

ON THE EPISTEMOLOGY OF MODAL RATIONALISM: THE MAIN PROBLEMS AND THEIR SIGNIFICANCE¹

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ABSTRACT: In this paper, I discuss the main characteristics of the epistemology of modal rationalism by proceeding from the critical investigation of Peacocke's theory of modality. I build on arguments by Crispin Wright and Sonia Roca-Royes, which are generalised and supplemented by further analysis, in order to show that principle-based accounts have little prospects of succeeding in their task of providing an integrated account of the metaphysics and the epistemology of modality. I argue that it is unlikely that we will be able to develop an exhaustive and accurate principle-based account that discriminates objectively between correct and deviant modal knowledge. Even if such an account can be formulated, a non-circular way of justifying its necessity also seems to be out of our reach.

KEYWORDS: metaphysical necessity, modal epistemology, modal rationalism, principle-based account, Christopher Peacocke

1. Introduction

The modal scepticism of early analytic philosophers is largely explainable by the traditional commitment of analytic philosophy to empiricist epistemology. According to the classical empiricist view about modality,² there are two types of true propositions: those concerning knowledge of the 'external world' (what Hume calls 'matters of fact') and a priori truths (logical, mathematical, and semantic knowledge, what Hume would call 'relations of ideas').³ Necessity is the exclusive attribute of the latter type, precisely due to lack of factual content. The reliability of factual knowledge is ultimately grounded in a causal relation between our senses and the objects of experience, but any proposition that is causally grounded cannot be necessary, as no matter how many particular empirical inputs confirm it, there is no way one could ward off theoretically any

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² See David Hume, *An Enquiry Concerning Human Understanding* (Oxford: Oxford University Press, 2007), 18.

³ Hume discusses only mathematical truths as cases of knowledge of 'relations of ideas.' The (Kantian) extension of the a priori to analytic and logical truths is, however, uncontroversial.

exception (as we do in mathematical proofs, for instance). The acknowledgement of necessary factual truth is therefore precluded by a traditional empiricist commitment.

The famous case set forth by Kripke turned the tides in the analytic tradition in favour of the recognition of the existence of necessary a posteriori truths.⁴ What needs to be stressed here is that this reversal is more profound than a simple reconsideration of modal notions: one cannot accept that there are necessary factual truths and remain committed to classical empiricism, on pain of incoherence. One of the available alternatives is to endorse a rationalist viewpoint. Kripke and like-minded philosophers⁵ are *rationalists* concerning modal knowledge, that is, they hold that some modal knowledge is a priori and, moreover, that *a posteriori modal knowledge is dependent on a priori modal knowledge*. Also, rationalists hold that modal truth is mind-independent – more precisely, they uphold *a substantive account of modal truth* and maintain that *modal knowledge latches onto mind-independent content*. In fact, the central problem of modal epistemology – how do we have modal knowledge? – is truly meaningful (and pressing) in accounts that maintain that there is a distinct type of mind-independent modal knowledge; and rationalist theories are typical examples of this sort of account.⁶ There is no problem of modal knowledge for empiricist / naturalist sceptics concerning modality: knowledge of modal truths is typically reduced to knowledge of a priori truths. If the a priori is regarded as problematic, then so is the modal, but there is no special difficulty regarding modal knowledge beyond whatever problem the a priori leads to. Also, at the other end of the spectrum, there is no epistemological problem if modal knowledge is seen as no different from ordinary empirical knowledge (or if ordinary empirical knowledge is deemed to have a built-in modal component).⁷ Even if a slight difference of character between ordinary empirical knowledge and modal knowledge is

⁴ Saul A. Kripke, *Naming and Necessity* (Cambridge, MA: Harvard University Press, 1980).

⁵ See Stephen K. McLeod, “Rationalism and Modal Knowledge,” *Crítica* 41 (2009): 32 for a comprehensive list of doctrines regarding modality, including names of prominent modal rationalists.

⁶ The need for an epistemological account also appears for those who hold that modal truth is literally reducible to truth in possible worlds, as in the case of Lewis’ theory of possible worlds in David K. Lewis, *On the Plurality of Worlds* (Oxford: Blackwell, 1986). The lack of a causal relation with other worlds, which the possible-world theorist posits as *truly* existing, generates an analogue of Benacerraf’s dilemma for the case of modal realism.

⁷ See Crawford Elder, “An Epistemological Defence of Realism About Necessity,” *Philosophical Quarterly* 42 (1992): 317-336; and Nenad Mišević, “Explaining Modal Intuition,” *Acta Analytica* 18 (2003): 5-41.

recognised, the troublesome character of modality can be explained away if our modality-grasping ability is considered an extension of a natural ability of human beings, namely, our ability to evaluate counterfactuals.⁸

The central problem of modal epistemology arises accordingly only when the theorist regards ordinary truth and knowledge, on the one side, and modal truth and knowledge, on the other, as substantially different. The epistemological programme of modal rationalism is then correctly characterized as the attempt to bridge the gap between ordinary knowledge and modal knowledge by proceeding from the content of grounding a priori modal knowledge. In this paper, I attempt to formulate some sceptical concerns regarding rationalist attempts of transcending the properly acknowledged distance between ordinary truth and modal truth. I will not consider the details of all modal rationalist theories, but instead I will focus on one typical development of this doctrine, to wit, Peacocke's *moderate rationalism*. I build on criticism of Peacocke's theory by Wright and Roca-Royes and show that some of the critical insights of these authors, supplemented by other related concerns, can be extended to all forms of modal rationalism. But before exploring the significance of the mentioned criticisms, a brief exposition of Peacocke's account of modality and its underlying purpose is required.⁹

