3 Explanation by Status

This chapter explores the practice of *explanation by status*, in which a truth with a certain status (i.e. necessary status, essential status, or status as a law) is supposed to be explained by its having that status.[110] In this chapter, I investigate whether such explanations are possible. Having found existing accounts of the practice wanting, I then argue for a novel account of explanation by status as *empty-base explanation*. As mentioned in the introductory chapter, we continue here our exploration of ways in which explanations could be considered especially strong or ultimate qualities which are often associated with explanations by status by their proponents.

The notion of empty-base explanation captures a certain limiting case of ordinary explanation so that, according to the empty-base account, explanation by status can be fruitfully understood as a corresponding limiting case of ordinary explanation. One way in which the empty-base account is argued to be superior to other treatments of explanation by status is that it allows for a principled assessment of the possibility of particular kinds of explanation by status. Thus, one result of the present discussion is that explanation by essential status and status as a law are possible, while explanation by merely necessary status is not.

In what I call 'explanation by status', a truth that has a certain status, e.g. modal status, is supposed to be explained by its having that status (hence the name). Here is a schematic list of the kinds of explanation by status that this chapter primarily deals with:

(Explanation by Necessity)	That it is necessarily true that *P* explains why *P*.
(Explanation by Law)	That it is a (descriptive) law that *P* explains why *P*.
(Explanation by Essence)	That it is an essential truth that *P* explains why *P*.[111]

The status notions, e.g. the notions of modality and law, can be varied to obtain related kinds of explanation by status. For explanation by metaphysical necessity see e.g. Leibniz (1714), van Inwagen (1996) and Rundle (2004) who apply the idea in philosophical theology and to the question of why there is anything at all. Block and Stalnaker (1999) and Hill and McLaughlin (1999) use it in their abductive arguments against dualism in the philosophy of mind. Biggs (2011) builds an abductive epistemology of modality upon it, and Glazier (2017a) uses it in his account of the difference between epistemic and metaphysical necessity. For explanation by natural necessity

110 We already briefly encountered explanation by status in the previous chapter.

111 I use 'it is an essential truth that . . .' as a placeholder for various essential idioms such as 'it is part of the essence of . . . that . . .'.

https://doi.org/10.1515/9783111069500-004

see Lange (2009a, 2013a). For explanation by metaphysical law and law of nature see Kment (2014, ch. 6) and Lange (2009b). For explanation by essence see Rosen (2010), Kment (2014, ch. 6), and Glazier (2017b).

Besides proposals concerning explanation by necessity, law, and essence, some further proposals that fall into the broader category of explanation by status have been advanced in the literature. Van Inwagen (1996) and Hicks and Wilson (2021) for example discuss explanation by high objective probability, while Leslie (2001) and Rescher (2016) defend explanation by value status. In what follows I am primarily concerned with explanation by necessary status, essential status, and law (as characterized by the schemata), but see section 3.6 for a discussion of explanation by high probability.

This is the plan for the chapter: Section 3.1 uses the framework developed in the previous chapters to structure the present investigation around some initial questions. Section 3.2 discusses reasons against the existence of explanation by *necessary* status, while section 3.3 discusses reasons in favor. Section 3.4 investigates to what extent the preceding considerations generalize to the cases of explanation by *essential* and *law* status and then considers two reactions to the discussion: According to Kappes and Schnieder (2016), explanations by status are not possible, but pointing out the status of a proposition can play a role related to explanation. According to Glazier (2017a, 2017b), explanations by status require *sui generis* explanatory relations to hold between the explanandum and the corresponding status ascribing proposition.[112]

Having found these reactions wanting, section 3.5 uses the notion of an *empty-base explanation* and shows how explanation by status can be fruitfully understood as empty-base explanation. I argue that my proposal deals well with the considerations of the previous sections and compares favorably to Glazier's rival proposal. But while it makes sense of explanation by status in general, it also provides an argument against the possibility of explanation by necessary status in particular. As a remedy, I suggest that proposals involving explanations by modal status are best substituted by explanations by status involving notions like essence or lawhood. Applying the empty-base account further, section 3.6 shows i) how it may be used to assess van Inwagen's (1996) idea of explanation by high objective probability, and (ii) how it can shed some light on the relation between universal generalizations and corresponding explanatory laws. Finally, the appendix adds some further tangential discussion.[113]

112 Two alternative approaches to explanation by status may be provided by Bertrand's (2019a, 2019b) account of metaphysical explanation by constraint and Kovacs' (2020) unificationist theory of metaphysical explanation that I suspect can be fruitfully applied to understand explanation by status from a unificationist angle.

113 This chapter has grown out of joint work with Benjamin Schnieder in Kappes and Schnieder (2016), as well as Kappes (2020a).

3.1 Introductory considerations

Using the tripartite account of explanation and its relation to 'because' sentences and 'why' questions from chapter 1, we can formulate the following initial questions concerning explanation by status:

1. What, if any, is the explanatory role of the status proposition: Is it a reason why the explanandum obtains or an explanatory link?
2. What kind of links occur in explanations by status, and which explanatory notions occur in them?
3. What is the intended scope of the three schemata given above?

With respect to the first question, it may seem that in explanations by status, the status proposition has the role of reason why the explanandum obtains – after all, the status proposition does not appear to *link* anything to the explanandum. Moreover, when stating such explanations by status, philosophers often assert an instance of '*P* because $^{*}P$', where '*' stands for an operator that expresses the status in question.[114] We therefore assume for now that these explanatory proposals advance reasons for (or sources of explanations of) the relevant propositions or facts.

In section 3.5 I will revisit this assumption and propose that we should construe proposals for explanations by status as proposals for empty-base explanations, whose explanatory link is a status proposition. For now, given the assumption that explanations by status advance reasons why their explananda obtain, and given what chapter 1 has established about the relation between reasons why and 'because'-claims, we can derive the following schemata from the three schemata above:

(Because Necessity) *P* because it is necessarily true that *P*.
(Because Law) *P* because it is a (descriptive) law that *P*.
(Because Essence) *P* because it is an essential truth that *P*.

With respect to the second question, we assume for now that the explanations by status under discussion are supposed to be grounding explanations, which is plausible, given that they seem to be metaphysical explanations. When the arguments for and against explanation by status are on the table, I will consider which of them remain once we lift the assumption that the explanatory relation is grounding, as Glazier (2017a, 2017b) advocates.

114 For instance, Glazier (2017, 2873) writes that "[an explanation] will not be an essentialist explanation, if it is not of the form '*A* because *t* is essentially such that *A*'".

With respect to the third question, the candidate answers are that the scope is either restricted only to propositions which possess the status in question (i.e. restricted only to propositions which are indeed necessary, essential or possess law status) or it is restricted to a subclass of these propositions. The first restriction is mandated by the factivity of 'because' and explanation: Only true propositions can be explained and only propositions that possess the relevant status could in principle be explained by their having that status. On the other hand, note that a further restriction of the schemata's scope would constitute a significant intuitive and theoretical burden: Lest the restriction appear arbitrary, it has to be principled somehow, but it is hard to see what such a principle could look like.

Moreover, full grounding explanations plausibly satisfy something like deRosset's (2013a) "Determination Constraint". The idea behind this constraint is approximately this: If *a*'s being *G* is fully grounded in *a*'s being *F*, there should be no entity that is *F* but whose being *F* does not ground its being *G* – if there were such an entity, the explanation of *a*'s being *G* in terms of *a*'s being *F* would seem incomplete. Something analogous appears to hold for explanation by status: If [*P*] is fully explained by its being necessary, then there should be no necessary proposition [*Q*] which is not explained in its being necessary – if there were such a proposition, the explanation of the first proposition in terms of its being necessary would seem to be incomplete.[115]

There is thus considerable pressure to accept that if a proposition's necessary, essential or law status explains its truth in one case, it should do so in general, and I will assume as much in the [116] following.

