

One More Against Finding the Source of Modal Spaces

Abstract

In this paper, I examine the question of the source of modal spaces. I identify two ways in which we could approach the question: internally and externally. I argue that internal approaches have to avoid the worry of vicious circularity, but that it will be hard for any account to satisfy this requirement. Introducing the notion of a modal profile, I show that many candidate explanatory bases may already be modally-profiled in a way that would make explanations invoking them circular. I examine the possibility that the circularity in these cases may not be vicious, but dismiss it. I then argue that external approaches might not do much better.

Keywords: Modality, Modal Profiles, Modal Spaces, Circularity, Modal Primitivism

Is there an available answer to the question of the source of modality?¹ In this paper, I want to raise a problem with the positive answer to this question, that there is an answer to the question of the source of modality. The fundamental problem is the possibility of a kind of circularity: without a way to distinguish the modal from the non-modal, there is no way to determine that the source of the modal is not already modal. This possibility raises the concern that some potential candidate accounts for the source of modality may in fact reintroduce modality from the back door, which may be explanatorily unsatisfying. The lesson is that whoever wants to defend a theory of the source of modality needs to offer a convincing case that the concern is misguided or show that their account in fact does not give rise to the problem. My intention here is to highlight various ways in which the problem could manifest itself, some of which may not be obvious. It is possible that some views about the source of modality can avoid the concerns I raise here—but this needs to be dealt with explicitly. I will not attempt to offer a positive account myself.

To proceed, I will frame the issue somewhat differently than usual. My concern will not be the issue of how we can give an account of the source of *particular* modal truths, but the issue of how we can give an account of the source of *modal spaces*. That is, we will not be worried about how to account for facts of the sort that it is possible for it to rain when condensation occurs, or that it is necessary that causes precede effects (assuming that these are true), but with the problem of how to account for the possibility for those facts to be true under a given understanding of what is possible. I will elaborate on this point in section 1 of this paper.

The structure of my argument will be the following:

1. There are two options to approach the issue of the source of modal spaces: one is internal, and the other is external or primitivist.
2. If we take the first option, we can do it by accounting for the source of modality in something that is modal, or in something that is not modal.
3. For reasons related to the abundance of modally profiled items, there are no good candidates for a non-modal source of modality, as far as we can tell, so it seems like we have to accept an account that places the source of modality in something modal.
4. But this raises a problem of circularity. Now, this could be either vicious or non-vicious.
5. If it is not vicious, perhaps we can accept some version of the internal approach.
6. However, there are reasons to think that we cannot say that it is not vicious in this case.
7. If it is vicious, the internal approach fails.
8. Since it seems circularity in this context is vicious, as far as we can tell the internal approach fails.

¹ By available I mean not only that there is an answer to the question, but that it is graspable by us. While I will focus on the metaphysical side of the problem here, the epistemological problem of how we could have knowledge of the answer is equally important. I will return to this point briefly at the end of the paper.

I will discuss points 1 and 2 in section 1, where I expand on the notion of a modal space, point 3 in sections 2 and 3, where I introduce the notion of a modal profile, and examine various ways in which something can be modally profiled, and 4 to 7 in section 4, where I turn back to the possibility that circularity needs not be vicious.

This argument does not touch on the viability of so-called primitivist or external approaches to the question, and it leaves some room of movement for those who wish to maintain an internal account. Accordingly, I don't think it gives us reasons to dismiss the question about the source of modality in general and of the source of modal spaces in particular outright as ill-posed or meaningless. My goal is rather to express a more sceptical attitude towards it. I will return to this in the conclusion.

1. Modal spaces

Whatever one's conception of modality is, an important notion one may want to capture is that of a *modal space*. Grossly put, a modal space of a kind k is a set of possibilities of *that* kind. Within the metaphor, a possibility in the most general sense is simply a point in space. For our purposes here we will take a possibility as a point of evaluation for some propositions, or an index; formally, this is just to say that a possibility p is a possible parameter for a function $T_M(p, t)$ that assigns a truth value to a pair of a possibility (that is, p) and a proposition t , in relation to a modal space M .² Note that this is merely a functional characterization, not a full analysis, of the notion of possibility.

