Essence, Explanation, and Modality

MICHAEL WALLNER AND ANAND VAIDYA

Abstract
Recently, Kit Fine's (1994) view that modal truths are *true in virtue of*, *grounded in*, or *explained by* essentialist truths has been under attack. In what follows we offer two responses to the wave of criticism against his view. While the first response is pretty straightforward, the second is based on the distinction between, what we call, *Reductive Finean Essentialism* and *Non-Reductive Finean Essentialism*. Engaging the work of Bob Hale on *Non-Reductive Finean Essentialism*, we aim to show that the arguments against Fine's view are unconvincing, while we acknowledge the presence of a deep standoff between the two views.

1. Introduction

Finean Essentialism has it that metaphysically necessary truths obtain *because* essentialist truths obtain, the former hold *in virtue of* the latter, the latter *metaphysically explain* the former. This can be expressed by the following grounding-claim that lies at the heart of Finean Essentialism.

(FE) Every metaphysically necessary truth is *grounded* in one or more essentialist truths, where essentialist truths take the following form: '$\Box_x\varphi$' (read: 'it is essential to x that φ').[1]

To illustrate:

- The fact that it is *metaphysically necessary* that a triangle's interior angles sum to 180 degrees is grounded in the fact that it is *essential* to triangles that their angles add up to 180 degrees.
- The fact that it is *metaphysically necessary* that water contains hydrogen is grounded in the fact that it is *essential* to water to be partly constituted out of hydrogen.

This intensely discussed view has come to enjoy relatively wide popularity in the philosophy of modality. Fine's (1994) commitment to

[1] Some grounding theorists take grounding to be *identical* to metaphysical explanation, others think that grounding crucially *backs* metaphysical explanation. Both camps, however, take grounding to be an explanatory notion. For both camps (FE) licenses talk of essentialist truths *metaphysically explaining* metaphysically necessary truths.

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(FE) ultimately comes from his counterexamples to the *modal account of essence* according to which essence reduces to (*de re*) modality. It goes without saying that there has been criticism of (FE). Historically, critiques of the Finean picture either reject the counterexamples or try to incorporate them into a modal account of essence.[2] Recently, however, Fine's view has come under a different form of attack. Rather than criticizing the claim that the counterexamples discussed in his (1994) lead to a rejection of the modal account of essence, and as a further consequence to (FE), Leech (2018), Mackie (forthcoming), Noonan (2018), Romero (2019), Van Cleve (2018) and Wildman (2018) directly criticize (FE). Roughly, this line of criticism has it that essences cannot ground or explain modality or that the Finean cannot consistently argue that they do.[3] This critique can be articulated as a dilemma for the proponent of (FE).

1. Either (*essentialist horn*) it is part of the essential nature of essence that essentialist truths hold necessarily or (*explanation horn*) the essentialist cannot adequately explain why essentialist truths hold necessarily in terms of the notion of essence.
2. If one takes the *essentialist horn*, then one cannot reductively analyze what necessity is in terms of essence.
3. If one takes the *explanation horn*, then one has insufficient resources for offering a reductive analysis of necessity.

In this paper we respond to the dilemma, and, thus, defend the work of Fine and Hale, by appealing to the distinction between, what we call, *Reductive Finean Essentialism (RFE)* and *Non-Reductive Finean Essentialism (NRFE)*. We will argue that the dilemma, and the criticisms that are near to it are due to a misunderstanding of the relevant kind of explanation at work in (FE). We take (FE) to be a *non-reductive* thesis, while the critics read it as being *reductive*. We will show that (NRFE), i.e. the view that the kind of explanation at work in (FE) is *non-reductive*, can escape the criticism in the dilemma above, and account for what the critics have found puzzling about (FE).

In what follows we will primarily concentrate on Romero's criticism, but we will occasionally refer to Mackie (forthcoming),

[2] See e.g. (Della Rocca, 1996), (Gorman, 2005), (Zalta, 2006), (Correia, 2007), (Cowling, 2013), (Wildman, 2013) and (Livingstone-Banks, 2017).

[3] Leech's and Van Cleve's criticisms are somewhat different from that of Mackie, Noonan, Romero and Wildman. However, they still deserve to be mentioned here for their objections concern issues highly relevant to what is discussed in this paper.

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Noonan (2018) and Wildman (2018), whose critical points are analogous or related to Romero's points. In section 2 we sketch Romero's critique that there is a non-bridgeable gap between essence and modality, such that no non-circular argument can be given to the effect that essences in fact do explain modality. We offer two different responses to this criticism. On the more important response we reject the assumption that there is such a gap in the first place; both on intuitive grounds and by refuting Romero's argument for the gap. We then provide a somewhat non-substantive answer to the question: why is it that essences explain necessity? The answer we offer commits us to (NRFE), which we lay out in section 3. In section 4 we account for *how* essences in fact do explain modality on the NRFE-picture.

2. The Essence-Modality-Gap

Romero discusses five, as he says, 'natural ways to explain necessity by essences' (Romero, 2019, p. 121), i.e. five ways for (FE) to be true. He dismisses all of them and concludes that his evidence favors rejecting (FE). We will focus on the first of these ways, and argue that, despite Romero's efforts to argue against it, the first way is successful after all.

Romero concedes that essences could explain necessity, if there were an obvious problem with the claim that a thing could have a different essence or nature (than it actually has). However, Romero argues that Hale's argument for the claim that there is such an obvious problem fails for principled reasons. Here is Hale's argument, and our account of it.

> The supposition that α might have had a different nature is the supposition that it might not have been the case that Φα, and might have been that Φ'α instead. […] This is equivalent to the supposition that for some β, it might have been the case that $\beta = \alpha \wedge \neg\Phi\beta \wedge \Phi'\beta$. But how could this be possibly true? Given that Φα tells us what it is for α to be the thing that it is, and that ¬Φβ, β lacks what it takes to be that thing, it must be that $\beta \neq \alpha$. In short, the supposition that a thing's nature might have been different breaks down because it is indistinguishable from the supposition that something else lacks that nature. (Hale, 2013, p. 133)

(H1) Suppose, α might have had a different nature.
(H2) So, possibly there is a β=α, such that β has a different

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nature than α.
(H3) Yet, the nature of α tells us what it is for α to be α.
(H4) So, β lacks what it takes to be α.
(H5) But then, it is not possible that β=α.
(H6) Thus, we have to reject the supposition that α might have had a different nature.