3.2 Against explanation by modal status

Under the assumption that the available kind of explanation is grounding explanation, this section offers a number of considerations to motivate that for no [*P*], [*P*] explains [*P*] in the sense of figuring in the base of an explanation of [*P*]. In the idiom of reasons, it offers considerations to the effect that for no [*P*], [□*P*] is a reason why [*P*].[117] Correspondingly, I will argue against (all but possibly a few exceptions of) the instances of the following schema (for now, 'because' expresses grounding):

115 As always, '[. . .]' is used to refer to the proposition expressed by the sentence within.

116 Below we will encounter reason to believe that the determination constraint argument must be revised, although in a way that does not affect the following arguments. See appendix A of this chapter for further development of the determination constraint argument.

117 A possible exception stems from cases that we will encounter in the next section.

(BECAUSE-□) *P* because □*P*.[118]

Intuitive doubts: The first reason to doubt the instances of BECAUSE-□ comes from intuition: At least in a certain light, it is hard to see what explanatory value it should have to point out the necessary status of a proposition. Correspondingly, the instances of BECAUSE-□ do not seem particularly plausible. More specifically, it is hard to see how the truth of a proposition should be brought about (and hence be explained) by its necessary truth. Of course, the latter *entails* the former, but whether the latter *explains* the former is nevertheless intuitively doubtful.[119]

Perhaps this intuitive worry can be sharpened by considering what the propositions [*P*] and [□*P*] are about. If '□*P*' can be paraphrased as 'It is necessarily true that *P*', the corresponding proposition primarily appears to be about a certain other proposition, namely the proposition [*P*] and the way in which this proposition is true, namely necessarily. But [*P*] on the other hand normally concerns something else: For example, [□(2 is prime)] primarily appears to be about the proposition [2 is prime] and this proposition's being necessarily true. On the other hand, [2 is prime] primarily appears to be about the number 2 and its being prime, and not at all about the proposition [2 is prime] or that proposition's being necessarily true. What lies behind the intuition above may then be that the way in which the proposition [2 is prime] is true is not explanatorily relevant to 2's being prime; more generally, what [□*P*] is primarily about can seem not to be explanatorily relevant to [*P*].

Consider also these two plausible schemata concerning the grounds of propositions expressed by claims of the form 'It is true that . . .' and 'It is a fact that . . . ': (i) 'It is true that *P* because *P*' and (ii) 'It is a fact that *P* because *P*'.[120] The idea here is that how things are at least partially grounds the truth of propositions about how things are and it being a fact that they are as they are. To an extent, this seems to generalize: What goes on with propositions and facts is often at least partially grounded in whatever those propositions and facts concern. Now if '□*P*' can be paraphrased as 'it is necessarily true that *P*' or 'it is a necessary fact that *P*', we may get a reason for our uneasiness about the instances of '*P* because □*P*', for these would then seem to require grounding how things are in what goes on with the corresponding propositions or facts, rather than the other way around. These are many 'if's, so let me provide some more arguments.

Grounding elimination rules: Construed as grounding explanations, some paradigmatic cases of explanations by status conflict with Fine's (2012, 63f.) influential

118 The only instances that will interest us are those where [□P] is true, the others are false anyways because 'because' is factive.

119 Cf. Kappes and Schnieder (2016, 556).

120 These principles are widely endorsed, cf. Künne (2003) and Dixon (2018).

logic of ground, according to which any proposition that grounds $[P \vee \neg P]$ must either be identical to its true disjunct or ground it.[121] The logic of (Fine 2012) captures this idea by postulating elimination rules for the impure logic of ground, for instance the rule $\vee E$, but the idea is also contained in Fine's (2017b) account of grounding in terms of truthmaking.

If there are true instances of BECAUSE-□, '$P \vee \neg P$ because $\Box(P \vee \neg P)$' should surely be among them, but since $[\Box(P \vee \neg P)]$ is not in general either a true disjunct of $[P \vee \neg P]$ or grounds such a disjunct, these candidates for explanations by status are ruled out by the logic of ground. Since it is hard to see how necessary status could only sometimes explain, we obtain a general argument against explanation by modal status understood as grounding explanation.

Glazier (2017b) reacts to this problem by postulating further (non-grounding involving) types of explanatory links specific to explanations by status, I discuss this proposal below. Another option is to question Fine's rules, which do not obviously enjoy more than *some* support from intuitions that a number of authors do not share, see for example Rosen (2010, 2017) and Yablo (2014, ch. 4). We will come back to this topic in chapter 4 where we will discuss the explanation of logical theorems. For now, let us discuss some more reasons against the instances of BECAUSE-□.

Regress: Above I have argued that if '*P* because □*P*' is true for some necessarily true '*P*', it should be true for all necessarily true '*P*'. Now, since necessity can be iterated, regresses like the following arise:

– 2 is prime because □2 is prime.
– □2 is prime because □□2 is prime.
– . . . etc.

Whether explanatory structures like this have any explanatory value is questionable, and the idea that the truth that 2 is prime is *brought about* by a series of more and more complex modal truths appears doubtful.[122] Moreover, while opinion on the matter is divided, a number of philosophers believe that there cannot be infinitely descending grounding chains, at least not without every element in the chain also being grounded in something ungrounded.[123] But the idea that the elements of the regress are also grounded in something outside it does not help here: On pain of restarting the regress, these grounds must be contingent, which in itself is already dubious, but particularly problematic in the present context: Explanation by

121 Or "play the same grounding roles", cf. Glazier (2017b, 2876).
122 Cf. Kappes and Schnieder (2016, 556f.). See section 3.3 below for a more positive view of the regress.
123 Cf. Rabin and Rabern (2016).

modal status is often offered as a kind of particularly good, modally stable and ultimate explanation that contingent explanation cannot provide.[124]

Furthermore, it seems intuitively plausible that if it is true that $\Box P$, then it is also true that $\Box\Box P$ because $\Box P$; this is also supported by the plausible idea that (with possible exceptions), grounding explanations should proceed from less complex to more complex propositions. But this makes matters worse, because if it is true that $\Box P$, then we get '$\Box P$ because $\Box\Box P$' from BECAUSE-$\Box$ and '$\Box\Box P$ because $\Box P$' from the assumption; together, the two claims violate the asymmetry of grounding. I will discuss the potential for asymmetry violation further in section 3.4 where we drop the assumption that explanation by modal status is a kind of grounding explanation.

To avoid these problems, BECAUSE-$\Box$ could be restricted and single-box propositions assumed to ground their non-boxed constituent propositions, as well as the corresponding multi-box propositions. Here, I want to commit to the argument from section 3.1 and submit that the restriction of BECAUSE-$\Box$ is not feasible. Also, such a proposal could not claim the potential advantages of the regress discussed in section 3.3.[125]

Problems for certain reductive theories of modality: According to some theories, all metaphysical necessities can be grounded in propositions that do not involve modal operators. For example, according to a proposal attributable to Fine (1994), all metaphysical necessities can be grounded in truths about essences. Consider a metaphysical necessity [$\Box P$] and its ground [Q], e.g. an essential truth. Now, essential truths are themselves necessary.[126] But then [$\Box Q$] is true as well and presumably grounds [Q]. Since we assumed a theory according to which all metaphysical necessities can be grounded in other truths, we embark on a regress that once more only seems stoppable in an ad hoc fashion.

This time, not only the explanatory extravagance of the regress is problematic, but the fact that it is in conflict with the reductive goal of the kind of theory we assumed: This kind of theory is supposed to show that every metaphysical necessity can ultimately be reduced to or grounded in truths that do not involve metaphysical necessity. But if the regress obtains, this cannot be true: Every

124 See section 3.3.

125 A referee for the paper that this chapter is based on has suggested to me that the regress could perhaps be stopped by identifying the propositions expressed by sentences of form '$\Box P$' and '$\Box\Box P$'. Maybe, but not without restricting BECAUSE-$\Box$: The regress arises from the schema by substitution of 'P' even if we assume that '$\Box 2$ is prime' and '$\Box\Box 2$ is prime' express the same proposition.