2. Peacocke's Account of Metaphysical Modality

Peacocke understands quite clearly the acute need of harmonising the metaphysics and the epistemology of modality and considers it a focal point of his endeavour. He calls the task of reconciling the account of the content of our true statements (metaphysics) with an account of how we are able to know that content (epistemology) the Integration Challenge.¹⁰ His *Being Known* is dedicated to developing accounts that meet 'the Integration Challenge' not only for necessity, but also for other important philosophical notions, such as freedom, self-knowledge and intentional content, and the past. Peacocke maintains that the case of metaphysical necessity cannot be elucidated by means of a causal epistemology,

⁸ See Timothy Williamson, *The Philosophy of Philosophy* (Oxford: Blackwell, 2007); Boris Kment, "Counterfactuals and Explanation," *Mind* 115 (2006): 261-310; and Boris Kment, *Modality and Explanatory Reasoning* (Oxford: Oxford University Press, 2014) for theories based on this claim.

⁹ The summarisation of Peacocke's conception of modality follows Peacocke's own brief account of his ideas in Christopher Peacocke, "Summary," *Philosophical Books* 42 (2001): 81-83, and Roca-Royes' exposition in Sonia Roca-Royes, "Modal Epistemology, Modal Concepts and the Integration Challenge," *Dialectica* 64 (2010): 335-361.

¹⁰ Christopher Peacocke, *Being Known* (Oxford: Oxford University Press, 1999), 1.

but rather by using a principle-based account, as modal truth is “fundamentally an a priori matter.”¹¹ This is the basic content of Peacocke’s rationalist position concerning metaphysical modality: there are implicitly known a priori principles that determine the truth-value of modal statements. The truth of a priori statements is derived from the understanding conditions (and ensuing determination theories) of their constituent expressions.¹² Peacocke’s declared goal is to provide a plausible intermediary way between Lewis’ modal realism and mind-dependent accounts.¹³ In this regard, he holds that there is a mind-independent component to modal truth, but also that the metaphysical investigation of the modal domain should be akin to Strawson’s descriptive metaphysics, that is, it should proceed from the structure of our thought, in this case, of modal thought.¹⁴

An assignment s has, in Peacocke’s account, the form of a quadruple $\langle D, \text{val}, \text{propval}, \text{ext} \rangle$, composed of: the domain of objects D ; the function val – the semantic value of concept C – which assigns an extension (object, truth-value, etc.) to C ; the function propval – the property value of C – which assigns a property or a relation to (atomic concept) C ; and ext – the extension – which assigns extensions to properties and relations. Every assignment has a corresponding specification (s -specification), which is the set of thoughts that the assignment counts as true. Then,

A specification is a genuine possibility iff there is some admissible assignment which counts all its members as true.¹⁵

That is, if a set of thoughts is to count as representing a real or genuine possibility, it must be true in an admissible assignment. Admissibility is defined at the level of assignments as compliance with all the Principles of Possibility – the implicitly known a priori principles that bear upon our modal knowledge. The Principles of Possibility are divided by Peacocke into three main categories.

The first category includes only one principle, called the Modal Extension Principle (MEP), which can be stated in the following form:

MEP: An assignment s is admissible only if: for any concept C , the semantic value of C according to s is the result of applying the same rule as is applied in the determination of the actual semantic value of C .¹⁶

¹¹ Peacocke, “Summary,” 82.

¹² Peacocke, *Being Known*, 143.

¹³ Cf. Peacocke, “Summary,” 82.

¹⁴ Peacocke, *Being Known*, 2.

¹⁵ Peacocke, *Being Known*, 126.

To take one of Peacocke's examples, for the concept <bachelor>, an assignment will be admissible only if the semantic value that it assigns to this concept is obtained as the intersection of the extension of <man> according to *s* and the extension of <unmarried> according to *s*. While the extension of a concept may vary in different possible worlds (i.e. possible specifications, admissible assignments), the limits of its variation are fixed by the rules that determine its semantic value in the actual world.

The Modal Extension Principle is complemented by a class of Constitutive Principles which function at the level of objects, properties and relations, whereas MEP works at the level of concepts and sense.¹⁷ The overall significance of Constitutive Principles is the following: an assignment counts as admissible (thereby determining a possible specification) "only if it respects what is constitutive of the objects, properties and relations it mentions."¹⁸ Forthwith, Peacocke propounds some candidates that could plausibly fit the role of Constitutive Principles. One of his examples concerns the fundamental kind of an object:

Fundamental Kind: If *P* is a property which is an object *x*'s fundamental kind, then an assignment is inadmissible if it counts the proposition *x* is *P* as false.¹⁹

Necessity of origin is also discussed as a plausible constitutive principle. But what is important to note here is that Peacocke doesn't attempt to provide an exhaustive list of constitutive principles (not even at a highly general level or for some significant types of objects, e.g. a list of what should count as constitutive principles for all objects, living beings, artefacts, etc.). Nor does Peacocke argue that the few principles he does consider are something more than plausible variants for Constitutive Principles, to wit, they must be actual implicitly known a priori principles shared by an overwhelming majority of the community of language users. In fact, he explicitly states that establishing which principles are true is not his main concern, but rather emphasising the role of the Principles of Possibility in our understanding of modality and developing a general framework for further investigation of the domain.²⁰ This important point will be developed further on in the paper.

¹⁶ Peacocke, *Being Known*, 136.

¹⁷ Peacocke, *Being Known*, 144.