According to Romero (2019, pp. 125–126), this argument fails. This is due to two interrelated points: First, Romero thinks that there is a gap between (H3) and (H4). Call this the *essence-modality-gap* (EMG):

(EMG) Essences are what it is for something to be what it *is*; it doesn't follow that they are what it *must* be. (Romero, 2019, p. 126)

Second, Romero holds that the EMG can only be filled by the further premise that essences are necessary. But this is precisely what Hale's argument seeks to establish. Hence, Hale's argument is either invalid or circular.

At first sight, there are two strategies one can employ to counter Romero's critique.

(a) Find a better hidden premise!
(b) Reject (EMG)!

(a) Find a better hidden premise!

One can accept (EMG), but (i) find a hidden premise that bridges the gap in Hale's argument; and (ii) show that it is *better* in the sense that it is unproblematic, and (iii) that it doesn't make the argument circular. Here is our attempt to do that.

According to (EMG), the fact that the nature of α tells us what it *is* for α to be α does *not* entail that β *lacks* what it takes to be α.[4] All that follows from (H3) is that 'β lacks what it *actually* takes to be α' (Romero, 2019, p. 126). This nicely gets across the point of (EMG): the essence of α only fixes what α *actually* is, *not* what it *must* be. So, instead of (H4) we only get (H4*) out of (H3):

(H4*) So, β lacks what it *actually* takes to be α.

It is clear that from this (alone) we will not arrive at (H5) but only at (H5*):

[4] Note that all this is still working on the assumption that β has a different nature than α.

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(H5*) But then, it is not *actual* that β=α.

It is, however, fairly easy to come from (H5*) to (H5) by simply assuming the *necessity of distinctness*. The hidden premise would thus be the following:

(HP) If it is not *actual* that β=α, then it is not possible that β=α.

We think it is clear how (HP) bridges the gap in Hale's argument and allows us to arrive at (H6), the conclusion of the *reductio*. But is (HP) a better premise than the mere assumption that essences are necessary? Does (HP) satisfy the criteria of (ii) being unproblematic and (iii) being non-circular? It is widely accepted that (HP) is true. We are inclined to think that the necessity of distinctness has currency enough to count as sufficiently unproblematic here. The more interesting question is whether this reasoning from (H4*), (H5*), and (HP) renders the argument circular? In what follows we discuss and ultimately dismiss two different circularity charges.

The first objection doubts the validity of the step from (H4*) to (H5*). One might think that what follows from (H4*) is only that it is possible for β to lack a feature that α actually has. But from that alone, it doesn't follow that β is actually distinct from α, which is what (H5*) requires. After all, it's possible for Socrates to be standing even though he's actually sitting, but obviously from this alone it doesn't follow that Socrates is actually distinct from himself. The obvious response would be that the features relevant to (H4*) and (H5*) concern the essential natures of α and β, and that a thing has the essential nature it does *necessarily*, if it has it at all. That would bridge the gap between (H4*) and (H5*), but of course this simply assumes what Hale's argument is meant to show. So, in order to bridge the gap between (H4*) and (H5*) we need to presuppose the necessity of essence after all.[5]

Our response to the first part of the criticism is indeed that the features relevant to (H4*) and (H5*) concern the *essential natures* of α and β. This renders the counterexample to the move from (H4*) to (H5*), which involves the features of sitting and standing, irrelevant. Put differently, the restriction to essential natures is all we need to bridge the alleged gap between (H4*) and (H5*). Importantly, our reasoning does *not* presuppose that *essences are themselves necessary*. All we assume is that essential features are not just any old features but the ones that figure in a *real definition* of α and, hence, fix – as we say – the *actual* identity of α. Note that this is explicitly shared

[5] Thanks to an anonymous reviewer for raising this objection.

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by Romero, even though he rejects the modal bearing of essence. It is this assumption alone that gets us from (H4*) to (H5*). We further reach the crucial result in (H6) through (HP). Our reasoning here does not presuppose the very claim Hale's argument seeks to establish, and, thus, does not beg the question against Romero. It is the necessity of distinctness that we assume, not the necessity of essence. Besides (HP), all that is needed is the assumption that essences are about real definitions, and, hence, fix identities (even though essences might have no modal bearing such that they only fix *actual* identities[6]) – an assumption in this debate that cannot be denied. Hence, we reject this first circularity objection.

The second circularity charge concerns the *justification* of (HP). As Romero says, Hale's argument seeks to establish the necessity of essentialist truths, so (HP) would make the argument circular if accepting (HP) would somehow presuppose accepting the necessity of essentialist truths. Does it? Note that there is a modal proposition in the consequent of (HP). It might be argued that if one accepts, as the Finean essentialist does, that all modal propositions are explained by and have their source (or ground) in essences, one will also accept that (HP) is true because (HP*) is true:

(HP*) If it is not *actual* that $\beta=\alpha$, then it is essential to some x that $\beta\neq\alpha$.[7]

However, assuming (EMG), in order to arrive at (HP) from (HP*), we would have to either presuppose that essences are necessary, which would render the argument circular again, or we would have to assume yet another hidden premise that bridges the gap between (HP*) and (HP), (HP**). This premise will, again, have a modal component that is grounded in essences and, thus, assuming (EMG), calls for another hidden premise, and so on. It seems, so the objection goes, that (HP) either renders Hale's argument circular or violates an anti-infinite-regress-condition.

[6] Readers who find the notion of an essence or real definition that fixes identities without having modal bearing absurd will find themselves precisely on our side. Note that our reconstruction of Hale's argument is a *reductio* of that very Romeroian assumption.

[7] One might in fact doubt the general claim that if the truth of p grounds the truth of q, then for any r, the truth of the conditional $r \rightarrow p$ grounds the truth of the conditional $r \rightarrow q$. However, for the sake of the argument, we'll set aside this issue here. (Thanks to an anonymous reviewer for making us aware of this point.)

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We respond that even if we grant that (HP*) is the metaphysical source (or ground) of (HP), it doesn't follow that one can only be justified in believing (HP) on the basis of (HP*). In slogan form: the epistemic source (or justification) of some proposition need not coincide with its metaphysical source (or ground). We can come to know that water quenches thirst without considering the metaphysical ground of this fact. Just as we have justification for the belief that we exist without considering anything about the metaphysical grounds of our existence. So, we reject the second circularity objection as well.[8]

We conclude that the *Find-a-better-premise!*-strategy is a live option for the Finean essentialist to counter Romero's critique of Hale's argument for the necessity of essence. If this is true (which we think it is) the goal of the paper has already been achieved. Romero concedes that if Hale's argument succeeds in showing that there is an obvious problem with the assumption that something could have had a different essence than it actually has, then the necessity of essence is secured, and essences are indeed capable of explaining necessity. So, even on the assumption that (EMG) is true, we can find a reasonably uncontroversial premise, (HP), that makes Hale's argument sound and non-circular.