126 More generally, one might try to argue that the grounds of metaphysical necessities must themselves be necessary. Note that I call only truths of form '$\Box P$' 'necessities' and *not* all necessary truths.

essential truth will be further grounded in its being a necessary truth. Moreover, given that while every metaphysical necessity is grounded in an essential truth, every essential truth is also grounded in a metaphysical necessity, it seems that no asymmetry can be salvaged that would allow us to claim that metaphysical modality is reduced to essence and not vice versa.

The next problem for grounding explanation by necessary status stems from the paraphrase of necessity as truth in all possible worlds. Given the paraphrase, grounding a proposition in a proposition that expresses its necessary status looks like using a universal quantification ('In all possible worlds: *P*') to ground one of its instances ('In this possible world: *P*'). However, universal quantifications are grounded in all of their instances taken together.[127] More perspicuously, the following assumptions lead into an explanatory circle:

(Grounding by Necessity)	*P* because □*P*.
(Grounding by P.W.)	□*P* because in all possible worlds: *P*.[128]
(Grounding by Instances)	(In all p.w.: *P*) partially because in this possible world: *P*.
(@*P* by *P*)	(In this p.w.: *P*) because *P*.

One of these needs to go, and since (Grounding by P.W.) is true by assumption and (Grounding by instances) is supported by the literature, the culprit is either (Grounding by Necessity) or (@*P* by *P*). I submit that (@*P* by *P*) seems at least as plausible as (Grounding by Necessity).[129]

Next, given certain anti-realist theories of modality, instances of '*P* because □*P*' deliver highly implausible explanatory dependencies. For example, one might think that modal anti-realism entails that true statements of the form '□*P*' are at least partially grounded in mental facts. But if [*P*] is grounded in [□*P*], then by transitivity of grounding, [*P*] is at least partially grounded by certain mental facts. In terms of 'because' this means that for [*P*] that satisfy '*P* because □*P*', modal anti-realism and transitivity of 'because' entail that *P* because of certain mental facts, for instance that ∀*x* is scarlet→ *x* is red because of certain mental facts. Thus on the proposed picture, modal anti-realism seems to generalize to some sort of anti-realism concerning [*P*] for [*P*] which satisfy '*P* because □*P*', which seems hardly a welcome result.

Furthermore, one might think that a plausible modal anti-realism involves grounding [□*P*] in certain mental facts plus [*P*]. But this makes matters even worse, because in addition to not doing anything about the problematic (if partial)

127 See e.g. Schnieder (2011, 450f.) and Fine (2012, 59f.).

128 The circle also arises if the propositions □*P* and [In all p.w.: *P*] are identified. Something analogous holds for @*P* by *P*).

129 Cf. Kappes and Schnieder (2016, 556).

dependency of [*P*] on certain mental facts, it violates the irreflexivity of grounding. More generally, the idea that [□*P*] grounds [*P*] is inconsistent with what could be called '2-factor accounts of metaphysical necessity', according to which [□*P*] is grounded in [*P*] and a further element. For example, Sider (2011, ch. 12.2) can be understood as advancing a theory according to which a metaphysical necessity [□*P*] is reduced to [*P*] and a proposition stating that [*P*] belongs to certain class of propositions.[130]

Taking stock: Combined, the foregoing considerations provide a significant challenge for the relevant instances of '*P* because □*P*'. Although some of the considerations rely on more or less contentious assumptions about the grounds of metaphysical necessities, not only proponents of these assumptions may be confronted with the arguments, because one might think that the feasibility of explanation by modal status should be theoretically robust in the sense of not being threatened by such assumptions. So, in order to work the previous paragraphs into an argument against the instances of '*P* because □*P*' that does not rely on the contentious assumptions, one could argue that if the relevant instances of '*P* because □*P*' are in general true, this phenomenon should be more theoretically robust than the previous paragraphs suggest.

3.3 In favor of explanation by modal status

Let us now discuss some considerations in favor of explanation by modal status. First, certain instances of '*P* because □*P*' and maybe more so '[□*P*] explains [*P*]' do have some intuitive appeal. For example, in the right mindset, I can appreciate how 'God exists because they must exist' or 'The first law of thermodynamics holds because it must hold' may seem good candidate because-claims. Moreover, as we have seen in the introduction, a number of philosophers have put explanation by modal status to work. This bolsters the point from intuition, but it also motivates instances of '*P* because □*P*' by revealing their potential theoretically fruitfulness.

Ultimate explanation: Here is one respect in which explanation by modal status may be theoretically fruitful: Consider a necessary proposition [*P*] and the hierarchy of associated box-propositions [□*P*], [□□*P*], etc. again. Note first that it would surely be desirable to *somehow* explanatorily connect the iterated-box claims – the regress discussed in the previous section achieves this. Furthermore, there is a potential

130 Perhaps the friend of explanation by modal status could claim that modality is fundamental – or, more generally, they could perhaps claim that explanation by status only works for kinds of status that are fundamental. Perhaps an argument can be given here, but it also would have to be given. In any case, it would leave the other considerations untouched.

positive flipside to the regress: Some philosophers – for example Leibniz perhaps – think that explanation by metaphysical necessity is *ultimate*, i.e. such that with respect to its explanandum, no relevant why-questions are left unanswered by it.[131] This idea can be spelled out as follows: An explanation (or set of explanations) why *P* in terms of reasons Ω is ultimate iff all reasons why *P* contained in Ω are fully explained by reasons contained in Ω. *If* the explanatory regress in question is not vicious, then it may afford such an explanation.

Still, given that the regress does not seem particularly explanatorily valuable, it is unclear how desirable an ultimate explanation in the above sense really is. Moreover, according to Bliss (2013), explanatory regresses are vicious relative to an explanatory goal if they fail to afford that explanatory goal. So, at least with respect to the explanatory goal of "explaining away" necessity, the regress is vicious: According to it, it is 'boxes all the way down'.

Exceptional cases: There are instances of '*P* because □*P*' that arise from the combination of certain *prima facie* plausible grounding principles, for example:

(1) □ There are facts < It is a fact that □ There are facts < There are facts.

(2) □ There are *P* such that *P* < There are *P* such that *P*.

While these examples may involve grounding principles that are inconsistent with other plausible grounding principles (cf. Fine 2010 and Krämer 2013) and hence might have to be discarded anyways, more can be said here:

First, the intuitive worries with respect to the intended instances of '*P* because □*P*' can be upheld. Second, the examples somehow miss the point, because contrary to how it behaves in the intended instances of explanation by necessary status, the necessity of the propositions itself does not seem to play the right explanatory role in the present cases. To see this, consider for example (2): According to the underlying grounding principle, true existential generalizations into sentence position are fully grounded by their true instances.[132] But since, for example, [[There are *P* such that *P*] is also a true instance of [There are *P* such that *P*], it also fully grounds the latter.