What the notion of a modal space is useful for is to distinguish between different kinds of modality: each kind will correspond to a different space, and properties of the space will be properties of the kind. Furthermore, any account of modality that supports a notion of modal space can make sense of the use of the familiar relational semantics, where frames $\langle W, R \rangle$ can be seen as a pair of a set of points and a specification of the structure of the set (that is, of what relations there are between points in the space). This does not mean that using the notion commits us to the existence of worlds, which is inessential to using a relational framework except in the trivial sense that we can take points in modal space as the definition of what a world is. For example, if we took modality to have its source in things and their natures, we could conceive of a modal space as the set of possibilities *for those things*, and we would get different modal spaces for different classes of things. In the absence of an alternative semantic framework, this could be good reason for anybody who advances an account of some type of modality to develop an account of modal spaces in this general sense—doing it would give us a sketch of how to implement a relational model for that type of modality.³

Having this notion of a modal space allows us to interpret the question about the source of modality in its terms. To ask for the source of modal truths of a kind will involve at least in part the

² The assignment does not have to be bivalent. It might be, for example, that the truth value of a proposition at a possibility is undetermined. But if we allow this, then we might be forced to say that all modal spaces are coextensive (all T functions may be total). In general we will instead want to say that possibilities that don't yield a determinate truth value for a truth are outside of the relevant modal space.

³ Warmke (2016) gives an overview of various semantic accounts for modality that diverge from the usual relational semantics. They note that none of the accounts they survey has the wide applicability of relational semantics, because they cannot make sense of a range of properties that we might want to capture for different modalities. Warmke argues that the loss in applicability should be weighted against explanatory power. I believe that the breadth of applicability of these accounts will depend on whether a general notion of modal space can be elaborated for interpreting those semantics. This is not ruled out in principle for any of the non-relational semantics that Warmke surveys. For example, in Warmke's own account possibility derives from the property of being a world: ϕ is a possibility iff the property of being such that $\neg\phi$ is not a part of the property of being a world. We could think of a modal space in relation to some property of being a world (W) as the set of all the things x such that the property of being such that $\neg x$ is not a part of W . We could then get different modal spaces by combining the property of being a world with other properties (for example, the modal space of physical possibilities may be the space that we get by combining in some suitable way the properties of being a world in general with the property of being beholden to natural laws, cf. *ibid.*, p. 712). As Warmke himself suggests, divergent semantics may not really be rivals to relational semantics.

question of the source of the relevant modal space. Roughly, the question becomes: how does this modal space get going, as it were?

Here there are two main choices for us: we can either think that modal spaces have their source only somewhere at the points they comprise, or not. One implementation of the first idea is that modal spaces supervene or are grounded on the natures of the objects that exist at the points in modal space. This is, roughly, the view of many of the so called “new actualists” (cf. Vetter 2011). On the other hand, someone who follows the second strategy might want to claim that modal spaces have their source externally or primitively. For example, they might want to say that the nature of the things that exist at points in modal spaces depends on the modal spaces themselves.⁴ The former strategy is more common, perhaps because it may seem more natural or because the second has not been spelled out with sufficient clarity in the literature. However, and despite its popularity, there are concerns with the internal strategy that make it entirely not obvious that it should be preferred over the other. While we may have some qualms about the external strategy as well, it is not obvious that we should dismiss it out hand without having a way to save the internal strategy. Otherwise we exhaust all options and end up with no way to answer the motivating question.

The main concern I will raise about the internal strategy here is that the notions that are supposed to play an explanatory role for it may already be in some sense modal. From this observation, one could advance a sceptical argument as follows. Since explaining modality in terms of modality is circular, and circular explanations are not entirely satisfactory, no explanation of this sort can be satisfactory. The main options for the defender of the strategy are: a) to show that in effect no circularity is involved in these explanations even when those are taken at face value (e.g., by showing that the relevant notions are not modal in the relevant sense),⁵ or b) to accept the point but to argue that in a related sense of explanation, the circularity does not vitiate the explanations (for example, by arguing that we should only aim to a non-reductive sort of explanation of modality).⁶ I will examine the first approach in sections 2 and 3, and the second in section 4.