Yet, we still find it instructive to discuss the second strategy to counter Romero's critique, the *Reject-(EMG)!*-strategy, for two interrelated reasons: first, we don't believe that (EMG) is true, i.e. we think that there is no gap between essence and modality; second, discussing the *Reject-(EMG)!*-strategy allows us to introduce two different interpretations of (FE) and to uncover a principled misunderstanding of the relevant kind of explanation at work in (FE).

(b) Reject (EMG)!

In order to save Hale's argument, we can also reject (EMG) and argue that there is no such gap, and the inference from (H3) to (H4) is fine after all. Here is a short and informal version of the kind of reasoning found in Hale's argument: Nothing could fail to have the essence it has, for the essence of something is what it is for that thing to be the thing that it is. So, having a different essence would result in being a different thing. As Hale says, '[t]he properties figuring in a thing's definition are those properties which make it what it is, and so those properties without which it quite literally could not be (i.e.

[8] We are indebted to Thomas Sattig, Alex Skiles and to an anonymous reviewer for insightful input on this point.

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exist)' (Hale, 2018, p. 127). In slogan-form: Essences fix identities. Different essence, different identity. We admit that this slogan itself can sound trivial. Nevertheless, we hold that it is true. Yet, according to (EMG), there is a *gap* between what α is essentially and what α could and could not be. But is there really such a gap? We now turn to criticizing this assumption; first, by triggering some intuitions that there is no such gap; second, by criticizing Romero's arguments for (EMG).

Let's run an example: The fact that Clara has the property of *being a philosopher*, i.e. that this is what she *is*, does *not* have bearing on what she could and could not be. For example, she could have failed to be a philosopher. In this sense there surely is a gap between what Clara is (a philosopher) and what she could and could not have been. Of course, one might answer, but this is because being a philosopher is *not essential* to Clara, it is not part of her real definition. If we take an essential property of Clara, a property that is part of Clara's real definition, e.g. that of being human, we see that Clara could not have failed to be human.

To be sure, this is not an argument. But it seems to trigger the intuition that when it comes to *essential* properties there is *no gap* between what Clara is *essentially* and what she *must* be. Maybe, we can conceive of Clara failing to instantiate her essence, but that would just show that conceivability is not a reliable guide, in certain cases, to what is metaphysically possible. We now explore this with details relevant to Romero's argument.

Start with a close look at Romero's case for (EMG). Romero has it that the essence of α only fixes what it *actually* takes to be α, and 'a further premise is needed to infer from this that β lacks (at the imagined situation) what it takes to be α *at the imagined situation*' (Romero, 2019, 126).[9] (EMG) makes a distinction between what it *actually* takes to be α and what it takes to be α *at the imagined situation*. The imagined situation is one in which α has a different essence than it actually has. In this sense it is a *counterfactual* situation. Hence, Romero doubts that being *essential* is reason enough for a fact or proposition to be *held fixed* in an imaginative evaluation of a counterfactual. This, however, seems to be plainly wrong; at least according to two views in the epistemology of modality. Let's spell out how these two views are inconsistent with Romero's use of (EMG).

First, Kment (2014, 2018) argues that a proposition is metaphysically possible iff it holds at some worlds in the sphere of worlds that match actuality with respect to the metaphysical laws. Crucially,

[9] We are still assuming that β has a different nature than α.

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metaphysical laws in a non-actual world, *w*, only match the metaphysical laws in the actual world, @, if they preserve the *essentialist truths*, amongst other truths, of @. Accordingly, Kment holds that in our application of conceivability or imagination exercises that aim to gain *modal knowledge*, we make use of some (albeit minimal) knowledge of *laws of metaphysics*, which are also comprised of *essentialist truths*. To illustrate this, take the following example from Kment (2018). Imagine someone is baking a Bundt cake while it is raining. Likely, this scenario strikes you as possible. But in order to come to *know* that it is possible to bake a Bundt cake from imagining this scenario, you have to possess at least some minimal and negative knowledge about what it is for a Bundt cake to be. You at least need to know that nothing in the Bundt cake's *essence* precludes it from coming into existence while it is raining. So, if imagination and conceivability exercises are taken seriously in the pursuit of *modal knowledge*, we are to hold fixed essentialist facts *because* they are essential (i.e. because they are a subclass of the laws of metaphysics). This is, of course, at odds with Romero's verdict that essentiality is not enough for a fact to be held fixed in an imaginative evaluation.

Second, Williamson (2007) argues that we evaluate counterfactuals by imaginatively supposing their antecedents and developing the supposition, adding *further judgements* and *background knowledge* by using, again, our imagination. If this counterfactual development in imagination eventually yields the consequent of the counterfactual, we assent to the latter, if not, we dissent from it (given the counterfactual development was in some specific sense robust enough). The crucial question here is precisely *which* further judgements and background knowledge we should (or have to) add. Which beliefs are *cotenable* with the imagined supposition and must therefore be *held fixed* in a counterfactual development? While the answer to this question might vary from case to case, in general, the counterfactual development of the supposition in question requires us to hold fixed *constitutive facts* (Williamson, 2007, p. 164). While Williamson is not explicit about whether he is using 'constitutive' interchangeably with 'essential' here, the (admittedly few) examples he gives of constitutive facts suggest precisely that.[10] In addition, his discussion of an objection against his view strongly suggests that the constitutive facts he is talking about are the *essential* ones *in Fine's definitional sense of essence* (as opposed to the modal sense of essence)

[10] Note also that large parts of the literature on Williamson proceed on the assumption that constitutive facts in Williamson's sense just are essential facts (see e.g. (Roca-Royes, 2011) and (Tahko, 2012)).

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(Williamson 2007, 170). Williamson makes it clear that the essential facts need to be held fixed, *not because they are necessary but because they are essential*. *Essentiality* is the cotenability criterion, not necessity.[11]

This relates directly to our discussion of Romero's rationale for (EMG): The discussion of the so-called *cotenability problem* for counterfactuals has shown that it is reason enough for a fact *f* to be held fixed in a counterfactual development of an imaginative supposition that *f* is *essential*. If this is so, we do not need a further premise to infer from the fact that β lacks what it *actually* takes to be α that β lacks what it takes to be α *at the imagined situation*. This is because what it takes to be α is essential and will for that very reason be held fixed in the imagined situation. In a nutshell, our refutation of Romero's reasoning is as follows:

(I) It follows from (EMG) that we need an additional premise to conclude that β lacks (at the imagined situation) what it takes to be α *at the imagined situation*.
(II) This consequence of (EMG) is tantamount to saying that the essentiality of *f* alone does not suffice for *f* to be held fixed in a counterfactual development.
(III) Yet, the essentiality of *f* does suffice for *f* to be held fixed in a counterfactual development.
(IV) Hence, (EMG) has false consequences and should therefore be rejected.