So, in a sense, in this case it is not the *necessity* of [There are *P* such that *P*] (as opposed to e.g. its possibility) that explains why there are *P* such that *P*, it just happens to be the case that [□ There are *P* such that *P*, just like [◇ There are *P* such that *P*], is a true instance of [There are *P* such that *P*] and hence grounds it (analogous considerations hold for (1)).[133] Just as we would not conclude on the basis of the

131 Cf. Rundle (2004, ch. 5).

132 Cf. Krämer (2013).

133 Contrastivity might help clarify the point: In the present cases, it is not the case that its being necessarily the case that *P* rather than its being possibly the case that *P* explains why *P*, whereas

example that any truth is grounded in its being possible, we should not conclude on its basis that any necessary truth is grounded in its being necessary.[134]

'Being necessarily the case' as a determinate of 'being the case': To address the above arguments against instances of '[□*P*] grounds [*P*]', one might try to provide an account of how these *could* be true, i.e. how a fact [□*P*] could in principle be a ground for [*P*]. Here I want to consider one rationale for the corresponding grounding relation to obtain and for the logic of ground to be revised in a way that allows for them: Consider the idea that the properties expressed by 'is necessarily the case' and 'is contingently the case' are determinates of the same determinable, namely the property expressed by 'is the case'. This is not implausible, for being necessarily the case and being contingently the case seem to be different, more specific, and mutually exclusive ways of being the case. Plausible are also the corresponding grounding statements that follow, if we then apply the common assumption that instances of determinates ground instances of corresponding determinables:

(3) [[*P*] is necessarily the case] grounds [[*P*] is the case].
(4) [[*P*] is contingently the case] grounds [[*P*] is the case].

Note that given the plausible assumption that if [*P*] is the case, then [*P*] grounds [[*P*] is the case], we obtain two grounds for the fact [[*P*] is the case], namely [*P*] and either [[*P*] is necessarily the case] or [[*P*] is contingently the case]. With respect to making sense of the schema '[□*P*] grounds [*P*]', note that from the two schemata above the following do at least not obviously follow (let us use '○' as a sentential operator that expresses contingent obtaining):

(5) [□*P*] grounds [*P*].
(6) [○*P*] grounds [*P*].

I suspect that some of the appeal of (5) results from uncritically moving from (3) to (5). In any case, [*P* because contingently, *P*] appears quite implausible, but it seems to follow from the proposal for contingently true propositions [*P*]. Moreover, proponents of instances of '*P* because □*P*' often claim that the necessary status of propositions affords somehow particularly good explanations, but if explanation by necessity is understood as just sketched, it is unclear how the special

in the intended instances of explanation by status it is the case that its being necessarily the case that *P* rather than its being possible that *P* explains why *P*.

134 This gives us reason to suspect that the consideration involving the determination constraint from section 3.1 is not quite correct. I believe that this problem can be addressed by formulating a determination constraint for the case of explanation by status that is restricted in a way that excludes the problematic case above, see appendix A for more discussion.

quality of such explanations should be accounted for, given that contingent status would provide an analogous explanation.[135]

Taking stock: Intuition, the theoretical applications, as well as the promise of a kind of ultimate explanation lend support to the idea of explanation by status that should not be neglected. The extraordinary cases as well as the consideration from determinables and determinates moreover show how instances of '*P* because □*P*' with corresponding grounding relations *could* be made sense of. But we have also seen that neither consideration makes sense of the *intended* kind of explanation by status. Rather, they suggest that status propositions do not play the role of grounds (and perhaps more generally reasons why the explanandum obtains) in proper explanations by status.

3.4 Generalization and reactions

Let us see how the above generalizes to the cases of explanation by essential and law status, conceived of as instances of the schemata '*P* because it is an essential truth that *P*' and '*P* because it is a law of metaphysics (or nature) that *P*'. The considerations in favor of explanation by modal status generalize straightforwardly. The situation concerning the arguments against explanation by modal status is this: The intuitive doubts, the problem of grounding elimination, and the regress problem generalize.[136] The problem from reductive theories of modality only generalizes if there are suitable reductive theories of essence and lawhood. While it may be easy enough to formulate such theories, it is unclear how seriously they should be considered and how important their theoretical possibility is. While the case against explanation by essential and law status may thus be a little weaker than the case against explanation by modal status, it is still significant.

I now discuss two reactions to the above considerations for and against explanation by modal, essential and law status. The first denies that explanations by status exist. The second substitutes grounding by a different explanatory notion to figure in the links of these explanations. One can deny the existence of explanation by status and accommodate the underlying intuitions and motivations differently.[137] To this effect, Kappes and Schnieder (2016, 557f.) have suggested that the intuitive appeal of the relevant instances of '*P* because □*P*' could stem from pragmatic effects. For

135 See appendix B for some more thoughts on this.

136 The latter holds given the plausible assumption that essential and law status iterate. Cf. Fine (1995) for iteration of essential status.

137 Below I will sometimes only mention explanation by necessary status, but explanation by essential and law status are meant as well.

example, asking 'Why *P*?' may often conversationally presuppose that it is possible that not *P*, and in such a case, pointing out the necessary status of *P* may be a conversationally appropriate move: Not as an act of explaining why *P* and thereby giving a correct answer to the question, but rather as rejecting one of the presuppositions of the question. As Schnieder and I also mention, pointing out the necessity of a proposition can further epistemic goals (such as increasing the probabilistic coherence of one's belief-system) that explanation proper also often aims at. For example, explanation often serves the purpose of making facts less surprising, and pointing out that a fact is necessary may serve the same purpose: Coming to see that something could not have been otherwise may make it less surprising that things are that way.[138]

I consider these to be plausible fallback options should it turn out that explanation by status cannot be understood as explanation proper. Now, according to Glazier (2017a, 2017b), explanation by essential and modal status can be so understood, but not as grounding explanation, but rather as involving different *sui generis* explanatory relations.[139]

Some features of Glazier's proposal raise initial skepticism: First, because new explanatory relations are postulated, Glazier's proposal incurs corresponding ideological commitments.[140] Second, Glazier postulates his explanatory relations without stating much more than their being instantiated in the paradigmatic cases and their being distinct from grounding. Third, the postulated explanatory relations exhibit a weirdness that neither grounding nor, arguably, causation share: They form explanatory chains that necessarily have a final explanandum which is distinct in kind from its other elements (i.e. an explanandum that cannot explain a further proposition by standing in the same explanatory relation to it). This is the non-modal-box-prefixed or non-essential-box-prefixed proposition in which an explanatory chain of box-prefixed propositions that explain it terminates. Contrast this with the case of grounding, where each proposition grounds other propositions

138 Cf. Schupbach and Sprenger (2011).

139 Bertrand's (2019a, 2019b) "Explanation by Constraint" is closely related to explanation by essential status and his account of it bears some resemblance to Glazier's. For example, Bertrand also argues against understanding these explanations in terms of grounding. It would be interesting to investigate to what extent explanation by constraint could be captured by my own account. Thanks to an anonymous commenter for the paper on which this chapter is based.

140 Although of course, the explanatory advantages may be worth it. As we will see, my alternative proposal to model explanation by status as empty-base explanation might involve additional ideology besides grounding too, at least if certain cases (like the explanation by status of logical theorems) are to be captured. For more discussion see the next section and chapter 4. It is worth pointing out that this commitment can be avoided by 'explaining away' the intuitions in favor of explanation by status using the ideas mentioned above.

and with the case of causation, where it is plausible that each effect can at least in principle be a cause.[141]

Let us see to what extent the above discussion against explanation from status generalizes to Glazier's proposal: Intuitive doubts and an explanatory regress arise for this proposal too, but it avoids the problem from grounding elimination rules by stipulation. Insofar as reductive theories of modality are formulated in terms of grounding and not Glazier's *necessitarian explanation*, his proposal can avoid some of the problems for certain reductive theories of modality, but explanatory circles involving both grounding and necessitarian explanation still threaten to arise. Whether these are problematic is a matter we will turn to momentarily.