2. Modal profiles

In order to evaluate the first option it will be useful to introduce a second key modal concept, which is that of something having a *modal profile*. Like the notion of a modal space, the notion of a modal profile is to some degree metaphorical. Non-metaphorical, ordinary, profiles are sensible parts of concrete objects; generally, a part of their outline—a kind of boundary (cf. Smith (1997)). Metaphorical profiles are (a restriction of) a generalization of a restriction of the non-metaphorical notion of a profile. First, we restrict profiles to their parts that can be of help in identifying the objects that they are profiles of. Then, we generalize to any set of properties that can help identify them. Finally, we restrict these sets so that they meet certain conditions. In particular, we want these profiles to say something about how their bearers *interface* with other things (just like non-metaphorical profiles intimate how their bearers *fit* with other things).⁷ Like in the non-metaphorical case, we can say that metaphorical profiles exhibit concavity and convexity: a profile is concave when there are conditions under which it exists, holds or is satisfied (things fit *into* non-metaphorical concave profiles), and it is convex when there are conditions that follow from its existence, its holding, or its satisfaction (non-metaphorical convex profiles fit *into* other things). For example, a proposition’s *inferential* profile is both concave (a proposition can *follow from* another) and convex (a proposition can *entail* another).

⁴ Wittgenstein (1922, 2.013) seems to take this position when he says: “Every thing is, as it were, in a space of possible atomic facts. I can think of this space as empty, but not of the thing without the space.” Here the space seems to be independent of the thing, and the thing dependent on the space. However, note that the relevant space here is a space of possibilities *for* the thing. We have to distinguish between an empty space of possibilities and a space where in no possibility something is true of the thing. Cf. Cerezo (2012) for discussion.

⁵ Cf. Turner (2016, p. 207), Fine (2005) and Rosen (2006).

⁶ Cf. Jubien (2009, p. 98–99), Turner (2016, p. 206) and Cameron (2012).

⁷ In this sense, we can think of something’s profile either as a cluster of some of its properties, or as a part of it with certain properties. Here I will assume the former, but I will not endorse any particular view of what properties are.

For a characterization of what something's *o* modal profile might be, I propose that we relate it with the ways in which *o* may be involved in possibilities.⁸ In other words, it is how it fits in a modal space.⁹ Like before, we can think of this in terms of convexity and concavity: something's modal profile consists at least in part in the ways in which it is made possible (its possibility-concavity) and the ways in which it can make something possible (its possibility-convexity). We can generalize this account to handle to facts and properties: a fact's modal profile is the way it is located in modal space, and the modal profile of a property is the union of the modal profiles of all the facts that involve the property. In fact, I take the way a fact is modally profiled as primitive. A thing's modal profile can be seen as the union of the modal profiles of the facts that involve the thing (a property having a modal profile is just an instance of this). In the relational model, the modal profile of a possibility (a fact in logical space) is the way in which "accessibility" relations arrive and depart from it from and towards other points in modal space.

This notion of modal profile is in practice equivalent to that of essence, when we understand the latter deflationarily as the set of possibilities for something, which may presumably exhaust its identity conditions. I point this out just because it might help understanding the concept of a modal profile, not because I endorse the usage of the term 'essence' in this way.¹⁰ In what follows I will always use the term 'modal profile'.

As I pointed out above, one response to the circularity worry is to defuse it by pointing out that the relevant explanatory bases are not modal. This requires that a way to distinguish between modal and non-modal bases is available. Given our notion of a modal profile, this reduces to distinguishing between the modal profiles of modal and non-modal bases. The issue here is that there may not be any way to distinguish those. In fact, any modal profile of any item whatsoever will already show how the item is already "modality-apt" and thus in some sense modal.