The rejection of (EMG) also complies with our intuitions about essences. Suppose, as (EMG) concedes, that the essence of Ana is what it *actually* takes for Ana to be her. Any change in the essence would result in her not being what she is, and, thus, in her not existing. Yet, (EMG) has it that this does not preclude Ana from existing in a different possible world (or imagined situation). Remember, according to (EMG), what it *actually* takes to be α is different from what it necessarily takes to be α. Of course, even if Ana did not actually exist, Ana could exist in another possible world, but for this possible Ana to be, well, *Ana*, she would have to have *the essence of Ana*. The *assumption* is that if that person in another possible world would not have the essence of Ana, it would just not be Ana, so without the

[11] If the corresponding facts were to be held fixed because they are *necessary*, the epistemology of counterfactuals would likely *presuppose* the epistemology of modality. However, it is Williamson's claim that the epistemology of modality is but a special case of the epistemology of counterfactuals. For discussion see (Roca-Royes, 2011), (Casullo, 2012) and (Tahko, 2012).

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essence of Ana, it is not possible for Ana to exist. Hence, essences are necessary and there is no gap between essence and modality.

Our opponents will immediately counter that we have just begged the question. The charge would be that we are *assuming* that essences are necessary to *conclude* that essences are necessary. Hence, we are giving a *circular argument*, the opponent would say. In response we are inclined to say that we are not giving an argument in the first place. We are merely spelling out or unpacking our intuitions about essences and real definitions. And, intuitively, *that nothing can shake off their essence is part of that notion*. We urge our opponents, aside from drawing out the logical possibility of the question, 'can *x* exist without *x*'s essence?', to show us how something can *shake off its essence and be what it is*. So, we claim, intuitively, essences have modal bearing, they determine what a thing can and cannot be. Intuitively, there is no EMG.

Of course, we are aware that critics like Romero, Mackie and Noonan are challenging the very idea that necessity is part of essence. In fact, Romero (2019, pp. 127–128) explicitly disagrees that the intuitive evidence speaks in favor of the necessity of essence. We realize that this puts us in something like a standoff-situation between what we take to be his interpretation of essentialism and ours. We will be coming back to this intuition-standoff in the next section, when we have sufficiently laid out our interpretation of (FE) in contrast to what we take Romero's to be. Before we do so, however, we need to wrap up characterizing the *Reject-(EMG)!*-strategy against Romero's criticism of (FE). We do so by drawing an analogy between essentiality and analyticity.

So, we don't think that (EMG) has intuitive support. We acknowledge that a question formulating a gap between essence and modality can be raised, but we argue that it is not significant. There are many questions that are grammatically sound for which the answer is trivial. Take the following two questions:

(1) Can a bachelor be married?
(2) Can *x* exist and fail to have all of its essential properties?

Both (1) and (2) are grammatically correct; yet both are puzzling to many. What exactly is being asked? They both have coherent trivial answers. A bachelor must be unmarried, since that is what a bachelor is; and an entity *x* cannot fail to have all of its essential properties, since those properties define what it is.

It is important to note that, unlike the *Find-a-better-premise!*-strategy, the *Reject-(EMG)!*-strategy does not seek to find a non-circular *argument* for the claim that essences are necessary. The point of this

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latter strategy is that without assuming (EMG) we are not in need of such a deductive argument for the necessity of essence in the first place. Since Romero's argument for (EMG) does not succeed, and our intuitions about definitional essences speak against such a gap, we take it that there is no reason to assume (EMG). So, we conclude that the present evidence favors rejecting (EMG).[12] In slogan form: there is no gap, even though there is a grammatical question which asks about the *essence-modality-gap*. Put differently, the question of why essences are necessary (and in turn the question of why essences can explain necessity) does not have a substantive answer; at least none that appeals to something other than the very notion of essence and that which is inherent in it.

We now turn to a discussion of the difference between our interpretation of (FE) and what we take Romero's interpretation to be, in order to better evaluate the standoff.

3. Reductive and Non-Reductive Finean Essentialism

The question of whether or not there is a gap between essence and modality is tantamount to the question as to whether or not the real definition of α has bearing on the modal profile of α. As we have argued, it is intuitive that essences do have that kind of modal bearing, i.e. that α cannot shake off its essence and still be α. However, critics will say that the fact that essences *cannot* be shaken off is itself a modal feature, so if this is inherent to the notion of essence, Fine's *non-modal* account of essences fails. We think this is the most important point to the story and the place where insight into Fine's view can be gained. If we take the notion of a definitional essence of α to have bearing on the modal profile of α, i.e. if we take definitional essences to have this kind of modal oomph, we can no longer speak of essences as being entirely non-modal.

This is the reason why Romero's case for (EMG) seems strongest in his discussion of the following example:

> Suppose that it turns out that a certain waste bin is *essentially* made out of iron. I claim that this fact stops short of explaining *why* is it that the waste bin is *necessarily* made out of iron. If

[12] Strictly speaking, this is not a way to save Hale's *argument*. As we will show, (NRFE) doesn't accept that it must show that no entity can have a different essence *by an argument*. We think it's best to interpret Hale's move from (H3) to (H4) as unpacking our intuitions about essences rather than an inferential step in a deductive argument.

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> the metaphysical necessity of real definitions is a *modal* posit, then the necessity of the waste bin's constitution is not explained *just* by the fact that the waste bin's definition includes its constitution: the modal posit is needed. (Romero, 2019, p. 126)

Romero's point is that entirely non-modal definitional essences need an additional modal posit to explain necessities. In as much as Romero takes Finean definitional essences to be entirely non-modal, he doubts that these essences can explain modality. Our point is that the modal posit that is needed is not something external to essences but inherent to the very notion of essences. If we are correct, essences *can* explain necessity. However, to the extent to which this modal posit or 'modal bearing' is built-into the notion of essence, essence is in some sense a modal notion and the explanation of modality in terms of essence cannot be a *reductive* one.

What Romero's criticism teaches us is not that (FE) fails because there is an unbridgeable gap between essence and modality but that (FE) fails *if* (FE) is conceived of as a *reductive* explanation of modality in terms of entirely non-modal notions. But Fineans, we argue, need not conceive of (FE) as a *reductive* explanation.