Now, note that the plausibility of the generality of the schema '*P* because □*P*' (and its variants involving other statuses) is not affected by assuming a different explanatory relation than grounding to be involved. Furthermore, the determination constraint argument above does not appear to rely on features of grounding specifically, but rather on features of complete metaphysical explanation more generally. In any case, Glazier (2017a) accepts the generality of the schema. Given this, one problem for BECAUSE-□ that he considers is that (as we have noted above) one might want iterated-box claims to be (grounding-) explained by single-box claims, which would result in explanatory circles: Single-box claims would be explained by iterated-box claims and iterated-box claims would be explained by single-box claims. To avoid this problem, Glazier suggests that the two explanations should be taken as explanations with different kinds of explanatory links: necessitarian explanation in the first case, grounding in the second. The suggestion is then that these two kinds of explanatory links are not in *harmony*, meaning that the disjunction of the two kinds of links need not satisfy structural properties such as asymmetry, irreflexivity, and transitivity, which are often ascribed to explanatory notions like grounding.[142] Thus Glazier can claim that circles involving only grounding explanations are inadmissible because of the asymmetry and transitivity of grounding, while allowing for circles comprised of different kinds of explanation, e.g. grounding explanation and necessitarian explanation.

Whether explanatory links in general need to obey harmony is still an open question, but the disharmony of grounding and explanation by necessity would result in a significant theoretical cost: Explanation by necessity has been suggested as a kind of ultimate explanation, perhaps with some sort of principle of sufficient reason in the background. Now suppose that [□*P*] '*explains-by-necessity*'

141 Below we will see that my own account avoids these problems.

142 The same point applies to the problems for certain reductive theories of modality mentioned above.

[*P*] and that [*P*] *grounds* [*Q*]. Then the most straightforward way of ultimately explaining [*Q*] would be by invoking transitivity, but since the two kinds of explanation are supposed to be in disharmony, this is not possible.

Perhaps there is another way to achieve the desired ultimate explanation: Supposing that [*Q*] is also necessary, [*Q*] can be explained by its own necessity.[143] But while each of [*P*] and [*Q*] is then explained by its own necessity, we do not obtain the more desirable result that both [*P*] and [*Q*] are explained in [*P*]'s necessity. Perhaps this result can be obtained by assuming that [$\Box P$] explains [$\Box Q$], but then the involved explanatory relation would have to be in harmony with necessitarian explanation to allow chaining it with the explanation of [*Q*] by [$\Box Q$]. Therefore it cannot be grounding, since, by assumption, grounding is not in harmony with explanation by necessity.

Let me give a concrete example: Plausibly, the existence of π grounds the existence of $\{\pi\}$. According to Glazier, both existence claims are explained in their necessity. But what we arguably desire is an explanation of the existence of $\{\pi\}$ by the necessity of the existence of π. Since this explanation cannot run via the existence of 2 grounding the existence of 2 (because explanation by necessity and grounding are not in harmony), it should presumably run via the explanation of the necessity of the existence of 2 by the necessity of the existence of 2. But if this relation is (as might also seem intuitive) grounding, then it follows that grounding and explanation by necessity are in harmony, violating the assumption.

Assuming that the relation is neither grounding nor Glazier's necessitarian explanation on the other hand seems ad hoc and unparsimonious. But it also cannot be necessitarian explanation because it does not involve explaining a proposition by its being necessary, which Glazier (2017a, 12) stipulates is required for necessitarian explanation. Furthermore, necessitarian explanation would mirror grounding in the sense that [*P*] grounds [*Q*] and [$\Box P$] explains-by-necessity [$\Box Q$]. But then it would be ad hoc if necessitarian explanation would not mirror grounding everywhere in the sense that for every necessary [*P*] and [*Q*], if [*P*] grounds [*Q*] then [$\Box P$] explains-by-necessity [$\Box Q$]. This again would face the following problem: According to the above assumptions, [$\Box\Box\Box P$] explains-by-necessity [$\Box\Box P$], and [$\Box P$] grounds [$\Box\Box P$]. But if necessitarian explanation mirrors grounding here, it also follows that [$\Box\Box P$] explains-by-necessity [$\Box\Box\Box P$], violating asymmetry.

Thus let us come to my proposal of treating explanations by status as empty-base explanations.

---

143 We can simply stipulate [*Q*]'s necessity, but given grounding necessitarianism it follows if [*P*] *fully* grounds [*Q*].

3.5 Explanation by status as empty-base explanation

In this section I develop and defend my own account of explanation by status in terms of empty-base explanation. Above we have assumed that in explanations by status, the status proposition is a reason why the explanandum obtains (and hence would constitute the base of the corresponding explanation). For example, we have assumed that in the case of an explanation by necessary status, [□*P*] is a reason why [*P*] obtains, and correspondingly because □*P* should be the case.

But equipped with the notion of an empty-base explanation, we can drop this assumption and suggest that at least some proposals for explanation by status where [*P*] is explained by a fact or proposition of form '■*P*' (where '■' stands for the relevant operator) are best understood as empty-base explanations in which [■*P*] is not a reason why the explanandum [*P*] obtains, but the explanatory link of an empty-base explanation why *P*. As the reflections of the previous chapter show, this idea is independently plausible.

According to this proposal, explanations by status do not correspond to because-claims of the form '*P* because ■*P*', since the status proposition is not a reason why the explanandum obtains. Rather, as a link of an empty-base explanation, the status proposition underlies a because-claim of the form '*P* because ∅' (or '*P* just because'). Consider for example the idea that we can explain why the empty set exists by pointing out that it is a metaphysical law that the empty set exists. The answer to the corresponding why-question is that the empty set exists because ∅; or alternatively: The empty set exists *just because*.

In explanations by zero-grounding, the zero-grounding fact helps explain the explanandum in the capacity of explanatory link. Therefore, the explanatory role of a status proposition of the form '■*P*' in an explanation by status and the explanatory role of a zero-grounding fact in an explanation by zero-grounding are the same according to the present proposal. Hence, explanations by zero-grounding can be understood as a kind of explanation by status: In a zero-grounding explanation, the explanandum is explained by its status as a zero-grounded proposition. One notable result of understanding explanation by status as empty-base explanation is that the two ideas support each other: The notion of empty-base explanation allows us to better understand explanation by status, but likewise, the idea of explanation by status lets us better understand the notion of empty-base explanation and related ideas like zero-grounding. Intuitions about certain explanations by status being good, appropriate, or apt to create understanding why, thus also support the possibility of empty-base explanation and zero-grounding.

According to the present proposal, the metaphysical law involved in explanation by metaphysical law plays an explanatory role analogous to the role of a metaphysical law in an ordinary metaphysical-law-involving explanation, in

which a metaphysical law links an explanandum [*P*] and a reason why *P*. This seems intuitively correct, as well as theoretically more elegant and parsimonious than the rival proposals, which either forbid explanation by metaphysical law status or require stipulation of *sui generis* explanatory relations to locate the metaphysical law in the role of reason why rather than explanatory link.[144]

Having realized this for the case of explanation by metaphysical law, we should treat proposals for explanation by necessary or essential status analogously, since the status proposition in them plays the same explanatory role as the metaphysical law does in an explanation by metaphysical law status (that of an explanatory link). If explanation by essential status is possible, it should work analogously to explanation by metaphysical law status, namely conforming to the foil of empty-base explanation: The empty-base account of explanation by status naturally reveals explanation by metaphysical law and essential status as a special case of explanations in which metaphysical laws or certain essential dependence relations play the role of explanatory links. Given the account, there is no reason to assume that explanation by metaphysical law or essential status involves grounding claims of the form '[■*P*] grounds [*P*]' or analogous claims involving *sui generis* explanatory relations. In fact, if anything, the preceding observations seem to count against postulating such claims in order to account for explanation by metaphysical law or essential status.

Now, it turns out that the account of explanation by status as empty-base explanation predicts that explanation by *modal* status is not possible: Explanation by status conceived as empty-base explanation requires that the status propositions are explanatory links. For the cases of essential and law status I have made this assumption in the previous chapter, and we will take another look at essence-based explanatory links in the next chapter, but propositions expressing necessary status cannot be such links. The equivalent of these links in non-empty-base explanations would be strict conditionals, but there are well-known reasons against the thesis that metaphysical necessity is an explanatory notion and thus against the thesis that strict conditionals can be explanatory links.

