

# The Epistemology of Modality

## Does Modal Knowledge Depend on Knowledge of Essence?

Pablo Rychter

University of Valencia

Ezequiel Zerbudis

National University of the Litoral

National University of Rosario—CONICET

doi: 10.2478/disp-2023-0006

BIBLID: [0873-626X (2023) 69; pp. 135–50]

### Abstract

We describe the main issue debated at the *IV Blasco Disputatio*: whether our knowledge of metaphysical possibility and necessity rests on knowledge of essence. But before getting to this specific issue, we offer a broader introduction to the more general problems in the epistemology of modality. In this way, we establish a background against which the contributions to this SI can be better appreciated.

### Keywords

conceivability; counterfactual; essence; imagination; modality

## 1 Some central problems in the epistemology of modality

We know that Socrates was a philosopher, but we also seem to know that he *could* have pursued different interests and become an artisan instead. And we also seem to know that he could not have become a poached egg: we seem to know that Socrates was necessarily a human being and, hence, necessarily not a poached egg. That is, we seem to know some *modal* facts about Socrates: facts about how he could have been and was not, and about how he could *not* possibly have been. The epistemology of modality focuses on this apparent

knowledge of modal facts: do we really have such knowledge? If so, what is its source? What kind of justification does it involve? Is such justification mostly *a priori*, based on some sort of intuition, or perhaps on our reflection on the content of our concepts and the meanings of our locutions? Or is it instead based on *a posteriori* considerations?

These epistemological questions are especially pressing if we assume an “objectivist” (or, as we might also say, a *realist*) view of modal facts according to which they are largely mind-independent features of reality. Such objectivism is now deemed as the “default position” (Roca-Royes [2021: 365]), and it is a shared feature of different metaphysical views of modality. Within the context of these different objectivist views, the epistemological questions become sharper. As a first example, take the view that modal facts are at bottom facts about what goes on at other Lewisian worlds—parallel universes that are spatiotemporally disconnected from ours (Lewis [1986]). On this view, the fact that Socrates could have been an artisan bottoms down to the fact that a counterpart of Socrates (*i.e.* an inhabitant of some other world who resembles Socrates in the appropriate ways) is an artisan. But how can we have knowledge of what goes on at universes that are not spatiotemporally related to us? Not by perception or any other faculty that requires some kind of causal relationship with the known facts. Lewis is aware of this problem, but notes that modal facts are “in good company” as far as their epistemology is concerned: mathematical facts are allegedly equally problematic, for the same reasons. If mathematics is about an abstract realm of entities, then how can we ever acquire knowledge about them? Not by perception or any other faculty that requires some kind of causal relationship with the known facts. This is in fact the core of the “Benacerraf problem” in the philosophy of mathematics, which, according to Lewis, serves as a “precedent” for the epistemology of modality (Lewis [1986: 109]).<sup>1</sup> The analogy with the mathematical case provides reasons not to yield to scepticism too easily, and also offers some hints about where the source of modal knowledge is to be found. According to Lewis, we form those of our modal opinions that constitute knowledge “by reasoning from general principles that we already accept”, as we also do in the mathematical case ([1986: 113]). The difference is that in the modal case we often rely on ‘imaginative experiments’ rather than on rigorous derivations from precise formulations of the relevant

---

<sup>1</sup> The Benacerraf problem also serves as a model in other, more contemporary discussions of the epistemology of modality (Hale [2013: 252], Mallozzi *et al.* [2021: sec. 3]). So does Peacocke’s *integration challenge*, which can be seen as a generalization of Benacerraf’s problem. Peacocke’s challenge is to reconcile “a plausible account of what is involved in the truth of statements of a given kind with a credible account of how we can know those statements, when we do know them” (Peacocke [1999: 1]).

principles. Like mathematical knowledge, and unlike knowledge of contingent facts, modal knowledge would then be *a priori*.