Turner (2016) evaluates the prospects of theories that ground modal truth in facts and their interrelations. He considers the objection that such theories are not properly reductive because the notion of a fact is already modal. He says:

[...] Since 'fact' isn't one of the common modal paradigms (possibility, counterfactual, etc.) we might fairly ask the resister why we should think facts belong in the [modal] family.

One response complains directly about the existence of *false* facts [...] Surely a 'false' fact is just a possible fact—if I had been true, then the world would have been different. If the fact that Harry met Sally had been true, then Harry would have met Sally—so why doesn't this fact just 'code up' the possibility of Harry meeting Sally?

The objection can be spun two ways. According to the first, 'fact' [...] is objectionably modal merely because different distributions of truth across it correspond to different possibilities. *Any* attempted reduction of modality will have to use predicates of some sort and will have the consequence that different patterns of their satisfaction correspond to different possibilities. For instance, the reductionist who reduces possible

⁸ The notion of a way I use here should be understood functionally, in terms of the role it plays: to specify a way of a type X is to specify an answer to a how-question of type X. A way in which something can be involved in a possibility is how something can be involved in a possibility, and to specify that we might have to give a description of a possibility (cf. Yablo (1996)). There are several complications (semantic, epistemological and metaphysical) that I do not have the space to address here.

⁹ A thing's modal profile, like a modal space, must have some source. The questions interact. We can think: a) that a modal space has its source at the source of the modal profiles of the things that it involves, b) that a modal space has its source independently of the source of the modal profiles of the things that it involves, c) that a thing's modal profile has its source at the source of the modal space that it is involved in, or d) that a thing's modal profile and the modal space that it is involved in have their source co-dependently. The kind of explanatory project that we are now evaluating (whether modal spaces have their source only at the points that they range over) corresponds to the first possibility.

¹⁰ This is not exactly the same view that Tahko (2022) discusses, according to which possibility precedes actuality in an essentialist context (cf. also Lowe (2008)). In that view, modality is explained by essence, whereas in the deflationary view essence is just a form of modality; accordingly, essence lacks the explanatory role usually assigned to it.

worlds to distributions of ‘occupation’ across points of space-time [...] will think that different distributions correspond to different possibilities. But I don’t see why this makes ‘occupation’ or ‘space-time point’ somehow objectionably modal. So ‘truth’ and ‘fact’ working this way shouldn’t make those notions objectionably modal either.

On the second spin, it is not *merely* the fact that Harry met Sally corresponds to the possibility of their meeting. The worry is rather that—unlike the concepts *space-time point* and *occupation*—the concepts *true* and *fact* have a certain modal *je ne sais quoi*. It is the concept’s modal contamination, rather than any feature of their theoretical role, which keeps the analysis from a successful reduction.

Trying to adjudicate complaints like this quickly deteriorates into intuition swapping about what counts as ‘modal’. We should avoid it. (p. 206–207)

There is much to unpack here, but the gist of the issue is clear. It seems as if the mere possession of a modal profile is not enough for something to be modal in a way that is objectionable, so we can treat unobjectionable modally-profiled items as non-modal for all intents and purposes. Turner seems to think that there must be some way to vindicate the intuition that some modal profiles are “genuinely” modal and some others are not. Otherwise, he would not raise the point about the concept of occupation, which he takes to lack, first, any objectionable character, and second, the supposed modal *je ne sais quoi*. But he rightfully recognizes that this is not a stable position, since it would force him to provide with a principled way to make the distinction, which he lacks. Hence, he falls back into the strategy of adopting a different set of criteria to evaluate the success of the proposed reduction. This he takes from Cameron (2012).

There is a threefold distinction in the background here, between concepts which are paradigmatically modal, concepts which are not paradigmatically modal but which are modal nonetheless, and concepts which are not modal. These should correspond to different ways in which concepts can be involved in modal spaces—that is, different ways for them to have modal profiles.