For example, explanatory links are asymmetric, but modal dependence (as captured by strict conditionals) is not.[145] While one may perhaps accept *some* instances of symmetric explanation, modal dependence has *many* symmetric instances without

144 Recall the thought that links of empty-base explanations might have the form '■($\Gamma \rightarrow P$)', with 'Γ' standing for an empty plurality of propositions, rather than the form '■P'. If that is the case, a proposal for an explanation why [P] in terms of [■P] would best be understood as gesturing at a proper explanation in the vicinity, namely the empty-base explanation of P which has [■($\Gamma \rightarrow P$)] as its link.

145 Cf. Schnieder (2015) on the asymmetry of explanation and explanatory links, as well as further references.

corresponding explanatory connection; in general, explanatory links only connect explanatorily relevant relata, but strict conditionals also connect explanatorily irrelevant relata. For example: (i) modal dependence is reflexive, but explanation is irreflexive (perhaps given some exceptions); (ii) any two necessary truths are modally equivalent, but neither need explain the other; (iii) [snow is white] is true because snow is white and not vice versa, but [snow is white] and [[snow is white] is true] are modally equivalent; (iv) if [P] and [Q] are necessary and [R] is contingent, then [$P \wedge R$] and [$Q \wedge R$] are contingent, but necessarily equivalent and no explanatory connection seems to hold between them, at least if [P] and [Q] are explanatorily unconnected.

One might propose a two-component view according to which what should be taken as the explanatory link is a strict conditional together with a further element that ensures that the two conditions above are satisfied. But first, the onus would be on the friend of strict conditionals to develop such a view, and, second, taking a clue from Kim (1994), we may believe that explanatory links should somehow *account for* features of explanation such as irreflexivity, asymmetry and relevance. *Prima facie*, the proposed two-component view does a worse, because less unifying, job at this than views that propose explanatory relations like causation or grounding, which natively satisfy conditions such as asymmetry and relevance.

While I am thus inclined to discard the idea of explanation by modal status, it may (in addition to the options of section 3.4) often be possible to substitute proposals for explanation by modal status by viable proposals for empty-base explanations involving zero-grounding explanation, metaphysical law, or essence. Here, two advantages of my proposal over Glazier's are that by treating explanation by status as a special (namely empty-base) case of ordinary kinds of explanations, my proposal demystifies explanation by status and allows for a principled assessment of candidates for explanations by status as (empty-base) special cases of ordinary kinds of explanations. As a result of this, as is the case with explanation by modal status, not all proposals for explanation by status can be captured one to one. But given that this is the result of a principled assessment based on a well-motivated account, I take this to be an interesting result, rather than a cost. Expanding on this application of the empty-base account, I will show in the next section how van Inwagen's proposal for explanation by high probability can be assessed like this too.

But for now, let us consider now whether any of the problems for explanation by status discussed above carry over to explanation by status conceived of as empty-base explanation. Note first that the proposal deals well with the conflicted intuitive assessment of proposals of explanation by status: To an extent, intuition counts against explanation by status if we understand it as suggesting status propositions as reasons why, but it can count in favor of explanation by status if we understand the latter as empty-base explanation. One worry is that proposals for explanations by

status often do not satisfy the inquirers (perhaps because they lack a feeling of understanding why), but we should not dismiss explanation by status on this basis alone. First, rival intuitions exist to the effect that explanation by status *does* provide understanding why. Second, assuming that understanding why requires properly grasping an explanatory link (as e.g. Hills (2016) effectively argues), an explanation of the absence of understanding why in the relevant cases is available: The subjects in question do not properly grasp the relevant explanatory link. Third, subjects skeptical of attempts at explanation by status might expect an explanation with features that explanations by status do not have (e.g. reasons why its explanandum obtains). But then rather than being no explanation, as the subjects intuit, it is merely not the kind of explanation they desire.

Turning to the other considerations against explanation by status: The worry from the grounding elimination rules does not carry over, because no grounding relation between the explanandum and the status proposition is postulated. Concerning the regress worry we have to note that a sort of regress presumably arises. For instance, in the case of zero-grounding, a regress starts with a zero-grounded proposition if we assume that zero-grounding claims are themselves zero-grounded (cf. Litland 2017). This is not a regress of *reasons why* but a regress of explanatory *links*: Except for the first element of the regress, each element is a link in an empty-base explanation of the previous element. Where discussed, this regress is considered to be unproblematic.[146] A principled account of why a regress of grounds should be problematic but a regress of explanatory links not would clearly be desirable, but to my knowledge has not yet been given.[147] As far as I can see, the other problems for explanation by status do not arise for empty-base explanation.[148]

146 See e.g. Bennett (2011) and Litland (2017).

147 I admit that in the absence of such an account, there is a certain intuitive pressure to treat the two types of regresses equally. Note that if we do so and allow for regresses of reasons, the regress problem from section 3.2 would lose strength significantly.

148 Nevertheless, it may be interesting to think about the 2-factor-account problem for a bit. Suppose that a 2-factor-account of metaphysical lawhood is true. Then assume that it is a metaphysical law that P. Since we assume the 2-factor-account, this fact can be grounded in [*P*] and some [*Q*] taken together. Now, indeed, it being a metaphysical law that *P* (empty-base) explains why *P*, but [*P*] also (partially) grounding-explains (viz. is ground) why it is a metaphysical law that *P*: Apparently, we have a case of symmetric explanation, where a proposition [*P*] (partially) grounds a proposition [*L*], which in turn explains [*P*] by being a link of an empty-base explanation of [*P*].

I have two remarks on the situation: First, some suggest that there are explanatory links that are not in harmony such that there can be cases such that *P* is a reason why *Q* mediated by one explanatory link and *Q* is a reason why *P* mediated by another explanatory link – the idea is that the disjunction of the two kinds of explanatory relations involved in the links need not satisfy asymmetry while each relation does (see for example Bennett 2017 and Glazier 2017b). Second, note that we are not even dealing with a case of symmetric reasonhood: In our case, [*P*] is a

Before we wrap up the chapter by looking at two further applications of the empty-base account of explanation by status, let us address Rosen's (2017) argument (mentioned already in chapter 1) for cases in which a normative fact [Q] is (metaphysically) grounded in a non-normative fact [P] together with a normative law that connects [P] and [Q], which we can write as '[$\Box_{norm}(P \rightarrow Q)$]'. According to Rosen, considerations concerning the nature of normative facts and their plausible grounds motivate that sometimes the two elements of a (normative) covering law explanation involving initial condition ([P]) and normative law ([$\Box_{norm}(P \rightarrow Q)$]) together ground the explanandum ([Q]) of said covering law explanation. His motivation is to find metaphysical grounds for particular moral facts, such as [act a is permissible], while assuming that no fully non-normative, non-moral grounds for such facts exist, and yet avoiding having to concede that any particular moral facts are fundamental.

If Rosen is correct about this, there is a kind of explanation, namely normative covering law explanation, where the explanatory link always also is a reason why the explanandum obtains, because the link is a partial ground of the explanandum. Moreover, if there could be normative laws of form '$\Box_{norm}(Q)$' or '$\Box_{norm}(\Gamma \rightarrow Q)$' with 'Γ' standing for an empty plurality of propositions, then Rosen's account would suggest that these laws ground [Q], which would constitute an explanation by normative law status with grounding fact as explanatory link. Here, I am interested in whether accepting Rosen's suggestion affects what I say here about explanation by status: Should we, if we assume that normative laws partially ground explananda of normative covering law explanations, therefore reconsider modeling explanations by status as grounding explanations of form 'P because $\blacksquare P$'?