Other objectivist views of the metaphysics of modal facts are initially equally puzzling from an epistemological standpoint. Consider the view that modal properties are basic, irreducible and mind-independent features of our world.<sup>2</sup> Do we know these features the same way that we know the world's non-modal features? Since Hume, empiricists have suspected that this cannot be the case: we may know by perception that one ball hits another and that the second ball moves, but we do not perceive any *necessity* in this movement. Experience informs us about “categorical” features of our world, but not about its allegedly irreducible modal features.<sup>3</sup> Consequently, it seems totally mysterious from an empiricist point of view how we can have knowledge of these alleged modal features of reality. From the contrasting perspective of the *rationalist* tradition, it would be a mistake to try to ground such knowledge in perception: our knowledge of modality requires the exercise of some non-perceptual capacities, such as the intellect or the imagination. For the rationalist, we know *a priori* that some things are necessarily the way they are. We know that  $2 + 2 = 4$  with a special “clarity and distinctness” that indicates that what we know is not only true, but necessarily so.

Both of these traditions, rationalism and empiricism, have been revived somewhat in recent debates. On the one hand, the “new rationalists” (George Bealer, Stephen Yablo, David Chalmers, Bob Hale, Christopher Peacocke and E. J. Lowe, among others) have argued that *a priori* methods and abilities are the basis of our knowledge of modality. In particular, “conceivability-based” accounts (Yablo [1993], Chalmers [2002]) propose that conceivability, suitably understood, is a guide to possibility: our ability to conceive (in the required sense) a situation in which a certain proposition is true is evidence that the proposition in question is possible. This tradition has largely focused its attention on what seems to be the main obstacle in the path from conceivability to possibility: the Kripkean

---

<sup>2</sup> See, in particular, Shalkowski [1994] and the “modalist” tradition described in Shalkowski [2021: 118]. But for our present purposes, we can include here the whole family of views that John Divers [2021] calls “ideological modal realism”, which, in addition to the views already mentioned, also covers those which take modality to be grounded in essence (Hale [2013], Lowe [2008]).

<sup>3</sup> To the same effect, see Kant's famous remark that experience teaches us “what is, but never that it must necessarily be thus and not otherwise” [*KrV*, Introduction: A 1]. Another salient formulation of the same idea comes from Edward Craig: “what affects my senses is the fact of the tree's being there; it wouldn't affect them any differently if its being there were necessary” (quoted by Roca-Royes [2021: 366]).

“discovery” that some necessary truths can only be known *a posteriori*. Kripkean *a posteriori* necessities may initially seem problematic for modal rationalism in at least two ways: first, they challenge the characteristically rationalist idea that all knowledge of modality is *a priori*. Second, *a posteriori* necessities suggest that conceivability might not be a good guide to possibility after all, since it seems that we can conceive them to be false: someone might conceive, for instance, that water does not contain oxygen, or that Hesperus is not Phosphorus, when they do not have the relevant empirical information. As Chalmers puts it, “there is a sense in which ‘Hesperus is not Phosphorus’ is conceivable” ([2002: 157]).

Now, some remarks by Kripke himself seem to address, to some extent, the two problems identified. In the first, he shows that even if we know *a posteriori* that necessarily Hesperus is Phosphorus, this bit of knowledge may be seen as the conclusion of an argument with two premises: the *a priori* conditional claim that *if Hesperus is Phosphorus, then necessarily Hesperus is Phosphorus*; and the *a posteriori non-modal* claim that Hesperus is Phosphorus. Thus the most basic knowledge of necessity (*i.e.* of the conditional premise of the argument) would still be *a priori*. It is only when that basic modal knowledge is combined with *a posteriori non-modal* knowledge that we get *a posteriori* knowledge of necessity.<sup>4</sup> As for the second worry, Kripke suggests that in cases where we lack the relevant empirical information, we do not really conceive what we *seem* to conceive. We do not really conceive that Hesperus is not Phosphorus, but rather that something relevantly similar to Hesperus (something that satisfies the descriptions that fix the reference of ‘Hesperus’) is not Phosphorus (Kripke [1980: 103–105, 142]). But if there are no clear examples of conceived impossibilities, as appears to follow from this explanation, the link between conceivability and possibility is not threatened.