¹⁸ Peacocke, *Being Known*, 144.

¹⁹ Peacocke, *Being Known*, 145.

²⁰ Cf. Peacocke, *Being Known*, 191.

Finally, there is also a second-order²¹ plenitude principle, called the Principle of Constrained Recombination (PCR):

PCR: An assignment is admissible if it respects all the previous principles (MEP and the Constitutive Principles).²²

PCR states that MEP and the Constitutive Principles are jointly sufficient for admissibility. As such, any statement included in a specification that is represented by an admissible assignment will be judged as possible.

The Principles of Possibility determine what counts as possible from a metaphysical point of view – whatever is true in an admissible assignment (an assignment that respects the principles) is deemed genuinely possible. But they also provide an account of our modal knowledge because they are taken to constitute the possession conditions for the concept <possible>: if one doesn't have implicit knowledge of the principles, then one doesn't possess the concept <possible>. But when one has the concept, one also has the means to determine if some specification is genuinely possible, to wit, one has epistemic access to metaphysical modality.²³ This guarantees, according to Peacocke, that there is no divorce between the metaphysical and the epistemic aspects of modality – they are by these means connected, and the Integration Challenge is met. It is important to note, in relation to this point, that MEP is recursive, as it applies to the concept <admissible> itself (and thereby to the concept <possible>). MEP and the other principles make up the rule for <admissible>, therefore determining its actual extension. But MEP can be applied to the concept <admissible> itself – if something is to count as admissible, it must respect the actual rules for <admissible>.²⁴ One important consequence of the self-applicability of MEP is that our characterization of necessity will be itself necessary. The gist of the argument is pretty straightforward.²⁵ Necessity is defined as truth in all the admissible assignments. But this rule of necessity can become an object for MEP – therefore, under every admissible assignment *s*, the semantic value of <necessary> will include all and only the thoughts which are true under every admissible assignment according to *s*. But then the characterisation of necessity will be true in every admissible assignment, i.e. necessary. This is as it should be if modal truth is taken to be mind-independent – if our conception of necessity were contingent, and thereby necessary truths were only contingently necessary, then there could

²¹ A second-order principle is a principle that makes reference to other principles.

²² Cf. Peacocke, *Being Known*, 149.

²³ Cf. Roca-Royes, "Modal Epistemology, Modal Concepts," 339.

²⁴ Cf. Peacocke, *Being Known*, 151.

²⁵ Cf. Peacocke, *Being Known*, 152.

be multiple equally entitled characterisations of necessity. This would lead to an admission of the possibility of incompatible necessary statements, and thereby to the conclusion that a strong notion of metaphysical necessity is untenable. Therefore, necessary truths must be necessarily so in any realist account, if that account is to succeed.

3. Wright's Criticism

In a paper about Peacocke's theory of necessity,²⁶ Crispin Wright highlights three structural limitations of Peacocke's principle-based account. I will only dwell upon the first structural problem singled out by Wright.²⁷

Wright's argument starts from Peacocke's remark that MEP is recursive, which supposedly allows Peacocke to show that his characterisation of necessity is itself necessary. Wright points out, rightfully in my opinion, that there is a difference between the principles being true under every admissible assignment (according to the given account) and something being metaphysically necessary. For the account to work, one already has to know that Peacocke's characterisation of necessity is necessarily correct, more precisely, metaphysically necessarily correct. Peacocke's account has to characterise the right type of necessity (true metaphysical necessity) and not some other notion (Peacocke-necessity, as Wright puts it). For the characterisation of necessity to be necessary according to Peacocke, it does not have to be the right one; whatever the Constitutive Principles are taken to be, if MEP stays in place, the characterisation will come out necessary, i. e. true in all admissible assignments. So, it has to be determined independently if the characterisation of necessity is the right one, to wit, that the way we construe admissibility by means of Constitutive Principles is correct.

Wright maintains that this is a symptom of a structural challenge that lies at the heart of Peacocke's account, and is encapsulated in the admission that there is a distance between metaphysical necessity and our knowledge of it, viz., that there is an Integration Challenge concerning metaphysical modality. "Accepting that challenge is accepting that we need to integrate a satisfactory account of the constitution of necessity with a satisfactory account of its epistemology,"²⁸ Wright argues, but whatever that integrated account is, it will exhibit the same problem. According to Peacocke's account, what one can do is just find a purportedly constitutive property, and then attempt to give an account of how we are able to

²⁶ Crispin Wright, "On Knowing What is Necessary: Three Limitations of Peacocke's Account," *Philosophy and Phenomenological Research* 64 (2002): 655-662.

²⁷ Cf. Wright, "On Knowing What is Necessary," 656-659.

²⁸ Wright, "On Knowing What is Necessary," 658.

recognise that property. But if the constitutive part is not itself recognised as necessary, the account is compromised. Instead of explaining our knowledge of necessity, the epistemological part can only provide an account of our knowledge of constitutive properties. In light of these remarks, Wright concludes that “[t]he success of the account thus depends upon our recognition of a necessity which it cannot itself explain.”²⁹