Fine's (1994) counterexamples, so many people think, defeat what has been called the modal account of essence. According to the modal account, essence reduces to *de re* necessity. Accordingly, Fine's definitional essence and his (FE) are viewed as the non-modal account of essence and being non-modal is widely considered to be the distinctive feature of Finean essences. However, there is room for a version of (FE) that *accepts* Fine's (1994) counterexamples to the modal view and *denies* that essences can be reduced to *de re* necessity, yet does not take essences to be entirely non-modal. Rather, it takes them to be modal in some sense, such as being in the modal family. The central question is: are essences entirely non-modal? With respect to this question we can distinguish between two different interpretations of (FE), *Reductive Finean Essentialism* (RFE) and *Non-Reductive Finean Essentialism* (NRFE); both of which endorse (FE), i.e. that modality is grounded in definitional essences.

(RFE) Essences are entirely non-modal.
(NRFE) Essences are in some sense modal. They belong to the *larger family of modality*.

Even though most interpreters have taken the (RFE)-route,[13] there are exceptions. Hale (2013, p. 61 fn. 1) is the most noticeable one

[13] See, e.g., (Correia, 2012) and (Tahko, 2017, 2018)

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when he holds that 'the notions of essence and essential property, even if not definable in terms of *de re* necessity, are to be regarded as modal notions'. Vetter (2011) gives a non-reductive interpretation of what she calls 'New Actualism', a family of views in modal metaphysics under which Fine's essentialism is subsumed. She thereby indirectly opts for (NRFE). Even Fine himself seems to occasionally flirt with (NRFE). In the following passage where Fine (2007, p. 85) clarifies his intentions in his 'Essence and Modality' he at least leaves the doors wide open for a position like (NRFE):

> In claiming that the notion of essence was not to be understood in modal terms I had in mind the familiar metaphysical modalities, i.e. the familiar notions of metaphysical necessity, metaphysical possibility and the like. […] [I]t was not my intention to argue against an account of essence in terms of any modal notions whatever. (Fine, 2007, p. 85)

How does (NRFE) help us to vindicate the claim that essences can explain necessity? Mackie (forthcoming) expresses best what really bothers critics like herself, Noonan, and Romero about (FE): 'It looks as if the account of essence in terms of real definition is intended to deliver a modal rabbit out of a non-modal hat. And I don't see how this can be done'. Equivalently, Romero demands a modal posit for real definitions in order to explain necessity. Our point was that this modal posit is not external to essence but an integral part of the notion, it flows from what essences are that they explain necessity. Our view leads to (NRFE), which – to stay with the metaphor – does not take the hat to be entirely non-modal. So, (NRFE) is actually able to concede the underlying point to the critics while simultaneously saving (FE) from the criticism. In other words, the criticism only hits (RFE), not (NRFE). We respond to Mackie's elegantly put worry with the rather dry assertion that essences are in the modal family, in which necessity can also be found, albeit in a different position.

We acknowledge that in the characterization of (NRFE) we make use of some rather imprecise talk about modality being 'built into' and 'inherent to' Fine's notion of essence or the 'modal posit' being an 'integral part' of the Finean notion of essence. What does all this really mean, exactly? Well, our preferred way of cashing out all these metaphors more precisely is to cast this in terms of essence: it is *essential* to Fine's notion of essence that essentialist truths hold

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necessarily.[14,15] If this is the main point of (NRFE), one might ask the following question (Q):

(Q) Why would the fact that the essence of *essences* is that they are necessary preclude a reductive analysis of modality in terms of essence?

Given the way we introduce (RFE) and (NRFE), we understand the notion of reduction at play as follows: an analysis or explanation of modality is reductive if the *analysans* or *explanas* is entirely non-modal. An analysis or explanation of modality is *non*-reductive if the *analysans* or *explanas* is modal in some sense. We hold that the fact that modality is 'built into' the notion of essence makes essences modal in some sense, so the analysis or explanation of modality in terms of essence cannot be reductive. Of course, since we cash out the *built-into*-claim in terms of the essence of essence, the natural follow-up question is: why does the fact that it is in the essence of essences that they are necessary render essences *modal in some sense*? We are inclined to answer that the fact that essences (or essentialist truths) are *essentially* necessary just means that essences – by their very essence – *are* modal posits. The more technical talk about essence becomes, the more we are mislead to think of an essence as detached from the object whose essence it is. This is, we think, a mistake. If the modal posit, i.e. the necessity, is essential to essence, then the essence *is* a modal posit, and, hence, becomes a part of the modal family.

To further illustrate our point, let's consider (Q*), a generalized version of (Q):

(Q*) Why should one believe that if x includes y in its essence, then y can't be reductively analyzed in terms of x, given that x's including y in its essence doesn't entail that x is reductively analyzable in terms of y?

After all, the critic could argue, it isn't implausible to think that it's part of the essence of justification that it makes the difference between mere true belief and knowledge, but that wouldn't seem to

[14] A different way of cashing out the main point of (NRFE) takes it to be part of the (linguistic) meaning of 'essence' that essences are necessary, such that this later statement is analytically true. We will not discuss this option any further here.

[15] Interestingly, (Lowe, 2008, 2012) rejects that essences themselves have essences for he fears the infinite regress ensuing from this view. For an argument that the regress Lowe fears is not vicious, see (Spinelli, 2018).

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preclude a reductive analysis of knowledge in terms of justification.[16] More schematically, the objection is the following:

(J) The essence of justification includes knowledge.
(E) The essence of essence includes modality.

Since (J) does not preclude a reductive analysis of knowledge in terms of justification, why should (E) preclude a reductive analysis of modality in terms of essence? We respond that, despite first appearance, (E) is crucially different from (J). The way the essence of essence includes (or refers to) modality is crucially different from the way in which the essence of justification includes (or refers to) knowledge. While the essence of justification *relates* justification to knowledge, the essence of essence has it that essences *are* necessary, i.e. that essences are modal. The claim that essences are essentially necessary licenses talk of essences *being* modal, while the claim that justification is essentially related to knowledge does not make it sensible to say that justification is knowledge.

We think that this sufficiently illustrates why taking essences to be *essentially* necessary renders essences modal. In light of the way we understand the notion of *reduction* in this context, this in turn shows why taking essences to be *essentially* necessary precludes a reductive analysis or reduction of modality in terms of essence. The critical question in (Q) is answered.