Chalmers’s elaboration of Kripke’s suggestion above draws on his two-dimensionalist theory of content, according to which some expressions are associated with two different intensions: a *primary* intension that captures the descriptive content that the speaker *a priori* associates with the expression, and a *secondary* intension that incorporates the *a*

---

<sup>4</sup> More generally, our knowledge of *a posteriori* necessities requires knowledge of major premises of the form ‘If P, then necessarily P’, which, according to Kripke, we know “*a priori*, by philosophical analysis” ([1980: 109]). Now, even if this is a plausible explanation when P is an identity statement, as Kripke showed by calling attention to the necessity of identity in the example above, it is an open question whether such an explanation would be available for the other *a posteriori* necessities that he discusses, such as the fact that the Queen Elizabeth II necessarily originates from her parents, or that a table made from wood could not have been made from ice.

*posteriori* determinants of meaning. Thus we can think of ‘Hesperus is not Phosphorus’ as expressing two different propositions. On the one hand, very roughly, the proposition that the morning star is not the evening star (or, a bit less roughly, the proposition that whatever satisfies the description that the speaker *a priori* associates with ‘Hesperus’ is not identical to whatever satisfies the description that the speaker *a priori* associates with ‘Phosphorus’); and on the other hand, the proposition that the thing that is actually called ‘Hesperus’ is not identical to the thing that is actually called ‘Phosphorus’. It is conceivable that the first of these two propositions (unlike the second) is true. But, given that *that* proposition is possibly true (*i.e.* it represents a genuine objective possibility), at least some link between conceivability and possibility is preserved.

Nevertheless, critics of the conceivability account are not convinced by this, and have argued that the link between conceivability and possibility is not strong enough, or insufficiently explained. In particular, they find it mysterious how the allegedly *objective* subject matter of modal knowledge can be accessed from the armchair. Mallozzi *et al.* [2021] ask:

Given that metaphysical modality is an objective modality that is mind-independent, while conceivability is subject-sensitive and mind-dependent, how are the two connected such that conceivability may entail, or at least provide evidence for, possibility?

Considerations of this sort motivate alternative rationalist accounts, such as that of Lowe [2008: 32–3], as well as the empiricist accounts to which we turn now.

In opposition to the rationalist renaissance that we have just described, the “new empiricists” have emphasized the role of experience (and familiar ways of reasoning from experience) in our acquisition of modal knowledge. For instance, Sonia Roca-Royes [2017] argues that at least some ordinary *de re* possibilities (such as the possibility that my table could break) are known by inductive empirical evidence, grounded in our experience with analogous cases, while Barbara Vetter [2016] has argued that our entry point into modal thought and knowledge consists in ordinary “can statements” that we are reasonably taken to know, such as the statement that I can speak French or, again, the statement that my table may break (alluding here explicitly to Roca-Royes’s work). These authors disagree, though, on the extent to which their accounts of such ordinary modal knowledge may be extended to account for less ordinary, metaphysical modal claims. Thus, while Roca-Royes [2017] denies that her account of our knowledge of everyday possibilities may be extended to provide such knowledge, in particular essentialist knowledge about concrete objects, Vetter thinks, on the contrary, that the account she provides of our knowledge

of ordinary possibilities may be extended to explain how we come to know less ordinary, metaphysical modal claims—namely, by dropping contextual restrictions (just as we shift from ordinary existence statements to strictly ontological ones by leaving aside contextual restrictions). It is in our view an open question (and, in any case, beyond the scope of this introduction) whether these extraordinary modal beliefs can be accounted for within a thoroughly empiricist framework, or whether such frameworks will result in a somewhat sceptical position according to which our modal knowledge is less vast than often assumed, or in a pluralistic modal epistemology, according to which claims of different sorts are known in different ways.<sup>5</sup>