I think we should take the paradigmatic cases as a given in order to understand how to make sense of the second type of case. Given a basis of modal concepts, we can project a wider class of modally-profiled concepts in two ways.

First, we will have concepts that inescapably require the satisfaction of basal modal concepts. One way to make more precise whether a given concept *c* is modally-profiled in this way is to take the axiomatization of the best theory about *c* and check if some of those axioms involve the use of basal modal concepts.¹¹ For example, the notion of supervenience seems to be modally-profiled in this way, because its most plausible analyses invoke some counterfactual constructions, which we may take as modally basic. Likewise, any concept of essence that validates the scheme

$$E\phi \rightarrow \blacktriangle \psi$$

where *E* stands for an ‘essentially’ operator and $\blacktriangle$ for some basal modal concept will be modally-profiled in this way, because such principle (or something stronger) should be part of any axiomatization of such concept of essence.¹² Call these concepts modally profiled by *Involvement*. Their *content* is modal.

Second, we will have concepts that, even though they don’t involve basal modal concepts in this way, have inferential profiles that are *formally* similar to those of basal modal concepts. For example, suppose that there is a *C* such that it obeys the principle

$$CC\phi \rightarrow C\phi$$

which is similar to the modal principle $\Diamond\Diamond\phi \rightarrow \Diamond\phi$, which holds for some basal modal concepts. Note that the match does not have to be as exact as this; having *C* obey a principle of the form $CCC\phi \rightarrow Cc\phi$ would also make it similar to that basal modal concept. For concepts like these it is

¹¹ This is intended to be a metaphysically neutral approach. Because we are asking whether concepts such as essence are already modal, it would be problematic to put this in terms of whether the real definitions of these concepts, or something like it, would involve modality.

¹² Cf. the logics of essence of Fine (1995; 2000) and Correia (2000). With some adjustments, this is also true of Correia & Skiles (2019) account of essence in terms of generalized identity (generalized identity is widely modal in this way).

possible to develop a semantics that treats them as modalities. Call these concepts modally profiled by *Patterning*.¹³

Involvement and Patterning are not exclusive; something can be modally-profiled in both ways. Again, the case of the notion of essence is illustrative. In Fine's (1995) logic of essence, essence operators behave like S5 modalities:

We shall [...] adopt an alternative approach, one which associates with each predicate F an operator $\Box_F$. The role of the predicate is now to pick out the subjects of the essentialist claim; and the intended meaning of sentence $\Box_F A$ is that A is true in virtue of the nature of the objects which F . Thus each class of objects is taken to give rise to its own modal operator, its own "sphere" of necessity; and it is the task of the logic of essence to lay down the laws which govern each of these spheres and the way they interact. (p. 241–242)

What is important to note here about this way of distinguishing between ways for concepts to be modally-profiled is that it tracks a distinction concerning the way in which items with modal profiles are involved in modal spaces. Concepts which are modally profiled by Involvement apply in already constituted modal spaces. They acquire their modal profiles from the application of other concepts, which in this sense precede them. To that extent, we can say that items that are modally-profiled by Involvement are modally heteronomous. On the contrary, items that are modally-profiled by Patterning may constitute their own modal spaces. To that extent, they are *modally autonomous*.¹⁴ In the cases where items are modally profiled by both Involvement and Patterning, such as in the case of the concept of essence, we are forced to say that those items are also modally heteronomous overall (of course, we can grant that they are autonomous in some respect). A question remains whether this kind of hybrid heteronomy is sufficient to dismiss these items as potential explanatory bases for the source of certain kinds of modality. My intuition is that it does. Furthermore, it remains to be seen what kinds of concepts are heterogeneous at all (again, my intuition is that most candidates for an explanatory basis of the source of modality will be heterogeneous at least in this sense). But it should be clear by now that the question of the source of modality can be aptly reformulated as the question of the source of the kinds of truths that are modally autonomous, because that is the source of modal spaces.