We can now come back to the apparent standoff between our interpretation of (FE), i.e. (NRFE) and what we take to be Romero's view, i.e. (RFE). Even though Romero might agree with the point that the modal posit does not necessarily have to be external to essence, he in fact *disagrees* that the intuitive evidence speaks in favor of this and thus in favor of (NRFE).

> The essentialist might claim that the introductory examples of real definitions 'wear their necessity on their sleeve': we see that they are necessary just by understanding them. But I don't think that the usual examples – like 'Socrates is a man' or 'a natural number is a finite ordinal' – are like that. I think that they are aptly understood as saying what the object is – and this is, furthermore, necessary. Under this second view, the necessity of real definitions does not follow merely from their being real definitions: it is a further posit, a separate modal fact: a fact not just about essences, but also about modality.

[16] Thanks to an anonymous reviewer for raising this objection.

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> And this second view is compatible with whatever intuitions are pumped by the bare examples. (Romero, 2019, p. 127)

Romero's 'second view' amounts to (RFE) and he would claim that all the intuitions we were appealing to earlier are compatible with (RFE) and the view that the modal posit that is needed for essences to explain necessity is indeed external to essence. If this is true, our strict claim that the intuitions (only) support (NRFE) loses some force. The standoff-position that this puts us in is the following: Even if 'one can understand the notion of *real definition* and still see a gap between saying what an object *is*, and saying what the object is *necessarily*' (Romero, 2019, p. 127), one can also understand the notion of *real definition* and still see that there is *no* gap. The standoff is that there are then two different understandings of essence and real definition, one according to (RFE) and one according to (NRFE). Using our analogy from earlier, we say the following. The term 'bachelor' is much closer to 'unmarried male' than 'essence' is to 'necessity'. Nevertheless, under (NRFE), and not (RFE), one can intuitively walk themselves from '*x* is essentially F' to '*x* is necessarily F' just as one can walk themselves from '*x* is a bachelor' to '*x* is unmarried'. While some analytic relations are close, others are further away, yet their distance does not stop them from being analytic. We maintain that (NRFE) must be in play.

Moreover, on the assumption that Romero is right, we have to give up the strong claim that essences *do* explain necessity because they *have to* be understood along the lines of (NRFE). Nevertheless, the retreat to the claim that essences can explain necessity *if* we interpret them along the lines of (NRFE), which is still an option, and one that's not at all without support, is perfectly acceptable to us. Note that, despite the intuitive standoff, our refutation of Romero's argument for (EMG) would still be left untouched by Romero's point. The fact that we do hold fixed essentialist facts in counterfactual evaluation simply because they are *essential* speaks very much in favor of our view that essences have modal bearing. And even though we *can*, in principle, interpret intuitions along the lines of (RFE), we choose instead to interpret them along the lines of (NRFE) because of the fact that we hold fixed essences *just because they are essences*. The epistemology of modality reveals to us something about the metaphysics of essence. In addition, the following claim would also be left untouched from the intuition-standoff: *If* we endorse (NRFE), we can (a) avoid the criticism, (b) view the reason why essences can explain necessity as being inherent to the notion of essence, and (c) we can concede the important point to

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the critic that, indeed, entirely non-modal essences might not be capable of explaining necessity.

We take it that this is enough to justify further investigation of the NRFE-route. We now turn to the question of *how* exactly the essentialist explanation of necessity is supposed to work on the non-reductive interpretation.

4. Non-Transmissiveness and the Axiomatic Solution

At many points in our discussion of (EMG) we suggest that the claim that essences are necessary suffices for (NRFE) to be true and for essences to be able to explain necessity. Note that Romero (2019, p. 125) also concedes that if it is impossible for α to have a different essence, i.e. if essences are necessary, then modality can be explained by essence. However, if we are asking *how* essence explains necessity (on the (NRFE)-picture), the answer might not be by appealing to the necessity of essence. This is due to what Hale calls the non-transmissiveness of essentialist explanations of necessity. Non-transmissiveness is best understood against the background of the problem it seeks to account for: Blackburn's dilemma.

Blackburn (1993, p. 53) raises the following dilemma for any answer to the question of what the *source or explanation of necessity* is.

(B1) In an explanation of the source of necessity '□A because F', the *explanans*, F, can either be contingent or necessary.

(B2) *Necessity Horn*: If F is necessary, necessity will not be explained, because the explanation would appeal to a necessity to explain a necessity.

(B3) *Contingency Horn*: If F is contingent, necessity will not be explained but undermined.

As mentioned, (NRFE) holds that essences, the sources of necessity, are themselves necessary. This is the conclusion of what we've called 'Hale's argument' (which would better be called 'Hale's reasoning'). So, the view under scrutiny is committed to the *Necessity Horn*. On (NRFE) essentialist propositions are themselves necessary ($\Box_x p \rightarrow \Box\Box_x p$). The crucial question is, however, whether the *Necessity Horn* is as bad as it looks. Can (NRFE) get out of Blackburn's dilemma?

Hale (2002, p. 202) thinks this can be done by his distinction between *transmissive* and *non-transmissive* explanations of necessity. The *Necessity Horn* has it that whatever the *explanans* of the necessity of p is, it must itself be necessary. It is only in a *transmissive*

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explanation of the necessity of p, however, that the necessity of the *explanans* plays an explanatory role. In a *non-transmissive* explanation of the necessity of p, it is merely the truth of the *explanans* that explains the *explanandum*, not its necessity (even though the *explanans* might be indeed necessary).[17] According to Hale, essentialism escapes the dilemma for explaining necessity by essence through a non-transmissive explanation: While the *explanans* (essence) is indeed necessary, the necessity of the *explanans*, i.e. the necessity of the essentialist proposition does not play an explanatory role. Put differently, even though '$\Box_x p$' is indeed necessary, it is '$\Box_x p$' rather than '$\Box\Box_x p$' that explains '$\Box p$'.

We think this is indeed the intuitively right picture of essentialist explanations of necessity. The idea behind (FE) is that essences are special. There is something about them that makes them capable of explaining necessity. If this feature were *merely* accounted for by the *necessity* of essentialist propositions, any kind of proposition could explain necessity so long as they were themselves necessary. However, this fails to capture the idea behind essentialism.[18]

It is this non-transmissiveness of essentialist explanations of necessity that gets us out of the dilemma: For one, the *explanantia* – i.e. the essentialist propositions – are indeed necessary. Hence, there is, as Blackburn (1993, p. 53) puts it, 'no problem about the form of the explanation, for one necessity can well explain another'. Yet, the fact that the necessity of the *explanans* does not play a role in the explanation *avoids* the problem that Blackburn associates with the *Necessity Horn*, namely that the explanation of modality presupposes what it seeks to explain.