As we have been emphasizing, the epistemology of modality becomes especially problematic under the objectivist assumption that modal facts are largely mind-independent. In fact, some philosophers have recently argued that we should abandon that assumption, partly because of the epistemological benefits of doing so. For instance, Amie Thomasson has put forward a “non-descriptivist” view that she calls “modal normativism”. On this view, modal claims are reflections, expressed in the object language, of semantic rules: that Socrates is necessarily human just comes down to the fact that our semantic rules for ‘Socrates’ and ‘human’ are such that someone correctly applies ‘Socrates’ to something just in case ‘human’ may also be correctly applied to it. Thomasson partly argues in favour of her view on the basis of its alleged epistemological advantages: while objectivist (or, as she prefers to call them, descriptivist) views face the challenge of explaining how we might connect with an independent modal realm (and have failed to provide convincing answers), the normativist may explain our knowledge of modal truths on the basis of our grasp of the rules of our language: a claim may be taken as necessarily true just in case it expresses some such rules. In this way, her view aims to solve Peacocke’s Integration Challenge, by providing a clear connection between what modal truths are (namely, the object-language expression of linguistic rules) and how we come to know them (namely, by reflecting on our use of those rules). It also vindicates the view, also shared by many in the rationalist tradition, that we obtain our modal knowledge by some kind of reflection on how we

---

<sup>5</sup> Other salient empiricist approaches to the epistemology of modality include Bueno and Shalkowski [2015] and Mallozzi [2021], to which we will come back in the next section. The papers collected in Fischer and Leon [2017] are a good sample of more recent developments in the empiricist tradition. The view that we know *ordinary* modal claims but not the more extraordinary modal claims often made in metaphysics was championed by van Inwagen [1998], under the label ‘modal scepticism’ (van Inwagen talks of “everyday” and “remote” modal matters).

would describe imaginary situations. Thomasson's view is close in this respect to other non-objectivist accounts that may claim similar epistemological gains, such as Blackburn's expressivism or Sidelle's modal conventionalism (cf Blackburn [1987], Sidelle [1989]). As long as modal facts depend on us (or our abilities to conceptualize the world and talk about it) it is less mysterious how we can come to know them.

So far, in our presentation of the different views about modal knowledge, we have relied on a distinction between accounts that rely on *a priori* methods, on the one hand, and others that make use of *a posteriori* methods, on the other. Now, there is a view that has been very influential in recent discussions that actually rejects the significance of this distinction, and defends an account according to which experience is taken to play, not just an enabling role, as in (pure) *a priori* accounts, but to contribute to some extent to the justification of the relevant claims (while still keeping its armchair character). This is Williamson's account, according to which knowledge of metaphysical modality is just a specific kind of knowledge of counterfactuals (cf Williamson [2007: Ch. 5]). According to this view, it's clear on the one hand that we do possess an extensive amount of ordinary counterfactual knowledge, as we may seem to know that, for instance, if a certain bush had not been present in a particular place, then a rock rolling down along a mountain slope would have ended in a lake further down. Moreover, it seems that we may provide an account of such knowledge by appealing to our use of some ordinary capacities, among which we may mention the use of imagination, predictive expectations constrained by our sense of how nature works, and other inferential capacities, the possession of which is in turn further explainable on the basis of the evolutionary advantages these capacities provide to the organisms that possess them. On the other hand, it is argued that metaphysical modal claims are equivalent to some counterfactual claims. For instance, the fact that a certain claim is necessary may be shown to be equivalent to its negation counterfactually implying a contradiction: saying that Socrates is necessarily human is equivalent to saying that if Socrates were not human, a contradiction would be the case. But then, given this equivalence, it would follow that our knowledge of metaphysical modality amounts to a particular instance of knowledge of counterfactuals. To the extent, therefore, that what guides us in our appraisal of counterfactuals involves, in general, not just some grasp of concepts and inferential capacities, but also some sense, informed by our empirical interactions with the world, of how nature works, this would imply both that the evaluation of counterfactuals is not completely *a priori*, and that this fact may provide the required link to a mind-independent modal reality that has been found lacking in purely *a priori* accounts.

