.

But metaphysical laws and essence claims also come in nonconditional form. For example, it is plausible that it is part of the essence of negation and disjunction (or a metaphysical law) that the sun is shining or it is not the case that the sun is shining. Note that I am not committed to the truth of any particular explanatory candidate, each is merely intended as a plausible example. An example that is particularly

salient to theists may be the idea that it is a metaphysical law that God exists or the perhaps more familiar idea that it is true in virtue of the essence of God that God exists. Moreover, a number of philosophers have suggested that a proposition that expresses the essential status (or status as a metaphysical law) of a proposition $[P]$ can explain why P (for an overview, see Kappes 2020a). Using $[P \vee \neg P]$ as an example and $[\blacksquare(P \vee \neg P)]$ as a placeholder for a proposition expressing its essential or metaphysical-law status, I argue in Kappes (2020a) that $[\blacksquare(P \vee \neg P)]$ does not figure in the base of an explanation of $[P \vee \neg P]$ (whose link would connect $[\blacksquare(P \vee \neg P)]$ with $[P \vee \neg P]$) but is instead the link of an empty-base explanation why $P \vee \neg P$ (note the structural similarity to the case of zero-grounding):

Base: /
Link: $\blacksquare(P \vee \neg P)$
Result: $P \vee \neg P$

Zero-grounding claims as well as unconditional metaphysical laws and essence claims are limiting instances of explanatory notions whose ordinary (conditional) instances figure as links in metaphysical explanations. Accordingly, we should conclude that there is a corresponding limiting case of explanation as well, namely, empty-base explanation (cf. Kappes 2020a).

6. Empty-Base Self-Explanation

Self-explanations promise to be ultimate explanations, that is, explanations that end explanatory regresses and do not give rise to further ‘why’-questions. Explanations by status (and thus empty-base explanations) may play a similar role. That is, they explain without involving reasons why that could give rise to further ‘why’-questions. Nevertheless, empty-base explanations are (generally) not self-explanations in the platitudinous sense. Still, the notion of an empty-base explanation can be used to characterize a particular kind of full self-explanation_{inclusive} that is not a self-explanation_{restrictive}, namely, that of an empty-base explanation whose explanatory link is identical with its explanatory result. (We could in principle also consider explanations whose link and result are identical but whose base contains different propositions, but these would not be *full* self-explanations.) Schematically, such an ‘empty-base self-explanation’ has this form:

Base: \emptyset **Link:** P **Result:** P

In such an explanation, the result explains_{inclusive} itself by being the link of its own empty-base explanation. Note that since there are no explanations without a link, self-explanations in the restrictive sense will likely involve a proposition that is distinct from its result, that is, the explanatory link. (‘Likely’ because we could in principle consider explanations whose reason, link, and result are identical.) In contrast, an empty-base self-explanation would only involve one proposition,

namely, its explanatory result and link. Thus, in a sense, only an empty-base self-explanatory proposition would be *fully* self-explanatory in the sense of having an explanation with just it as a constituent, and only such explanations could be truly ultimate in that they do not involve any propositions that are unexplained or only explained by further explanations.

Before we consider candidates for empty-base self-explanations, let me address an argument against the possibility of self-explanation that does not follow the pattern from section 2. Kovacs (2018: 1169) argues that, just like circular ordinary arguments, circular explanatory arguments are objectionable because just like ordinary arguments, explanatory arguments are supposed to provide reasons for their conclusions, but circular (ordinary as well as explanatory) arguments do not provide such reasons. Because Kovacs further assumes that every case of self-explanation corresponds to a circular explanatory argument, he concludes that self-explanation is objectionable. (Kovacs [2018] provides another argument involving considerations about the relation between explanation and understanding, but for reasons of space I cannot address them here.)