If Wright’s contentions are correct, the structural problem affects a whole class of accounts of modality, not only Peacocke’s theory. Any reductive account of modality that proceeds by way of mind-independent constitutive properties encounters the problem of justifying its own necessity. In case our characterisation of necessity is contingent, we are strongly entitled to doubt whether what we recognise as constitutive/essential properties that generate necessary truths are indeed so, or this is rather a mind-dependent matter. And this brings us to the heart of the matter: the necessity of the account must already be acknowledged for it to proceed. But then knowledge of necessity is left unexplained. In Peacocke’s case, the recursive character of MEP might be a sign of its running-on-any-fuel nature: whatever we ‘pump’ into it, the account still works. Even if this is not so, it still shows the inescapable requirement of explaining the impetus of the account. How do we recognise that our knowledge of the constitutive is the correct one? Peacocke’s answer would be that this is an a priori matter – we have an implicit knowledge of constitutive principles. And this brings us to the re-statement of an important point: this structural doubt affects especially (perhaps exclusively) rationalist theories, that is, specific inquiries that proceed from necessary a priori principles of modal knowledge, but at the same time maintain that the modal domain is fundamentally mind-independent. The principles that ground modal knowledge must themselves be metaphysically necessary, but in virtue of what are they so? Even if the possession conditions for the concept <necessity> are correctly stated, they cannot provide the metaphysical explanation of the necessity of principles. If they could, there wouldn’t be any Integration Challenge to consider. But then, if we uphold the necessity of the principles by way of constitutive facts, we need an independent integrated (metaphysical and epistemological) account of this grounding. What is it that makes the principles necessary and how do we know it? Whatever answer we concoct, this new characterisation must itself be necessary, so we seem to be left with a potentially infinite regress. Potentially infinite because the account can

²⁹ Wright, “On Knowing What is Necessary,” 659.

stop at a certain point in its back and forth necessity-essentiality³⁰ movement and we may decide that necessity is the primitive notion. For instance, one may submit that the Principles of Possibility are just necessary, but we do not (cannot) have knowledge of the constitutive facts that ground them. This is not wrong, but it is a straightforward admission of defeat for the modal Integration Challenge.

Are modal rationalist accounts bound to fail because of this structural problem? Lowe endorses such an answer, but in relation to all accounts that aim to reach mind-independent truth by proceeding from the content of our concepts and words:

[T]he fundamental mistake is to suppose [...] that [...] an ‘advance’ would have to proceed from a basis in our knowledge of our concepts and words – that is, from a knowledge of how we conceive of and describe the world – to a knowledge of that world ‘as it is in itself,’ independently of our conceptual schemes and languages. This ‘inside-out’ account of how knowledge of mind-independent reality is to be acquired already makes such knowledge impossible and must therefore be rejected as incoherent.³¹

But before I discuss the impasse of rationalist accounts of a purported mind-independent modal reality, I will consider a complex criticism of Peacocke’s theory by Roca-Royes that I believe to be related to Wright’s argument.

4. Roca-Royes on Peacocke’s Principle-Based Account

I will summarise here Roca-Royes’ criticism of Peacocke’s account, insisting on what I regard as its most significant aspects.

Roca-Royes notes that the epistemological problem is not solved simply by providing a principle-based account of modality, but rather transferred from the modal domain (where it is explicit, according to Roca-Royes) to the constitutive domain (the essential properties that are encapsulated in the Constitutive Principles, which Peacocke holds that we know implicitly).³² Consequently, the task of providing an epistemology of the constitutive is urgent for Peacocke. The role of an epistemology of the constitutive would then be to propound a procedure by means of which we attain explicit knowledge of (the correct) Constitutive

³⁰ In this context, I take ‘essence’ to be interchangeable with ‘constitutive fact’, *viz.*, whatever grounds modal truth without being itself modal. Peacocke’s Constitutive Principles aim to reveal precisely such a grounding reality.

³¹ E. Jonathan Lowe, “Essentialism, Metaphysical Realism, and the Errors of Conceptualism,” *Philosophia Scientiae* 12 (2008): 28.

³² Cf. Roca-Royes, “Modal Epistemology, Modal Concepts,” 340-341.

Principles. Peacocke sketches a corresponding solution in a subsequent paper.³³ He argues that we reach explicit knowledge of the constitutive by using a two-step abductive process. At first, we identify some a priori known modal propositions (the proposition that if a living being originates in gametes a and b, then it necessarily originates in gametes a and b would be an appropriate example of such an a priori modal truth) that we use as the abductive base. Then, we search for the best explanation for the meaning of necessity that would be in accordance with the truth of the a priori modal propositions. The best explanation is, according to Peacocke, that necessity conforms to the Principles of Possibility (taking again the example given above, necessity would conform to this instance of Essentiality of Origin). Roca-Royes argues that the appeal to the a priori known modal propositions is ineffective, as all modal knowledge should depend upon the Principles of Possibility. When, as in the first step of Peacocke's abduction, the Principles haven't yet been established, there can be no claim to warranted modal knowledge. So, an appeal to independent (regarding the Principles of Possibility) route is required.³⁴

To support the argument, Roca-Royes describes two cases where the abductive process would not yield the right kind of explicit constitutive knowledge: one where we have only implicit false beliefs about the constitutive realm, and the second where it is by mere epistemic luck that the concepts constituting our modal knowledge track mind-independent essential truth. In the first case, we would arrive at false explicit modal beliefs, and in the second at true modal beliefs, but that would not amount to knowledge. To conclude, the account is dependent on the correctness of our implicit beliefs about the constitutive realm, but even if they are correct, a full-fledged positive account of knowledge of the constitutive and how precisely it aligns with mind-independent facts is still required. Roca-Royes elaborates on her arguments by noting that we can develop accounts for concepts very similar to the purportedly correct one, and they all characterize some (potentially interesting) property (e.g., logical possibility, conceptual possibility, natural possibility, but also indefinitely many others). This raises the question of how we achieve the correct concept among so many (slightly or less slightly) deviant ones. The question in its turn emphasizes the fact that we need a full-fledged account of our knowledge of the constitutive.³⁵

³³ Christopher Peacocke, "The Past, Necessity, Externalism and Entitlement," *Philosophical Books* 42 (2001): 106-117.