3. Incidental modality and relationality

Here we arrive at a problem. The class of things that are modally-profiled by Patterning is vast; perhaps, nothing escapes it. So besides obviously modal facts there will be wide range of *incidental modality*. This is the issue of distinguishing between the modal and the non-modal once again. Fine (2005) points out that

Any true proposition whatever can be seen as necessary under the adoption of a suitable definition of relative necessity. Any proposition that I truly believe, for example, will be necessary relative to the conjunction of my true beliefs, and any proposition concerning the future will be necessary relative to the conjunction of all future truths.(p. 247)

¹³ This characterization of Patterning skips over various complications: should the patterns be identical or merely similar? If the latter (which is more plausible), how do we measure similarity? One device that could be used to explain the idea further is that of back-and-forth games (Immermann (1999)): taking the logic/algebras of two items Γ and Γ' ($L(\Gamma)$ and $L(\Gamma')$), we set two players, Spoiler and Duplicator, in a game where Spoiler presents structures s from $L(\Gamma)$, which Duplicator tries to match with structures s' from $L(\Gamma')$ that are isomorphic or similar (according to some measure) to s . If there are matches, we say that Γ' is at least partially patterned on Γ , and Duplicator wins the game. This suggests a connection between the present issues and some topics in Correspondence Theory (Van Benthem (2001)).

¹⁴ This notion of autonomy differs from Dasgupta's (2016), for whom something is autonomous iff it is not suitable to be grounded. They argue that essentialist truths are autonomous in his sense, because they are explanation stoppers: in asking why something is the case, the fact that it is essential admits of no further ground.

Fine finds here a reason to reject the strategy of defining kinds of necessity as restrictions of some general kind, because the procedure leads to admitting that many counterintuitive kinds of necessity will be equally genuine. I think the lesson may be exactly the opposite: perhaps we should bite the bullet and abandon the restrictive intuitions concerning what varieties of necessity are genuine.

Sider (2013) and Cameron (2009) also offer deflationist accounts where any kind of modality is equally genuine.¹⁵ Wilsch (2017) takes the deflationary approach to be too large of a concession, and suggests that we should adopt it only as a last resort. But he offers no sustained argument about it (in fact, he admits that ‘perhaps, [the apparent distinction between necessity and pseudo-necessity] must, in the end, be explained away as a mere illusion’, 431), and the posit of there being a genuine distinction between necessity and so-called pseudo-necessity is merely based on intuitions. The point of deflationism is, precisely, to bypass those. Now, it seems to me that the intuitions that support that posit depend on a previous commitment to some form of essentialism, and the worry that if pseudo-necessities are genuine, that also trivializes to some degree the posit of things that have essences that have certain metaphysical explanatory roles.¹⁶

Some of the previous observations may suggest the following view, which we may call *Relationalism*. Any truth whatsoever can be placed in a modal space. Many modal spaces will be of no interest at all, but this does not undermine their character as modal spaces. And yet, they must have some source. The only commonality in all of them is that they latch onto some relational structure that is captured by the schematic notion of a modal space, which is replicated in the semantics (however those are implemented). Jubien (2009, ch. 3) argues that this is exactly where the possible worlds account of modality gets things wrong, by taking a mathematical structure as a stand-in for metaphysical structure. Anything can be an index in a relational model: concrete worlds, abstract worlds, maximally complete sentences, strings of bytes, concrete objects, and so on. Many of those kinds of indexes and their relations will not have anything to do with the intuitive notion of possibility and necessity, or with other modal notions that philosophers may be interested in. And yet, according to the view I just described, they are sources of modality in the widest sense.

It may be pointed out that something like this view is implicit in our previous discussion of modal profiles by Patterning. If we are going to say that anything that obeys some principles that are formally or structurally similar to those of basal modalities is modally profiled, that makes much that has relational structure modally profiled and thus modal in a wide sense. If that is enough, we might be begging the question in favour of Relationalism, or indeed open ourselves to the objection that we are changing the subject from the source of modality properly speaking to the source of *relationality*, the fact that there are relational facts.¹⁷ As a reply to this worry, we should remark that the whole point of the issue we are raising here is how to delimit the explanatory target of the question, that is, modality. We cannot *assume* that modality can be identified with some particular restriction of relational fact, as we would tend to do if we accept the restrictive intuitions (that the deflationist rejects) as a given. Change the subject from what we initially thought was going to be our target to something broader is a legitimate move in this dialectical context.¹⁸

¹⁵ Cf. also the comments on triviality in Leech (2016).