In response note first that an explanation whose result and link are identical is structurally related to the notion of rule-circular justification. In such an explanation, an explanatory link (partially) explains itself. Therefore, the corresponding explanatory argument has a conclusion that corresponds to the explanatory rule that governs the argument (cf. Litland's [2017] calculus for explanatory arguments). Similarly, a rule-circular justification of an inference principle is provided by an argument to the conclusion that the principle in question holds (or perhaps to a conditional that corresponds to the inference principle), but which uses the inference principle in question to establish this. (As an anonymous referee for this journal has pointed out, the analogy is not perfect: The result of an empty-base self-explanation is a proposition that is identical with its link. In contrast, the conclusion of a rule-circular argument is a proposition stating that a certain inference principle (that moreover arguably is not a proposition) holds.)

While some (e.g., Boghossian 2001) have endorsed the idea that rule-circular arguments may provide justification for their conclusions, their epistemic value is doubtful (for a recent criticism see Carter and Pritchard 2017). But note that even if the possibility of rule-circular justification is denied, the impossibility of empty-base self-explanation does not obviously follow. From the impossibility of rule-circular justification it would *prima facie* merely follow that if empty-base self-explanation is possible, then there are possible explanatory arguments that do not *justify* their conclusion, but they might still *explain* it.

Moreover, *pace* Kovacs, the premises of a good ordinary (or epistemic) argument *justify* its conclusion, viz. they are *epistemic* reasons for its conclusion, but the premises of a good explanatory argument *explain* its conclusion, they are reasons *why* the conclusion obtains. Kovacs appears to conflate these two notions of reasons and assumes that good explanatory arguments must justify (i.e., provide *epistemic* reasons for) their conclusions, but in many cases (e.g., many instances of inference to the best explanation), it is rather the case that a conclusion of an explanatory argument justifies a premise of said argument.

6.1 Candidates for Empty-base Self-explanations

Now, what would empty-base self-explanations look like? Recall the suggestion that explanatory links of empty-base explanations have the form ‘ \blacksquare ’, where ‘ P ’ stands for the result of the corresponding empty-base explanation. Since explanatory links of empty-base self-explanations are identical with the result of their explanation, it follows from this that their links have the form ‘ $\blacksquare P$ ’ and that the proposition $[P]$ is identical to the proposition $[\blacksquare P]$. Call this the *formal criterion*.

Now the question is whether there can be propositions of this form. Using ‘is R -related to’ as a placeholder for relational predicates used to express explanatory links and ‘is zero- R ’ as a placeholder for predicates used to express corresponding empty-base links, we can state the form of self-explanatory links as ‘The proposition that P is zero- R ’, where the proposition expressed is identical with the proposition that P . Consider grounding as an example. Predicational zero-grounding statements have the form ‘The proposition that P is zero-grounded’. Thus, if there are empty-base self-explanations of the grounding variety, the corresponding self-explanatory propositions have the form ‘the proposition that P is zero-grounded’, where the proposition that P is identical with the proposition that the proposition that P is zero-grounded. Indeed, here is a candidate that has this form:

(3) This proposition is zero-grounded.

Here, the expression ‘This proposition’ in (3) is intended to refer to the proposition expressed by (3). Note that while some propose that certain self-referential (e.g., paradoxical, liar-type) sentences do not express propositions, the self-referential nature of (3) alone is presumably not sufficient to assume that (3) expresses no proposition; after all, many (apparently) unproblematic self-referential sentences exist. For example, ‘This proposition is a proposition’, ‘Every proposition is a proposition’ and ‘This proposition is such that $1 + 1 = 2$ ’ seem fine (cf. Rosenkranz and Sarkohi 2006). As an anonymous referee for this journal has stressed, it could be thought that the candidates considered here and in the next subsection would amount to *objectionably* ill-founded propositions. I cannot provide here a theory of propositions that would vindicate the existence of the candidates, but let me note that they are not obviously defective in this way and that at least with respect to (3), I am not alone in this assessment, cf. Lovett (2020). One reservation here might stem from an understanding of propositions as mereological wholes, but first this understanding is not mandatory, and second see Kearns (2011) for an argument that on such a view we should simply accept that at least certain (otherwise unproblematic) self-referential propositions are parts of themselves. For an investigation into the non-well-founded mereology required for this, see Cotnoir and Bacon (2012).