³⁴ Roca-Royes, "Modal Epistemology, Modal Concepts," 341-342.

³⁵ Cf. Roca-Royes, "Modal Epistemology, Modal Concepts," 342.

On the Epistemology of Modal Rationalism: The Main Problems and Their Significance

Roca-Royes contrasts Peacocke's set of rules for possibility (MEP + the Constitutive Principles) with another account that adds the following rule to MEP, instead of the Constitutive Principles:

(Const) An assignment s is admissible only if, for any entities $e_1 \dots e_n$ (objects, properties or relations) and for any n -ary relation R , $n \geq 1$, such that entities $e_1 \dots e_n$ constitutively stand in the relation R , s does not count $Re_1 \dots e_n$ as false.³⁶

The alternative account cannot provide a non-conditional characterisation of possibility. Roca-Royes uses this difference to note that Peacocke conveniently builds just the right amount of content into the modal concepts so that his moderate rationalism works (the implicitly known Constitutive Principles cover all potential cases). In contrast to this, with the alternative definition one needs an independent knowledge of constitutive facts in order to ascertain the possibility of something. However, Peacocke's account is just as ineffective, because the Constitutive Principles are not argued for by using an independent characterisation.³⁷ Moreover, Roca-Royes suggests that the possession conditions for modal concepts are too demanding because they provide a full-fledged theory about the constitutive realm, which we supposedly possess implicitly. Modal disagreement is a further reason to doubt the appropriateness of Peacocke's account, as is Peacocke's allowing that there are principles that are unknowable explicitly.³⁸

This concludes my summary of Roca-Royes' critical examination of Peacocke's moderate rationalism. All is now in place for a reflection on the significance of the criticisms explored above. In contrast to Roca-Royes and more in line with Wright's suggestions, I take these difficulties to be a symptom of a profound vulnerability of rationalist accounts of modal notions in general, and not only of Peacocke's account. In order to argue for this point, I will attempt to radicalize Wright's and Roca-Royes' arguments in order to extend them to a wider class of philosophical theories. Some supplementary arguments will be formulated. This will mark a clear departure from Roca-Royes' realism and her ultimate epistemological optimism concerning metaphysical modality.³⁹

³⁶ Roca-Royes, "Modal Epistemology, Modal Concepts," 353.

³⁷ Cf. Roca-Royes, "Modal Epistemology, Modal Concepts," 354-355.

³⁸ Cf. Roca-Royes, "Modal Epistemology, Modal Concepts," 355-357.

³⁹ Stated at Roca-Royes, "Modal Epistemology, Modal Concepts," 336-337.

5. The Quandaries of Modal Rationalism

There are two levels of inquiry of modal rationalist theories that are both plagued by problems, as seen in the counterarguments examined above. I will now consider the two levels separately and show where Wright's and Roca-Royes' arguments can be supplemented or radicalized in order to affect a wider class of accounts.

a. The level of content

The level of content is constituted, naturally, by the specific metaphysical and epistemological accounts of real modality. First, we have the problem of:

a*. The need for a complete account

The need for a complete list of the a priori principles that determine our modal knowledge is inescapable. In the case of Peacocke's account, this requirement is pressing because the content of his Constitutive Principles encodes the possession conditions (hence the actual content) of modal concepts. In the absence of a complete statement of principles, both the characterisation of our concepts and the metaphysical description of mind-independent modal truth are ineffective (not only the theory has a spectral object, but it is itself spectral). Actually, this is a problem that affects all modal rationalist doctrines that are not fleshed out in an exhaustive account. To my knowledge, there is no attempt to provide such a complete account to date. Typically, modal rationalist accounts are only sketched, as in the cases of Kripke's and Peacocke's work. General guidelines are given, and suggestions for plausible a priori principles are adduced, but the needed statement of principles remains fragmentary and disparate. This way of handling the issue may prove a strategic advantage – if less a priori principles are endorsed, the chances that the account is disputed are smaller. Theoretically, the correct account of the constitutive and the characterisation of our modal knowledge may diverge. If, as in Peacocke's case, the metaphysical explanation of the constitutive realm is reflected exactly in our modal concepts, the strategic benefits of not attempting to provide the full account of modality are all the more obvious. The problem would be not only that the given account of the constitutive realm is wrong, but also that the conditions that are imposed on our notions and our knowledge are misapprehended.

These remarks on the need of a complete and accurate integrated account of metaphysical modality are not all there is to the story. A problem that is not so obvious has to do with the thesis that our (grounding) a priori modal knowledge is

implicit. Again, this is not an idea that is to be found exclusively in Peacocke's account. Modal rationalists would want to hold (albeit not always explicitly, one may quip) that a priori principles are implicitly known. Remember that in the introduction I elaborated on the reasons of developing a modal rationalist account. The Integration Challenge is central to rationalist thinking about metaphysical modality – rationalists agree that there is a gap between the metaphysical and the epistemological aspect of modality. The gap is explained, but also explained away by the claim that we have implicit knowledge of the Constitutive Principles – we seem to have trouble assembling the two perspectives, because our knowledge is not explicit; nevertheless, we can ultimately do it, because our implicit knowledge is still knowledge, and can be made explicit with some theoretical effort. But if not all our implicit knowledge is made explicit, we cannot pretend to know some fundamental facts about our conception of modality. For instance, we don't even know if our conception is consistent. We are entitled to believe that our modal knowledge (including our grounding modal knowledge) is vast, so that it can cover indefinitely many possible situations. If some of it remains hidden, then there is no way of knowing precisely that it doesn't contain incompatible principles. The fact that we have conflicting intuitions about modality in different situations makes this worry powerful enough.⁴⁰