¹⁶ Fiocco (2019) gives an argument against the rationality of those demands.

¹⁷ Someone may object that this makes the posit of relations do double work: in this case they would have an explanatory role in modality as well as in relation to the datum that there seem to be relational facts. But the Relationalist may reply is that there is nothing to separate these roles: to account for relations would *just* be to account for modality in the limit case. Cf. Rayo (2013).

¹⁸ I should make it clear also that the sketched account of what is modally profiled by Patterning does not necessarily entail that we should treat all relational facts as modal. The way we measure similarity could be tweaked to prevent this, for example. It is important to remember that the whole approach assumes that there is a set of modal concepts which are treated as paradigms of modally profiled items. The way the widely modal is defined in this way is not intended to be self sufficient; it relies on some previous intuitions about what is modal or not. Here I have suggested that we should implement the approach in such a way that it captures as much as possible, but in principle it could be implemented in ways that are more conservative. I leave this option aside here, since I personally prefer the liberal view.

We should not, however, accept Relationalism too quickly either. As Turner points out in the quote above, the notion of a fact is not part of the common stock of modal notions, and neither is the notion of a relation, so relationality is *prima facie* a potential explanatory base for modality. However, the worry that it could be an illegitimate basis repeats itself here: it might turn out to be the case that these notions are already modal in a wide sense (indeed, this is the problem that Turner himself raises in the quote we saw).¹⁹ So despite initial appearances, there might not be a good candidate for a non-modal source of modality after all.

4. Non-vicious circularity?

If we abandon the idea that there is a strict criterion for something to be modal, so that the distinction between the modal and non-modal becomes diffuse, the prospects for foundationalist and reductive accounts of the source of modality become dim. But why would this be a problem? Could it not be possible to offer an account of the source of modality that allows for non-vicious circularity?

Vicious circularity of explanations happens when, because of the existence of an loop of explanations, some explanatory goal cannot be met.²⁰ Viciousness is thus relative to explanatory goals, and not an intrinsic feature of explanation loops. This allows for circularity that is not vicious.²¹ Note, however, that viciousness can be understood in two different senses. On the one hand, viciousness can be taken as an *epistemological* problem: when we say that an explanatory goal is not met, what we mean is that for someone with the goal to settle an explanatory-question, that question is not settled. A different way to understand viciousness is that because of the existence of a loop of explanations, some explanation relation does not exist. This is a *metaphysical* matter. For example, it could be that no *full* metaphysical explanation exists because there is an explanatory loop (of *partial* explanations). Or it could be that because there is a loop of explanation-like relations, none of them can count as a genuine explanation relation.

We may take the epistemological and metaphysical matters to be connected, for example, if we take that epistemological explanations track metaphysical explanation relations, that is, if something is epistemologically explanatory at least in part because it involves some metaphysical explanation relation. In this case, metaphysical viciousness would entail the *possibility* of some kinds of epistemological viciousness (for example, the lack of a full metaphysical explanation could prevent the possibility of a full epistemological explanation, but allow for partial epistemological explanations if there are partial metaphysical explanations available). In turn, epistemological viciousness could in some cases be a sign that we are facing metaphysical viciousness. However, epistemological viciousness is by itself a problem because of it gives reasons that undermine the support for claims concerning metaphysical explanation. The posit of metaphysical explanations is intended to give a metaphysical correlate to potential epistemological explanations. But if the latter are not available, the former is unwarranted.