Now, note how (3) resembles the truth-teller ‘This sentence is true’: If we had to speculate about the truth-value of (3), it would not seem unreasonable to assign it the same truth-value as the truth-teller, which, as many are inclined to believe, is defective and neither true nor false (cf. Field [2008], but note also Field [2008:

277]). And even if (3) were true, it presumably could not fulfill the high hopes some philosophers have put into self-explanatory propositions. Intuitively, (3) is somewhat thin in content, which is, perhaps, exactly what is to be expected of a zero-grounded proposition. Consequently, it is hard to see how it could serve the idea that there is a substantial class of truths that are eventually explained by self-explanatory propositions.

One might perhaps think that instances of the following schema could do better in this regard (let ‘*P*’ stand for an arbitrary proposition and ‘*4*’ express the proposition labeled by ‘(4)’):

(4) The proposition that (*P* and *4*) is zero-grounded.

But this is problematic because (4) seems to fail the formal criterion: If we eliminate the zero-grounding operator from (4), we obtain ‘*P* and *4*’, which does not seem to be identical with (4) in part because (4) expresses a proposition with a zero-grounding operator having largest scope, whereas in ‘*P* and *4*’ the conjunction operator has largest scope. We could perhaps allow that *some* conjunctions are identical (or at least suitably equivalent) to one of their conjuncts; for example, this is possible according to certain worldly modes of identifying propositions or facts (e.g., Correia 2016). Then to vindicate the possibility of self-explanations of the above form, one would have to find a mode of individuation suited to deliver instances of (4) satisfying the formal criterion, but such an investigation goes beyond the scope of this paper.

Instead, here are three further options to find (perhaps more substantial) candidates for empty-base self-explanations: First, one could attempt to find an explanatory relation *R* such that ‘This fact is zero-*R*’ is more substantial and less like the truth-teller than (3). The second option invokes Dasgupta’s (2014a) proposal that grounding is irreducibly plural, and the third considers laws as explanatory links. (A fourth option could perhaps be this: Returning to the assumption that links of empty-base explanations have form ‘ $\blacksquare P$ ’, one might consider the possibility of prefixing a right-side infinite sequence of ‘ \blacksquare ’s to a sentence ‘*P*’ like this: ‘ $\blacksquare\blacksquare\blacksquare . . . P$ ’. Here, when the outermost ‘ \blacksquare ’ is eliminated, arguably, a sentence of the same form ‘ $\blacksquare\blacksquare\blacksquare . . . P$ ’ remains; however, to my knowledge, a theory of non-well-founded propositions like this would yet have to be motivated and developed.) Setting aside the first option we now look at the second and third in turn.

6.2 Irreducibly Plural Grounding

According to Dasgupta (2014a), grounding is irreducibly plural in this sense: (predicational) grounding statements have the form ‘The *Y*s are grounded in the *X*s’, where ‘*Y*’ and ‘*X*’ are schema-letters for expressions denoting pluralities of facts, and it is possible that the *Y*s are grounded in the *X*s, without any of the *Y*s on its own being grounded in the *X*s. For example, Dasgupta argues that the individualistic facts (i.e., facts concerning particular individuals, like [Socrates is a Philosopher]) are together irreducibly plurally grounded in purely qualitative facts.

Correspondingly, plural zero-grounding statements can be expressed by having ‘X’ denote an empty plurality; alternatively, ‘The Ys are zero-grounded’ can be used. Dasgupta’s proposal then allows for more contentful candidates for empty-base self-explanation by allowing for a plurality of propositions to occur as (joint) groundees in a grounding statement like this:

(5) This fact, [P] are zero-grounded.

Here, ‘This fact’ refers to the fact expressed by (5). Assuming with Dasgupta that there are irreducibly plural instances of grounding, an instance of (5) might in principle obtain without it being singularly zero-grounded, while at the same time being plurally zero-grounded together with [P].