However, if essentialist explanations of necessity are non-transmissive in this sense, that which makes (NRFE) true, i.e. the modal component of essences cannot be what does the actual work in (non-reductive) essentialist explanations of necessity. Put differently, the necessity of essences cannot be what makes essences special. So, on this picture the reason *why* essences can explain necessity, i.e. their inherent modal status, and the *way* they do so are not identical. Let us be clear about what we mean. In section 2 we argue that the modal status of essence, i.e. the necessity of essence lies in the very notion of essences. In accordance with Romero's assessment, this constitutes a reason *why* essentialist truths *can* explain modal

[17] See also (Cameron, 2010, p. 144), (Vaidya & Wallner, 2018) and (Wallner, 2020) for discussion.

[18] Note that we are not arguing here *that* essences are capable of explaining necessity, only how the thought that they are can best be captured.

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truths. However, *that* the modal status of essences explains *why* essences *can* explain necessities, does not entail that the modal status of essence explains the necessity. Let's repeat this schematically:

(E1) The modal status of essence, i.e. the necessity of essence lies in the very notion of essences. (It lies in the notion of '$\Box_x$' that $\Box_x p \rightarrow \Box\Box_x p$.)
(E2) Essentialist truths can explain modal truths. ('$\Box_x p$' can explain '$\Box p$').
(E3) (E2) *because* (E1).
(E4) However, (E3) does not entail that it is the modal status of essence, i.e. the necessity of essence that *does the actual explaining*.

The upshot is that '$\Box\Box_x p$' explains ('$\Box_x p$' explains '$\Box p$'),[19] which does not entail that '$\Box\Box_x p$' plays a role in the explanation of '$\Box p$'. It only plays a role in the explanation of ('$\Box_x p$' explains '$\Box p$').[20]

As we have argued, (E1) amounts to (NRFE). So, on (NRFE), (E2) is true. But (NRFE) does not entail that the necessity of essence plays a role in the explanation of necessity. So, this is all consistent with a non-transmissive picture of essentialist explanations of necessity.

Let's take stock. Contemporary critics of (FE) ask the following question:

(CQ1) *Why* or *in virtue of what* do essences have this alleged necessity-conferring capacity?

Romero himself suggests the answer to this question, for he concedes that the necessity of essence would render the latter capable of explaining modality. However, Romero thinks (and so does (Noonan 2018)) that there can be no non-circular argument for the necessity of essences. By subscribing to (NRFE) we reject the burden of proof that requires us to show that there is *no essence-modality-gap* by argument. Rather than being something we have to establish by way of argument, we take it that the necessity of essence is built-

[19] Note that the parentheses are important here. It is not the case that '$\Box\Box_x p$' explains '$\Box_x p$', which in turn explains '$\Box p$'.

[20] Skow's (2016, 2017) distinction between first-level and higher-level reasons might be helpful for grasping these matters. Suppose some fact R is a first-level reason why E is the case. Then there might be some fact F that is a reason why R is a reason why E is the case. F then is a higher-level reason. In a sense, '$\Box_x p$' is a reason for '$\Box p$', while '$\Box\Box_x p$' is a reason for why '$\Box_x p$' is a reason for '$\Box p$'. Importantly, this doesn't guarantee that the higher-level reason '$\Box\Box_x p$' plays a role in the explanation of '$\Box p$'.

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into the notion of essence. Necessity is part of the constitution of essence, such that the latter has modal bearing. So, in a sense, we reject that the follow-up question to (CQ1), i.e. the question

(CQ1*) *Why* are essences necessary?

has a substantive answer. In this way (NRFE) manages to concede a crucial point to critics like Romero, Mackie and Noonan, namely that there is something odd if we try to explain modality in terms of entirely non-modal essences. The point about (NRFE), however, is that essences are not conceived as entirely non-modal, for the necessity of essence is inherent in the notion of essence. In short, (NRFE) is a non-substantive answer to (CQ1). After we have clarified that and *why* essences have such a necessity-conferring capacity, the next critical question is the following:

(CQ2) *What is* this necessity-conferring capacity? or: *How* do essences explain necessity?

So far, we have only given a negative answer to (CQ2): appealing to the non-transmissiveness of essentialist explanations of necessity, we have argued that it is *not* the case that essences explain necessities *by alluding to the necessity of essence*. If we are pushed to give a positive answer to (CQ2), i.e. to the question of *how* essences explain necessity, we will, again, resort to a non-substantive one: *they simply do*!

Now, let us soften the blow! (CQ2) can be understood as asking for an analysis or characterization of this necessity-conferring capacity of essences in maybe more familiar terms. Yet, what if, as we believe, essences and their necessity-conferring capacity are primitive? How can we answer (CQ2) if essences are ideologically primitive and metaphysically fundamental?

Schaffer (2016) has recently proposed a simple answer to an analogous problem; the so-called *Inference Problem* (IP) for non-Humean accounts of lawhood. According to non-Humean accounts of lawhood, laws go beyond and are metaphysically prior to the regularities. Consider the Dretske-Tooley-Armstrong (DTA) view of laws, according to which a law is a fundamental necessitation relation N<F, G>, such that being F necessitates being G. The IP is said to consist in the question *how* such fundamental laws could entail the regularities:

(IP) How could N<F, G> entail $\forall x\,(Fx \rightarrow Gx)$?

Lewis (1983, p. 366) famously complains that he 'cannot see how it could be absolutely impossible to have $N(F, G)$, and Fa without Ga'. For Schaffer, Lewis's complaint rests on a confusion. Lewis

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has misunderstood what the DTA account has done. Since the DTA account is *positing* a *fundamental* notion 'N' that should capture their idea of a law, according to which *it is the business of laws to govern*, they should be allowed to equip their fundamental posit with the appropriate axioms for them to be able to do the work they are intuitively supposed to do. In this case they should be allowed to simply add the axiom that N<F, G> entails $\forall x\,(Fx \rightarrow Gx)$. Schaffer (2016, p. 577) explicitly says that this *Axiomatic Solution* for the case of lawhood 'serves as a case study of how fundamental posits can do their business'.