I think we should not: First, it is doubtful that there are normative laws that would generate instances of 'P because $\blacksquare P$'. Second, even if there are, we could still treat them as a curiosity concerning normative laws (although some pressure on what I say above would be hard to deny in that case). Third, and most importantly, my positive proposal as to how to understand proper explanations by status will stand in any case. The result might then be that there are two kinds of explanation by status, namely explanation by status as empty-base explanation as I propose below, and Rosen-style (partial) grounding by law.

Rosen's suggestion is to add normative laws to non-normative facts to obtain a grounding base for particular normative facts (a similar role has been suggested for social norms/laws in grounding the existence of certain social entities, cf. Epstein 2015, chs. 6 and 7). While these laws (according to Rosen) also play a distinct

---

reason why the law obtains, but not vice versa: The law explains why P, but as a link of an empty-base explanation of P. For more discussion of a similar kind of phenomenon, see chapter 6.

(link-like) role in *normative* explanations, their role in grounding explanations of particular normative facts is that of a ground that adds the required normativity to the otherwise non-normative base facts. This contrasts nicely with the explanations by status I have been discussing, in which the (law-like) status propositions play the role of explanatory link (and not also ground or also explanatory link of a further kind of explanation of the relevant explanandum).

3.6 Two more applications of the account

Finally, let us look at two further applications of the empty-base account of explanation by status. The first concerns the idea of explanation by (high) probability, while the second concerns the explanatory relations between laws, universal generalizations and their instances (see for example Roski 2018 and the papers cited therein).

Explanation by probability: According to van Inwagen (1996), we can (at least sometimes) explain why *P* by citing that it is (objectively) very probable that *P*. In his paper, van Inwagen combines this idea with an argument to the conclusion that in some sense it was (objectively) very probable for there to be something (rather than nothing) to attempt a probabilistic explanation by status of why there is something rather than nothing. Like explanation by necessary status, we can use the empty-base account of explanation by status to assess van Inwagen's proposal for explanation by high probability.

In order to do so, first we have to decide what kind of explanatory link van Inwagen's probability facts correspond to: What kind of probabilistic fact plays the role of link in the corresponding non-empty-base explanations? Presumably, it will be some kind of probabilistic conditional (or universal generalization containing such a conditional) that expresses something along the lines of "if the antecedent is true, then it is objectively very probable that the consequent is true as well". Alternatively, we could consider a proposition that expresses that the objective conditional probability of the explanandum given the explanatory base is very high.

Second, we have to ask whether such facts can play the role of explanatory link at all. Here, for reasons analogous to those in the case of explanation by necessary status, the answer appears to be no: For example, the first of the above notions fails to capture explanatory relevance, since if it is already objectively very probable that *Q*, then whatever the antecedent, it will be true that if the antecedent is true, then it is objectively very probable that *Q*. For conditional probability observe for example that oftentimes if the conditional probability of the explanandum given the explanatory base is very high, it can still be the case that the conditional probability of the explanatory base given the explanandum is very high as well (or even higher), threatening anti-symmetry: For example, the existence of a painting

created by dropping paint onto a canvas in windy conditions might plausibly be explained by the artists dropping said paint. We can assume that the conditional probability of the existence of the painting given that the artist drops paint is high, but far from 1 (because the windy conditions might interfere, say). On the other hand, given plausible assumptions about the nature of paintings, the probability of the artist's dropping paint given that the painting exists is 1: This painting in particular could not have come to exist in any other way.

Thus, mere probabilistic conditionals or facts about conditional probability, and by extension facts about high probability, cannot be explanatory links. But of course, probabilistic laws (say, of nature) can do the trick. A more thorough assessment of van Inwagen's specific proposal should thus investigate whether his high probability claim can be understood as (an instance of) such a probabilistic law. It is worth contrasting this assessment with a related account of how chance explains by Hicks and Wilson (2021), according to whom (in a nutshell) chance facts play the role of higher-order reasons why in Skow's sense (compare my discussion in chapter 1).[149] It may seem that this proposal is confronted with issues similar to those just pointed out: It is unclear how mere chance facts can account for explanatory direction and relevance, and thus unclear how they could serve as higher-order reasons why. But this would be too quick: On the one hand, it appears that Hicks and Wilson do indeed at least sometimes have probabilistic laws of nature in mind (rather than mere probabilistic facts), as would be my preferred approach. On the other hand, they can attempt to adopt an analogue of what I called '2-factor-accounts' above, according to which the mere probabilistic facts are only partial higher-order reasons why and need to be accompanied by other (partial) higher-order reasons why (still to be identified) that help account for explanatory direction and relevance.

Explanatory relations between laws, universal generalizations and their instances: Here is an attempt at capturing the idea that laws can explain corresponding universal generalizations, which uses the idea of an explanation by law status, understood as an empty-base explanation involving laws: Consider a universal generalization $[\forall x(Fx \rightarrow Gx)]$ and a corresponding law $[\Box_L \forall x(Fx \rightarrow Gx)]$. Above I proposed that a law of form '$\Box_L P$' is a link of an empty-base explanation of $[P]$. But then, $[\Box_L \forall x(Fx \rightarrow Gx)]$ is not only a link for explanations of facts of form '*Fx*' in terms of facts of form '*Gx*', but also a link of an empty-base explanation

149 See especially the section on *null-explanation* that includes a potential example for a candidate empty-base explanation by (probabilistic) law of nature involving real-world science (in this case Boltzmannian statistics), for more discussion see chapter 5.

why [$\forall x(Fx \rightarrow Gx)$], since [$\Box_L \forall x(Fx \rightarrow Gx)$] has form '$\Box_L P$' which can be seen by substituting '$\forall x(Fx \rightarrow Gx)$' for '$P$'.[150]

If this proposal is correct, propositions of the form '$\Box_L \forall (Fx \rightarrow Gx)$' can figure as links in two different kinds of explanations: First, they can (as usual) be links of explanations why Gx (for appropriate x), and now according to the present proposal they can also be links of empty-base explanations why $\forall x(Fx \rightarrow Gx)$. But perhaps matters are a little less straightforward than this. Recall that in chapter 2 section 3 I suggested that the links of law-involving empty-base explanations may not have the form '$\Box_L P$', but rather '$\Box_L(\Gamma \rightarrow P)$', with 'Γ' standing for an empty plurality of reasons.[151] In that case, rather than [$\Box_L \forall x(Fx \rightarrow Gx)$] empty-base explaining why $\forall x(Fx \rightarrow Gx)$, it is the related law-proposition [$\Box_L(\Gamma \rightarrow \forall x(Fx \rightarrow Gx))$] that empty-base explains why $\forall x(Fx \rightarrow Gx)$.

3.7 Conclusion

The account of explanation by status as empty-base explanation defends and develops the practice of explanation by status as a limiting case of ordinary explanation and thereby removes some of the mystery surrounding the practice. Three virtues of the account are that (i) it allows for the possibility of explanation by status as a proper kind of explanation, (ii) it achieves this without postulating *sui generis* explanatory relations, and (iii) it provides a method to determine which kinds of status allow for a corresponding kind of explanation by status.

Appendix A: More on the determination constraint argument

DeRosset's (2013a) determination constraint on full grounding is this:

(Determination Constraint)
An explanatory proposal of the form 'd has feature F because $\phi(d, a_1, \ldots, a_n)$' is at best incomplete if there is or might have been a confounding case for it: an

150 Cf. Lange (2009b), who endorses that laws of the form '$\Box_L P$' explain facts of the form 'P', but takes the relevant relation to be a becausal one.
151 Or the quantified version: '[$\Box_L \forall x(\Gamma \rightarrow Gx)$]'.

entity e and some entities $a_1, \ldots, a_n$ such that e (together with $a_1, \ldots, a_n$) satisfies $\phi(y, x_1, \ldots, x_n)$ but lacks F.[152]

I suggest that the Determination Constraint can be strengthened as follows:

(Determination Constraint*)
An explanatory proposal of the form 'd has feature F because $\phi(d, a_1, \ldots, a_n)$' is at best incomplete if there is or might have been a confounding case* for it: an entity e and some entities $a_1, \ldots, a_n$ such that e (together with $a_1, \ldots, a_n$) satisfies $\phi(y, x_1, \ldots, x_n)$ but it is not the case that e has feature F because $\phi(e, a_1, \ldots, a_n)$.