## 2 Modal knowledge and knowledge of essence

Against the general background that we have described so far, we now move on to the question that was the specific topic of the *IV Blasco Disputatio*: does modal knowledge depend on knowledge of essence? There is a natural way to come to think that it does: it may be the case, as many have been convinced since the seminal work of Fine [1994], that modal facts are grounded in facts about essence.<sup>6</sup> The fact that Socrates was necessarily human and the fact that he was possibly an artisan are grounded, respectively, in the fact that Socrates was essentially human, and the fact that it was not part of his nature that he was not an artisan. The metaphysical dependence of modality on essence invites the idea that there is a similar dependence at the epistemological level. In the words of Bob Hale, who is one of the main proponents of the Finean idea that modal facts are grounded in essence,

given that metaphysical necessity is seen as having its source or ground in facts about the natures of things, one might expect an explanation of how we can have knowledge of the nature or essence of things to play a fundamental and central part in explaining knowledge of necessity. [Hale 2013: 254]

But there are also more specific reasons for thinking that modal knowledge relies on knowledge of essence. E. J. Lowe [2008] argues that knowledge of essence is required even for the empirical non-modal knowledge that, on the Kripkean account mentioned above, underlies our knowledge of *a posteriori* necessities. For instance, Lowe thinks that we have to know Hesperus's essence (what Hesperus *is*) in order to come to know that Hesperus is Phosphorus (or any other fact about it, for that matter). Unless we know that Hesperus is a *planet*, and that planets are not the kind of thing that could spatiotemporally coincide, we could not conclude on the basis of empirical observation that Hesperus and Phosphorus are the same, rather than two non-identical coinciding objects. But if knowledge of Hesperus's essence underlies the "empirical discovery" that Hesperus is Phosphorus, then it also underlies our knowledge that *necessarily* Hesperus is Phosphorus—at least if we accept the Kripkean explanation.

---

<sup>6</sup> The most central point made by Fine in that famous paper is that essence is *not* grounded in modality, but he also suggests that it is plausible that grounding occurs the other way around, mentioning Husserl's work as an antecedent of this kind of proposal (Fine [1994: 9]).



But how do we know the essence of Hesperus? Lowe's view is that we have a *sui generis* "rational insight" into the essences of things, an insight that we gain by "metaphysical thought and reasoning" ([2008: 33]). This insight has to be sharply distinguished from conceptual analysis or exercises of conceivability. (As we mentioned above, Lowe is a critic of conceivability-based rationalist approaches). It also has to be distinguished from being 'acquainted' with essences, or bearing some other perception-like relation to them. Lowe emphasizes that essences are not entities, and thus not something we can be related to. So his claim that we know the essence of Hesperus could (and perhaps should) be paraphrased as the claim that we know several propositions of the form "It is part of the essence of Hesperus that ...", where "it is part of the essence of ..." is a primitive operator not analysable in terms of quantification over essences ([2008: 39]).

Lowe's account falls on the rationalist side of the spectrum. Other views that take knowledge of essence to underlie modal knowledge are more on the empiricist side. For instance, according to a recent proposal by Antonella Mallozzi [2021], our knowledge of metaphysical modality is based on two sources: one of them is indeed *a priori*, and consists in our knowledge of some bridge principles of the form 'If it is essential to  $x$  being  $F$  that it is  $G$ , then necessarily anything that is  $F$  is  $G$ '; but, crucially, it also requires empirical knowledge of the essentialist claims that appear in the antecedent of those principles. Such knowledge is empirical because, according to Mallozzi's proposal, essences are precisely what science aims to discover in its search for causal explanations. The essence of a kind of thing, for instance, is what explains the behaviour of the instances of the kind. As she puts it, "essentialist knowledge is within our reach; actually, it is largely available to us *already*. For in many cases essentialist knowledge is *empirical, scientific* knowledge about the fundamental nature of kinds, particularly about their causal structure" (Mallozzi [2021: S1938]). So her view is an essence-based account of modal knowledge in which essentialist knowledge is empirically acquired.