a**. The 'just the right amount' objection

Roca-Royes takes issue with Peacocke's building just the right amount of content into modal concepts. I hold that this is unavoidable if (any form of) modal rationalism is to play an adequate explanatory role. Now, a correct statement of the main stance of modal rationalism is that all a posteriori modal knowledge is dependent on some a priori modal knowledge. The modal force of a posteriori modal knowledge is transferred from the a priori principles. What one wants then is that these principles are effective, but also that there is no exception to the rule, viz., that there is no a posteriori modal knowledge that is not dependent on a priori knowledge. So, for this to happen, our a priori principles have to cover all cases of a posteriori modal knowledge. This puts modal rationalism in a very uncomfortable epistemological position. If modal truth is mind-independent, one may want to hold that there are possibilities that we don't know of (perhaps even cannot know of), for we don't have knowledge of all that is real and even in the cases of things we do know, we sometimes lack knowledge of all that is constitutive. The problem that our theory of the possible may be disproved by

⁴⁰ Theseus' Paradox would be an example of a case where intuitions rejecting the principle of Essentiality of Composition collide with some other intuitions that appear to support it.

further discoveries is meaningful, but hardly disconcerting. Its significance lies exactly in assisting our understanding of how much in our modal concepts is actually thinker-dependent (revising our view of possibility would always proceed at first by revising our non-modal concepts). But this is not what should bother us here.

The troublesome aspect of modal epistemology is revealed by accepting that the conditions on our possession of concepts are too demanding (as Roca-Royes seems to hold). But if these conditions are too demanding, then at least some Constitutive Principles don't do the work that is required of them. This means that there are some known modal propositions that are not obtained in the rationalist way (by being deduced from a priori principles plus empirical information regarding the possession of a certain property). But if there are pieces of modal knowledge that are not grounded by any specific a priori principle, then why should we think that we need a priori principles for modal knowledge at all? It is only natural to suppose that if there is a shorter route to modal knowledge, and, moreover, if some of our modal knowledge is not grounded by the a priori, then the shorter route is the right one.

To recap some earlier insights, the need for rationalism presents itself only when one acknowledges that there is, in Peacocke's terms, an Integration Challenge concerning metaphysical modality, to wit, we lack an epistemological account that explains adequately how we know modal facts. This gap is supposedly filled in by a priori principles, but these principles are required to be effective and all-encompassing. The gist of modal rationalism is that a priori content grounds and explains modal knowledge. But if some modal statements are not grounded in our concepts (contrary to what the modal rationalist holds), then the rationalist theory lacks actual explanatory power, and the Integration Challenge is not met. There still are modal truths that lack a corresponding epistemology. The question remains: how do we know these modal truths to be necessary/possible?

There is also a related point that we can make. It is clear that Roca-Royes' minimal principle (Const) is ineffective independently, as it is conditional upon previous knowledge or, alternatively, on a sceptical or agnostic stance regarding metaphysical modality (and serves all these accounts indiscriminately). But we should also notice that such a principle is indispensable in every type of reductive account of modality, so every account is, at least minimally, a principle-based account. If one believes that essence grounds metaphysical modality (and, correspondingly, knowledge of essence/knowledge of constitutive properties grounds modal knowledge), then one needs (Const) to link the essential and the

modal. However, even though it is plausibly a priori, (Const) is not a grounding principle of modality. A posteriori modal knowledge is not dependent on (Const), but rather on knowledge of constitutive properties and relations.

a***. Modal disagreement

The greatest challenge for modal rationalist accounts is, in my opinion, brought by the problem of modal disagreement. Roca-Royes takes modal disagreement to be a powerful argument against our modal concepts being as rich in content as Peacocke would want it. My point is related, but different. Suppose that two philosophers develop two different and incompatible integrated accounts of modal knowledge, but in accordance with the general character of rationalist theories (that is exhibited in Peacocke's theory) and without disagreeing on the actual empirical facts that are true. For instance, one holds that Essentiality of Origin is a universal Principle of Possibility, and one holds that it is not. Now, for Peacocke, one of them is making a mistake or is not in possession of the modal concepts. But this leads to a dilemma, as there is no principled way to decide who is right. Each one may adduce equally powerful independent reasons for her point of view. There may be no manifest incoherence in their doctrines. So what can we say about this situation? To my mind, the only way to decide between the two, all the while respecting the general principles of modal rationalism (mind-independent modal truth combined with a priori dependence of our modal knowledge), is to find an objective mind-independent criterion that would settle matters. One account should lead to correct modal knowledge, and one not. It is, however, very difficult to see what such a criterion might be. I cannot find any particular fact that would help us decide who is right and who is wrong. The reader should remember that the two philosophers may agree on all ordinary non-modal facts, but disagree regarding our modal statements, to wit, they disagree on the limits we impose on characterising other possible situations. These limits are not given by the empirical facts themselves, but by our stance on what counts as constitutive. The facts themselves may be mind-independent, but characterising them as essential seems to be thinker-dependent. Providing an epistemology of essence, in whatever guise, means most of all explaining how it is that some facts impose themselves on our knowledge as being essential, and others do not. It is my contention that rationalism cannot provide an adequate epistemology of the constitutive, and the reason for this has a lot to do with modal disagreement. All the empirical facts being acknowledged to be the same, two informed and penetrating thinkers may disagree, as they often do, about the principles of possibility. Whatever may settle the dispute (if this can happen) could only look

like a decision to (re)characterise things in a certain way. If there is no fact of the matter about which account is the correct one, then this shows that our take on what is to count as essential (or as a principle of possibility) is a mind-dependent affair.