Barnes' (2018) argument in favour of the non-viciousness of circular dependence relations explicitly intends to support the viability of holistic explanations in metaphysics. The aptness of holistic explanations in a domain might be, as we have just seen, a matter both epistemological and metaphysical. But this might vary along various dimensions. If we have a network of things, and we aim to explain one of them, we might be satisfied with tracking explanatory relations that end up looping back; each of them constitutes at least a partial explanation, and perhaps that is all we need for the explanatory purposes at hand. However, pointing to these dependence relations might not be sufficient to explain the arrangement of the whole, that is, when we ask why the network is structured in the way it is. Pointing to pieces of the network is not sufficient in this case. Bliss

¹⁹ Someone like Della Roca (2020) would object to Relationalism already because it assumes the reality of relations.

²⁰ This is a Failure-based account of viciousness. Cf. Wieland (2014) and Bliss (2013, 2014).

²¹ Bliss (2013, 2014) and Barnes (2018) argue for the possibility of non-vicious circularity for dependence and/or grounding relations. I discuss their views below.

(2013), who also argues for the possibility of non-vicious dependence loops, makes the point vividly:

[...] whether or not an infinite regress of grounds is vicious depends upon the explanatory project we are embarked upon. If what we wish to explain is how some particular fact exists or obtains, it is sufficient to cite the fact, or facts, upon which it depends. Having cited those facts, and the facts upon which they depend, we have not explained how the whole lot came to be in the first place. Or, alternatively, what we have failed to offer is a complete explanation of any of the facts under consideration. Where [A] grounds [B], [B] grounds [C], and [C] grounds [A], although we have explained the existence, or obtaining, of each fact along the way, we have not explained how the loop came to be; nor have we offered a complete explanation of any of the facts involved. (254)

Accordingly, even in domains where holistic explanations can be accommodated, there might be kinds of explanations that cannot be accommodated but which might seem desirable.

Now, what I would like to suggest is that the case at hand is such a case. When we ask for the source of modal spaces, we are not simply asking for the source of particular modal truths, or even of an arbitrary set of them. It might be true that the ground of some modal claims lies at least partially in other modal claims. For example, we might want to say that some natural necessity is constrained somehow by, and thus dependent on, some other metaphysical necessity. But here we are asking for the ground of a whole class of modal facts as a whole, and we cannot be satisfied by such partial explanations. If those explanations are circular, this only obscures how to proceed to find a full explanation of modal spaces. So circularity in this case *is* vicious because it undermines the viability of pursuing our explanatory goals.²² This casts shade on the viability, as far as we can tell, of what we have called the internal approach to the question for the source of modality.

5. Conclusion

The argument so far undermines internal approaches, which leaves us with the external or primitivist approaches. I will not explore these options in detail here, but I don't think they hold much promise. In particular, it is not clear that primitivist approaches can fully avoid circularity-like concerns, or other explanatory worries.²³ Primitivists like Wilsch (2017) recognize that there are explanatory challenges for the primitivist—it is not clear to me that they can be met by appeal to notions like essence, incompatibility or identity, because of the worry of them already having modal profiles. Furthermore, if those cannot be used to explain modality, it is not clear that there are any other plausible candidates. Introducing a new notion to do this work would beg the question, since we would not have a way to calibrate the reliability of the concept; what is necessary is something that we could posit on independent grounds.

The position we are left with is highly aporetic, since it does not decide in favour of any approach, and instead gives some pause about all of them. Note however that at many places in the argument there is the caveat that the intermediate conclusions hold only “as far as we can tell”. I do not think there is a knockdown argument here to any approach. The point of our path across these issues here is that, as I have tried to show, any viable approach to these questions needs to address explicitly the worries raised here. There may be unexplored options in the space that could answer them. In Pyrrhonian fashion, for now we should perhaps suspend judgement and continue searching.

²² Another response to viciousness would be to question the rationality of those explanatory goals in the first place. Cf. Bliss (2013, p. 416; 2014, p. 254). At the very least, as I have tried to show here, it seems legitimate to question the rationality of pursuing those explanatory goals in certain ways.

²³ Wang (2018) discusses the problem of how we can obtain knowledge of primitive modal truths, if there are any.

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