Now, is there any reason to assume that there are self-explanatory facts of the form of (5)? What kind of facts would be suitable to be collectively zero-grounded, where one of the collectively zero-grounded facts is the corresponding collective zero-grounding fact itself? Dasgupta’s examples for collectively grounded facts all involve facts that are similar in some respect (like the individualistic facts). Thus, natural candidates for our collectively zero-grounded facts are other (non-factive) grounding facts. According to this idea, all non-factive grounding facts would be irreducibly collectively zero-grounded, including this collective non-factive grounding fact itself. One tentative advantage this proposal has over Litland’s (2017) original proposal (according to which non-factive grounding facts are zero-grounded) is that it avoids the following somewhat awkward regress: According to Litland’s proposal, $[P \Rightarrow Q]$ is zero-grounded, $[[P \Rightarrow Q]$ is zero-grounded] is zero-grounded, $[[[P \Rightarrow Q]$ is zero-grounded] is zero-grounded] is zero-grounded, etc.; according to the present proposal there is just one collective zero-grounding fact here.

6.3 Generalized Explanatory Links

Let us finally consider how generalized links, such as laws of the following form might help (let ‘ \square_L ’ stand for a law operator like the metaphysical law operator):

$$(\text{LAW}) \square_L \forall x (Fx \rightarrow Gx)$$

The idea is this: An ordinary generalized explanatory link can serve as an explanatory link of many explanations by linking different bases with different results. A generalized link of an empty-base explanation could in turn figure in explanations with several different results. Thus, in principle, there might be such a link that is the result of an empty-base explanation and that thus explains itself, but that in addition is the link of a further (possibly empty-base) explanation with a different result. Incidentally, the idea is reminiscent of Nozick’s idea of ‘explanatory self-subsumption’:

The objectionable examples of explanatory self-deduction (total or partial) involve deductions that proceed via the propositional calculus.

Would the explanation of a law be illegitimate automatically if instead the law was deduced from itself via quantification theory, as an instance of itself? If explanation is subsumption under a law, why may not a law be subsumed under itself? (Nozick 1981: 119ff.)

Here, Nozick appears to suggest that the permissibility of self-explanation somehow depends on whether the involved explanatory steps correspond to rules of the predicational calculus as opposed to the propositional calculus, but this does not seem very convincing: Just consider the question of whether universal generalizations are grounded in their instances or whether they ground their instances: While both options *may* have some initial plausibility, we should not accept both on pain of violating the asymmetry of grounding.

But we can ignore this part of Nozick's suggestion, and then the above considerations about empty-base self-explanation can help capture his idea of a self-subsuming explanatory law. Nozick (1981: 119) does not properly distinguish between the roles of explanatory link and base; for example, he takes a self-subsuming principle to be an (explanatory) reason of itself. But if we make the distinction and understand explanatory self-subsumption as a kind of empty-base self-explanation, we can explain why explanatory self-subsumption may seem possible, namely, because the simple arguments against self-explanation then do not apply to it.

Let us think a little about the form self-explaining links à la Nozick would have to take. Let us consider unconditional links involving both quantification over entities and into sentence position. We can furthermore consider ordinary quantification or quantification into sentence position. Empty-base law-like links could then, for example, have one of the following forms (let 'O' schematically stand for a sentential operator):

$$(L1) \quad \Box_L \forall x(Gx)$$

$$(L2) \quad \Box_L \forall p(Op)$$

It is unclear to me whether there could be an instance of (L1) that satisfies the formal criterion, that is, an instance such that one of the instances of the involved quantification is identical with the proposition that is the whole link. If we assume that $[P]$ and $[[P]$ is the case] are identical, then ' $\Box_L \forall x(x$ is the case)' is an instance of (L1) that satisfies the criterion, but this example is confronted with issues similar to those discussed below. The issue here is to find an instance that satisfies the formal criterion without being too implausible.