It seems that if we take essences to be metaphysically fundamental (and ideologically primitive) such an Axiomatic Solution to (CQ2) should also be available. An *axiomatic* solution would indeed neatly fit the *Reject-(EMG)!*-strategy, which is not in search of a (non-circular) *argument* for the claim that essences explain necessity. We have argued that the necessity of essences and, hence, their ability to explain necessities, concurs with our intuitions. We don't mean anything spooky by 'intuition'. We simply mean the judgments of those that have carefully studied the metaphysics and epistemology of modality, essence, ground, and the relations between them. So, if we take essences to be ideologically primitive and metaphysically fundamental, we should be allowed to equip our notion of essence with an axiom according to which essences explain necessity. This would license the following non-substantive answer to (CQ2), i.e. to the question of *how* essences explain necessity: *They simply do! It just is the business of essences to explain necessity*. We take this to be on a par with the answer that 'bachelor' just means 'unmarried male' to the question: why must bachelors be unmarried? Of course, we think the theoretical exploration we have gone through here makes the case for our position more than (a) mere pointing to intuitions, and (b) failing to answer a grammatically coherent question about the relation between essence and necessity.

We think that the non-substantive answers to both critical questions, (CQ1) and (CQ2), are in a sense built into the very notion of essence: It is built into the very notion of essence that essences are necessary *and* that essences explain necessity.[21] This might not be the

[21] While we take the kind of explanation operand in (FE) to be *grounding explanation*, the answers to (CQ1) and (CQ2) are rather to be taken as *essentialist explanations* as (Glazier, 2017) discusses them. Roughly, our answers to (CQ1) and (CQ2) are: 'Essences have this necessity-conferring capacity because *it is essential to essences* that they have this necessity-conferring capacity'. Note that the fact in the *explanans*, [it is essential to essences that they

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substantive answers the critic has been looking for. However, these answers come from *a finer reading* of Fine's work, via an explanation of Hale's arguments, and it commits us to (NRFE). We concede what we take to be the most important point about the recent criticism of (FE), namely that there is justification for the claim that it is impossible for entirely *non-modal* essences to explain (or ground) necessity. We think that Romero's criticism of (FE) (and, to the extent that they offer analogous points, also that of Mackie (forthcoming), Noonan (2018) and Wildman (2018)) does not force us to give up (FE) and go back, as it were, to a modal account of essences, i.e. to modalism in the Zalta-Wildman-Gorman sense, according to which essence just is *de re* necessity. However, the criticism – or at least our answers to it – might commit us to modalism in the Bueno-Shalkowski (2014) sense, according to which there is *no reductive explanation* of modality in terms of something entirely non-modal. But, as we were trying to point out, since (FE) is best understood in terms of (NRFE), essentialist explanations of necessity are not reductive in that sense.

We need to address one final worry. The opponent might wonder how our *non-reductive* explanation of necessity in terms of essence and our *Axiomatic Solution* to (CQ1) and (CQ2) is any better than the infamous *pseudo explanation* that appeals to the presence of a '*virtus dormitiva*' (a sleep-producing power) in opium in order to explain why opium causes sleep. Obviously, we do not explain the sleep-producing power of opium by merely alluding to the fact that opium has such a sleep-producing power. Is our *non-reductive* explanation of necessity in terms of essence and our *Axiomatic Solution* to (CQ1) and (CQ2), any better than the '*virtus dormitiva*' pseudo explanation? Isn't it equally unsatisfying to appeal to the notion of essence (whose essence is to non-causally explain necessity) in order to explain how essence explains necessity than it is to appeal to opium's sleep-producing power to explain opium's sleep-producing power?[22] We don't think that our Axiomatic Solution is as bad as the '*virtus dormitiva*' pseudo explanation. At the end of the day, the reason why the '*virtus dormitiva*' point is a pseudo explanation is that it violates the irreflexivity of explanation; it seeks

have this necessity-conferring capacity] is not to be seen as the metaphysical ground of the fact in the *explanandum*, [essences have this necessity-conferring capacity]. It is more natural to view the answer to (CQ1) and (CQ2) as essentialist explanations à la (Glazier, 2017).

[22] Thanks to an anonymous reviewer for raising this worry.

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to explain why there is a sleep-producing power in opium by appealing to the fact that there is a sleep-producing power in opium. Despite first appearance, there is no such violation of irreflexivity in our explanation of why and how essences explain necessity (i.e. in our answers to (CQ1) and (CQ2)). We do not seek to explain the fact that essences have a necessity-conferring capacity by simply reiterating the fact that, well, essences have a necessity-conferring capacity. Instead, and this difference is important, we explain the fact that essences have a necessity-conferring capacity by the fact that *it is essential to essence* that essences have this necessity-conferring capacity. The fact in the *explanans* is not identical to the fact in the *explanandum*; the former is an essentialist fact, the latter is not. So, there is no violation of irreflexivity. What is more, such *essentialist explanations*, as Glazier (2017) calls them, are ubiquitous and generally adequate explanations. Consider the following question. Why does {Socrates} contain Socrates as a member? This question is adequately answered by the following statement. *It is essential to* {*Socrates*} to contain Socrates as a member. So, we have the following essentialist explanation. {Socrates} contains Socrates as a member because *it is essential to* {*Socrates*} to contain Socrates as a member. This is analogous to the following non-reductive (and non-substantive) explanation we've been championing in this paper. Essences are capable of explaining necessity because *it is essential to essences* that they are capable of explaining necessity. We take it that, besides being ubiquitous and adequate, such essentialist explanations also indicate that there is no more substantive answer to be had. This squares with our verdict that the Axiomatic Solution gives non-substantive answers to (CQ1) and (CQ2). So, while a '*virtus dormitiva*' pseudo explanation violates irreflexivity and leaves us wanting a less circular, and, importantly, a *more substantive* explanation, our *essentialist explanation* of the necessity-conferring capacity of essences involves no violation of irreflexivity and indicates that there is no more substantive explanation to be had. Hence, (NRFE) does not rely on a '*virtus dormitiva*' like pseudo explanation. Rather, essences on the Axiomatic Solution are buck-stopping. While why-questions can be iterated endlessly, some, albeit non-substantive, answers to a why-question end inquiry. Essences do that for questions about necessity.[23]

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MICHAEL WALLNER (michaelwallner1@gmail.com) *is* Universitätsassistent *(~ Assistant Professor) in philosophy at the University of Graz. His recent publications include 'The ground of ground, essence, and explanation' in* Synthese, *'The epistemology of modality and the problem of modal epistemic friction' (with A. Vaidya) also in* Synthese *and 'The Structure of Essentialist Explanations of Necessity' in* Thought.

ANAND J. VAIDYA (anand.vaidya@sjsu.edu) *is Professor of Philosophy at San José State University. His recent publications include 'Analytic Essentialist Approaches to the Epistemology of Modality' in* Being Necessary: Essays in Honor of Bob Hale (OUP), *'The epistemology of modality and the problem of modal epistemic friction' (with M. Wallner) in* Synthese.

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