It is very interesting that, from another perspective, modal disagreement casts serious doubt on the a priori character of the Principles of Possibility, if we take the a priori to be structural. It is implausible that the principles are actually being thought of in rationalist accounts as akin to Kripke's examples of contingent a priori truths.⁴¹ Even if this were so, they would be deprived of the modal force that they are held to imbue modal a posteriori knowledge with. The principles also seem to have nothing of the highly abstract and sophisticated character of some mathematical notions that sometimes impends us from ascertaining mathematical truth. Yet, consensus seems hard to reach regarding the truth of modal principles. Could it be then that the principles are just expressions of decisions on what ordinary facts are to be held fixed when entertaining counterfactual hypotheses? Modal disagreement, supported all the more by the lack of any complete principle-based account of modality, points us toward an affirmative answer to this question.

A cumulative conclusion of my discussion so far is that Peacocke doesn't provide us with the much needed solution of discriminating between the correct and the deviant accounts of metaphysical modality. I argued that we have serious reasons to be pessimistic about the perspectives of formulating a satisfying principle-based account. This will become all the more obvious in the following discussion of the meta-level of principle-based rationalist accounts.

b. The meta-level

I have shown that some of the arguments that can be raised against Peacocke's theory (the most interesting ones, to be sure) are extendable to a whole class of accounts, namely, to modal rationalist accounts. If this is correct, then the fault must originate not in the misgivings of particular content, but rather in metatheoretical aspects that underpin Peacocke's arguments and theses. The explanation of the quandaries of moderate rationalism has therefore less to do with Peacocke's theorising, which is actually quite ingenious, and more to do with the epistemology of philosophy, to wit, with the general characteristics of the philosophical perspective that is assumed (modal rationalism, in this case). It is these structural metatheoretical aspects that lead to certain solutions being

⁴¹ The idea of a contingent a priori truth is itself controversial.

formulated and employed.⁴² So, it is not at all mistaken to suggest that what I have described in this section as being problematic in relation to the content of theories actually has an important metatheoretical component. More precisely, the difficulties that are related to the elaboration and development of theoretical content are plausibly caused by certain higher-order characteristics.

The reason that I am discussing the following difficulty under the ‘meta-level’ heading (when in fact all problems I treated in this chapter are in a significant way metatheoretical) is that this one is metatheoretical *par excellence*. The problem arises for an account (e. g., Peacocke’s) in its entirety (it doesn’t regard just one specific part of it, as the other problems do) and, if I am right, it is a general problem that affects every type of principle-based account (and thereby all forms of modal rationalism).

This second-order difficulty has already been described in an informal manner at the end of the section that was focused on Crispin Wright’s criticism. I will now restate it in a more argumentative form. But first I will recap how the problem is made explicit in Wright’s and Roca-Royes’ criticisms.

In my opinion, Wright and Roca-Royes both detect the same problem regarding Peacocke’s delineation of necessity and describe it in similar terms. Wright argues that the recursive character of MEP is useless for grounding the necessity of Peacocke’s own characterization of necessity if we don’t already know that the account singles out the right kind of modal notion (metaphysical necessity) and not some other similar concept. But this is exactly what is in need of justification in Peacocke’s account, so no prior grasp of necessity can be invoked. Due to its self-applicable nature, Peacocke’s definition of necessity works with every noetic fuel – necessary truth will turn out true in every possible specification, but this cannot guarantee by itself that we are employing the correct notion of necessity. As we have seen, Roca-Royes uses a very similar strategy when she disputes Peacocke’s claim that knowledge of the principles is arrived at by means of an abduction that proceeds from some modal propositions that are known *a priori*. If modal status is grounded in and inherited from the principles, there can be no warranted claim to modal knowledge without the principles being already established. Wright also criticizes the overall strategy of explaining the modal by means of the constitutive. He claims that this type of account manages at best to give an epistemological explanation of the reductive notion, but leaves knowledge of necessity unexplained (although the account requires recognition of

⁴² See Gary Gutting, *What Philosophers Know: Case Studies in Recent Analytic Philosophy* (Cambridge: Cambridge University Press, 2009) for more on the epistemology of philosophy and the two levels of theory building.

necessity to put the theoretical machinery in motion). Now, this last worry can be addressed in a fairly satisfying way by using something like Roca-Royes' (Const) principle, viz., something that links (knowledge of) modality with (knowledge of) essence in an appropriate way.⁴³ The epistemology of necessity is thereby reduced to the epistemology of essence. But all this talk of the need for prior knowledge of necessity or about the absence of an adequate modal epistemology may obliterate the real character of the predicament of principle-based accounts and their deep structural vulnerability. So, let me explain this vulnerability by describing the content of the metatheoretical problem in a question-and-answer form.

The fundamental question is the following:

Q1: Is our⁴⁴ characterisation of necessity contingent or necessary?

A1: The characterisation of necessity is contingent.

A1 is unacceptable for someone who (like Peacocke and all modal rationalists) holds that modal truth is mind-independent. If we allow the characterisation of necessity to be contingent, then this can very plausibly be linked to the fact that modal truth is fundamentally mind-dependent. The reader must note that this is not a claim that the fact that someone arrives at (the correct) characterisation of necessity is contingent, in the same way that the fact that we developed mathematics is contingent, but mathematical truths are nevertheless necessary. A1 encapsulates the thesis that the very definition of necessity (and the corresponding principles that it comprises) are contingent, so there may be different equally entitled characterisations of purported metaphysical necessity.