But now consider (L2): Could there be an instance for 'O' and a proposition $[P]$ such that the proposition $[\Box_L \forall p(Op)]$ is identical with the proposition $[OP]$? Well, such instances are provided by the \Box_L -operator and the proposition $[\forall p(\Box_L p)]$:

$$(L3) \quad \Box_L \forall p(\Box_L p)$$

If the quantifier is understood as ranging over all propositions, the result is absurd because for no false proposition $[P]$ is it the case that $\Box_L P$. This problem can be

avoided if we instead understand the quantifier as ranging over all *facts*. The result is a candidate explanatory link according to which every fact is a law. While this will strike many as only marginally more plausible, the result is still interesting. Some philosophers have been moved to admit self-explanatory facts by their acceptance of the PSR. The PSR has also moved some to endorse necessitarianism, the idea that every fact is necessarily the case. (Spinoza is an example for both moves, cf. Della Rocca [2010] and Lærke [2011], but see Schnieder and Steinberg [2015] on how proponents of the PSR can avoid either consequence.) Properly understood, (L₃) embodies these two rationalist ideas: It is self-explanatory, and it states a variant of necessitarianism according to which every fact is a law. One idea worth considering might be to restrict the quantifier in (L₃) such that it still ranges over (L₃) itself, but does not range over all facts, thereby avoiding the consequence that every fact is a law.

Let us take stock: While it is unclear whether there are more plausible candidates for empty-base self-explanation, we have made progress toward answering whether empty-base self-explanation is possible by clarifying what it would take for instances of it to exist. If we are pessimistic about the prospects of empty-base self-explanation, we have at least gained a better understanding of why this kind of self-explanation does not exist: Not because ‘explains_{inclusive}’ is irreflexive, as the arguments of section 3 would have it, but because it is hard to find substantial and plausible propositions of the required form.

7. Empty-base Self-explanation Meets Philosophical Theology

Let me end the paper by showing how the notions of empty-base explanation and empty-base self-explanations might inform our understanding of certain ideas about the explanation of the existence of God. According to many scholastics like Aquinas, but also according to some later philosophers like Spinoza, God’s essence involves God’s existence (Lærke 2011: 447f.). This alone suggests a way in which God’s existence might be explained, namely, by its status as being part of the essence of God. Using the conceptual apparatus developed above, the idea can be put like this: God’s existence is empty-base explained, and the explanatory link of this explanation is the fact that it is part of God’s essence that God exists.

Now, both Aquinas and Spinoza go further in that they also believe that God’s existence is *identical* with God’s essence (cf. McInerny and O’Callaghan [2018: sec. 11.3] for Aquinas and Lærke [2011: 456] for Spinoza). But this provides the material for a proposal for an empty-base self-explanation of God’s existence: God’s essence, that is, the fact that it is part of God’s essence that God exists would be the empty-base link of this explanation, and God’s existence would be the explanatory result of this explanation. But according to both Aquinas and Spinoza, God’s essence *just is* God’s existence. If we understand this identity as the identity between the fact that God exists and the fact that it is part of God’s essence that God exists, then the result is a proposal for an empty-base self-explanation.

Some remarks: First, by understanding their proposal as concerning empty-base self-explanations, both Aquinas and Spinoza might avoid the arguments against the

intelligibility of self-explanation, as I have argued above. Second, the proposal is confronted with an issue we have encountered already: It is unclear that the required claim concerning the identity between the explanandum and the explanatory link can be made sense of. Third, while Aquinas's and Spinoza's shared assumptions allow for a proposal for a self-explanation of God's existence without the need to claim that God's existence is its own reason why (e.g., its own ground or cause), Spinoza appears to want explicitly to claim that God is her own cause, that is, a *causa sui* and thus reason why (cf. Lærke 2011).

8. Conclusion

Let us recapitulate: Using the tripartite account of the structure of explanations, I have distinguished two notions of self-explanation, defended one against certain arguments against the possibility of self-explanation, and applied it in a solution of the circularity problem for Humeanism about laws of nature. In the remainder of the paper, I have developed and suggested some applications of the notion of an empty-base self-explanation.

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