Note how the proposal is strengthened by adopting the notion of a confounding case*: To take an easy example, a confounding case* of an explanatory proposal '*Fa* because *Ga*' would be a *b* such that *Fb*, but '*Fb* because *Gb*' is false. Of course, one way for this to be so is for '*Fb*' to be true and for '*Gb*' to be false – this is what the original Determination Constraint captures. But according to Determination Constraint*, another possibility is for '*Fb*' and '*Gb*' to be true, but for '*Fb* because *Gb*' nevertheless to be false.

The Determination Constraint* seems to be a good candidate for a stronger principle that underlies the Determination Constraint. One intuition that motivates the Determination Constraint seems to be something like this (for a simple case): '*Fa* because *Ga*' is only complete, if for any *x*, its being *F* ensures its being *G*. Now I think the most plausible candidate for the notion of ensurance is not a merely modal one, but an explanatory one, and this is captured by the Determination Constraint*: The idea is that if '*Fa* because *Ga*' is complete, then not only is it the case that *a*'s being *F* explains *a*'s being *G*, but necessarily, anything's being *F* explains its being *G*. Indeed, it would be strange to accept Determination Constraint but to reject Determination Constraint*: Why would *a*'s being *F* explaining *a*'s being *G* only require a necessary connection between being *F* and being *G* in cases of other entities than *a*? Why would it require such a connection at all? It seems better to accept Determination Constraint* as well. Note in passing that the Determination Constraint* is related to the idea that explanatory links (of the relevant form) need to correspond to laws or have a certain law-like character.

Observe now that given Determination Constraint*, we obtain the following result:

– If there is a p for which p is true because p is necessarily true, then for all necessarily true p, p is true because p is necessarily true.

152 For the record: I have some concerns about the determination constraint in this formulation, stemming in part from the conclusion that deRosset uses it to argue for. Nevertheless, the observation it attempts to capture seems to be important.

For if there is a p for which p is true because p is necessarily true but also a necessarily true q for which it is not the case that q is true because q is necessarily true, then q is a confounding case*, and so the explanatory proposal is at best incomplete. This already can be considered to support the following corresponding principle at which we want to arrive, although it is not quite clear how to bridge the remaining argumentative gap:

– If there is a P for which P because $\Box P$, then for all P such that $\Box P$, P because $\Box P$.[153]

I think we can do a little better. It seems plausible that certain further generalizations of the Determination Constraint* should be possible. Thus one might think that we can straightforwardly extrapolate from the strengthened version of deRosset's predicational version to the following operational version, where '' stands for a sentential operator:

(Operational determination constraint*)
An explanatory proposal of the form 'P because $^{*}P$' is at best incomplete if there is or might have been a confounding case* for it: a proposition [Q] and an operator '*' such that it is the case that Q, but it is not the case that Q because $^{*}Q$.

Prima facie, this seems as plausible as the Determination Constraint*. But if the Operational Determination Constraint* holds, then it follows that the scope of the schemata for explanation by status has to be unrestricted (that is, only restricted to those propositions that have the status in question), for otherwise the constraint would be violated.

Alas, a further complication arises – there is reason to believe that the Operational Determination Constraint* is not quite true: As we saw in section 3.3, there might be true instances of 'P because $\Box P$' in which, in a sense, it is not [P]'s necessity that 'does the explaining' – in these cases, the necessity operator could for example be exchanged by a possibility operator. But we should be reluctant to conclude from the truth of *these* instances of 'P because $\Box P$' that all its instances that have true relata are also true. To address this problem, the most straightforward fix of the constraint for the case of necessity is perhaps the following:

153 Here I quantify into sentential position using 'P' as a corresponding variable. We can use schema-talk instead and say that the principle supported is that if there is one true instance of the schema 'P because $\Box P$', then every instance of 'P' that satisfies '$\Box P$' also satisfies 'P because $\Box P$'.

(Revised operational determination constraint* for '□')
An explanatory proposal of the form '*P* because □*P*' *in which it is [P]'s necessity that is supposed to do the explaining* is at best incomplete if there is or might have been a confounding case* for it: a proposition [*Q*] such that it is the case that □*Q*, but it is not the case that *Q* because □*Q*.

Appendix B: More on 'being necessarily the case' as a determinate of 'being the case'

One might argue as follows that something like determinate-determinable grounding can obtain for our sentential operators: Consider the sentential operators '□' for metaphysical necessity, '○' for metaphysical contingency and '$\cdot$' defined by '$\cdot P$ iff *P*'. If we could, somehow, generalize the idea of determinates and determinables to sentential operators such as these, then it may be plausible to say that '□' and '○' are determinates of '$\cdot$'. Given the assumption that 'determinates ground determinables', one would get the result that if □*P*, then [□*P*] grounds [$\cdot P$] and that if ○*P*, then [○*P*] grounds [$\cdot P$]. Finally, if the factual equivalence of [$\cdot P$] and [*P*] could be established, it would follow (for the right kind of grounding and right strength of factual equivalence) that if □*P*, then [□*P*] grounds [*P*] and that if ○*P*, then [○*P*] grounds [*P*]. This would account for the alleged explanatory grounding connection between [□*P*] and [*P*].

Related to this is the idea that facts may be fundamentally divided into two classes: the necessities and the contingencies. Generalizing the notion of determinable and determinate properties to facts in a similar fashion as above, one might think that the necessities and the contingencies are determinates of a sort of neutral facts. Assuming that '□*P*', '○*P*', and '*P*' express the relevant necessity, contingency, and neutral fact respectively, the determinate-determinable relation between the facts would then be mirrored by the grounding relations given in the previous paragraph.

To flesh out these ideas, clearly a lot more would have to be said: Amongst other things, a treatment of iterated occurrences of '□' and '○', as well as a new logic of grounding and the interplay of grounding, modal operators, and truth-functional operators would have to be developed. In any case, [*P* because contingently, *P*] appears quite implausible, but it follows from the proposal, if [*P*] is contingently true. As we have seen, proponents of instances of '*P* because □*P*' have often claimed that the necessary status of certain propositions affords an in some way particularly good explanation. But if explanation by necessary status is understood as just sketched, it is unclear how the special quality of such explanations should be accounted for. Supposing we allow '□' and '○' to be iterated, one might think that the infinitely

descending grounding chain [P], [$\Box P$], [$\Box\Box P$], . . . can secure the special explanatory status.[154] But this would be incorrect, since if [$\circ P$] is the case, then [$\circ \circ P$] is also the case and an analogous grounding regress could be constructed, and the special status of the box-involving regress would have to be accounted for differently.

154 It is unclear to me whether on the proposed picture, iterated modalities should be allowed. For we assumed that [$\Box P$] determines [P] and [Q] determines [Q]. Now one might think that analogously, [$\Box\Box P$] determines [$\Box P$], and [$\circ\circ Q$] determines [Q], and so on. It is unclear though whether this idea can be made sense of, because this would mean that [$\Box P$] (or [Q]) only has one determinate [P] (or [$\circ\circ Q$]), because [$\Box \circ P$] (or [$\Box \circ P$]) is impossible, assuming S4 modal logic. But it is unclear in what sense we can speak of determination, if there necessarily is only one 'determinate'.