So, the modal rationalist can only endorse:

A2: The characterisation of necessity is necessary.

But in order to uphold A2, the modal rationalist cannot appeal to the necessity of first-order constitutive principles, as the principles are part of the characterisation that needs justification. A recursive principle like MEP will not do, as long as the correct real necessity of the account is not established. Therefore, the modal rationalist needs a corresponding second-order principle. So, now we have:

Q2: In virtue of what is the characterisation of necessity necessary?

⁴³ It is open for discussion if (Const) manages to do that, but this is not my concern here. I only cite (Const) as an example of how an explanatory link between the constitutive and the modal should be and can be established.

⁴⁴ Where 'our' refers to any principle-based characterisation.

On the Epistemology of Modal Rationalism: The Main Problems and Their Significance

The proponent of a principle-based account can only give an answer along the lines of:

A3: The characterisation of necessity is necessary in virtue of some constitutive fact(s) that is/are encoded in one/several Constitutive Principle(s).

Then, the problem reappears. The new question is:

Q3: Is/are this/these Constitutive Principle(s) (and the new corresponding definition of necessity) necessary?

It is quite clear that this way of putting things leads to infinite regress. Yet, there is no other way for principle-based accounts (thereby for all typical cases of modal rationalism) to proceed as long as there is no prior unproblematic grasp of necessity. The problem is that this grasp of necessity is required to be not only explicit and unproblematic, but also fundamental – necessity must be taken as primitive if we don't want to set in motion the infinitely regressive necessity – essentiality – necessity – ... grounding mechanism.

6. Concluding Remarks

The common thread of the arguments presented here is that they target the main aim of modal rationalism: to provide an account that maintains both that modal truth is mind-independent and, in Peacocke's words, 'fundamentally an a priori matter.' If these arguments are successful, then we have serious reasons to doubt that this task can be carried out. The difficulties of Peacocke's moderate rationalism show that when the grounding a priori knowledge is taken to be implicit (but how could it be otherwise?), it is very unlikely that we will be able to characterise our knowledge of metaphysical necessity in an appropriate manner. An adequate modal rationalist account cannot remain programmatic, as it is in Peacocke's work – it has to be fully developed if it aims to fulfill an explanatory role. Otherwise, it is open to doubt and charges of ineffectiveness. But even if such an account is provided, there should be serious concern about its capacity to discriminate between correct and deviant modal knowledge. This has to do with the peculiar nature of the grounding principles, whatever they are taken to be. It is highly doubtful that any principle-based account can garner a large enough consensus, but even if this were to happen, the problem also appears at the second-order level, where the necessity of the account requires a justification of its own.

A somewhat rushed reply would be that the principles are necessary because they are a priori, but anyone that propounds such a solution has missed the most important point. "2+2 = 10" is also a statement about a priori entities, but

in order to deem it necessarily true or false, one has to know first if it is correct or not. This is exactly what we don't know about the principles and the corresponding definitions of modal notions (if we acknowledge that there is an Integration Challenge to be met): are they correct or not? However, as I noted in the previous paragraph, the Principles themselves have a peculiar nature – they don't seem to be able to acquire the same type of consensus that mathematical truths acquire among competent users of mathematics. Now, this raises a very interesting question that is, in my opinion, a fertile challenge for further research. Are the principles of possibility, whatever they are taken to be, a priori and if this is so, what type of a priori knowledge are we talking about? Thinking again about mathematical knowledge, could it be that we operate with modal notions in a similar way, that is, could they project/make explicit certain rules for concept use or certain properties of our concepts?⁴⁵ Would modal competence then be a conceptual competence of sorts? The individualised and highly controversial character of some of our modal evaluations raises some concerns about this point of view, but perhaps this concern can be allayed with accepting the fact that different users employ different rules for what appear to be the same concepts. Or, better, modal disagreement may be a consequence of the fact that rules for concept use are not as strict and rigorous as mathematical rules. Naturally, in the case this theoretical option is pursued, it should mark a clear departure from a modal rationalist position; the guideline for assessing the truth of a statement like 'if X is a cat, then X is necessarily an animal' would not be that it correctly tracks some mind-independent truth, but rather that it correctly specifies the limits of use of the concept <cat>. Another option would be to hold that the principles are in fact forms of a posteriori knowledge, perhaps of a more peculiar kind.⁴⁶ This is also (and more clearly so) incompatible with a rationalist perspective.

McLeod has argued that ontological realism about modality requires modal rationalism.⁴⁷ If this is correct and the problems discussed in this paper truly affect all forms of modal rationalism, then these difficulties are really even more worrying than argued here. I don't wish to pursue this line of reasoning in this paper, but if my inquiry is significant, one thing it clearly suggests is that robust realism about metaphysical modality should be disputed more vigorously in the ongoing epistemological debate regarding modal notions.

⁴⁵ A view along these lines is developed by Amie Thomasson in "Modal Normativism and the Methods of Metaphysics," *Philosophical Topics* 35 (2007): 135-160 and "Norms and Necessity," *Southern Journal of Philosophy* 51 (2013): 143-160.

⁴⁶ See Elder, "An Epistemological Defence of Realism," for a way to argue in favour of this claim.

⁴⁷ Cf. McLeod, "Rationalism and Modal Knowledge."