There is another reason for thinking that knowledge of modality relies on knowledge of essence. Vaidya and Wallner [2021] have recently argued that essentialist facts are required to create the "epistemic friction" needed for the abilities involved in our assessment of modal claims not to over- or undergenerate. Vaidya and Wallner argue for this view by showing how different accounts of modal knowledge implicitly rely on knowledge of essences. So, for instance, they remark that in conceivability accounts, the exercise of our imagination has to be constrained by knowledge of essence in order for it to represent real possibilities. Could iron, for instance, be transparent? How do we assess this claim within this framework? Well, we should try to figure out whether we can imagine a scenario that verifies this claim. Now,

it seems that we may imagine something solid and transparent, and take it to be iron. But does this representation reliably inform us of a real possibility? What guarantees that the transparent solid thereby represented is iron? Vaidya and Wallner suggest that the only way to decide this issue requires taking into account our (perhaps implicit) grasp of what iron really is (its nature or essence), and assessing whether something with that essence may also instantiate the properties that make something transparent. Some knowledge of essence, therefore, seems to be required if the conceivability exercise is to offer a definite answer concerning possibilities. As we said, similar problems seem to afflict other accounts of modal knowledge. Let's also consider how this issue arises for Williamson's counterfactual account, as it may help us to better appreciate the nature of the problem. As we mentioned above, according to Williamson, metaphysical modal claims are equivalent to some peculiar counterfactuals and, as a result, knowledge of metaphysical modality is just a particular case of knowledge of counterfactuals. Consider now the claim that it is necessary that gold is the element with atomic number 79. According to this account, this would be equivalent to the claim that, if gold were not the element with atomic number 79, a contradiction would ensue. Now, does a contradiction follow from the supposition that gold does not have the atomic number 79? Well, nothing of the sort seems to follow from that claim *alone*. If we are to get a contradiction, it seems we'll have to bring to bear, in our assessment, our background belief that having that atomic number is constitutive of *what gold is*, namely, that it is essential for gold to have the atomic number 79. But then, again, this would imply that some grasp of the essences of the entities involved is required for us to obtain modal knowledge on this account.

We have reviewed some reasons for giving an affirmative answer to the question of whether modal knowledge relies on knowledge of essence. But some of the views in the empiricist tradition that we discussed in the previous section strongly suggest a negative answer: at least some modal knowledge does not require essentialist knowledge. In the case of Roca-Royes, this idea is explicitly endorsed as a methodological recommendation: "when it comes to concrete entities, (...) avoid an essence-based epistemology" ([2017: 223]). This recommendation is based on the idea that it is more certain that we have knowledge of ordinary possibilities than it is that we have any knowledge of essence: "[w]e know that my office wooden table can break; it's not so clear that we know that (whether?) its material

origins are essential to it—even less so to which degree, if they are (known to be) essential”.<sup>7</sup> So it is methodologically advisable not to try to account for something that is certain (knowledge of ordinary possibility) in terms of something that we are not certain about (knowledge of essence).

A negative answer to our present question is also suggested by other views that, like Roca-Royes’s, share the idea that knowledge of possibility is somehow prior to knowledge of necessity. That is, the negative answer is at least initially more plausible within the context of what Hale [2013: 253] calls *asymmetric possibility-first* accounts. (Chalmers’s conceivability-based account and Vetter’s Williamsonian proposal are two clear examples that we considered above). Although, as we just noted, these views may be subject to Vaidya and Wallner’s problem of epistemic friction, it is an open question whether the best solution to this problem will require, as Vaidya and Wallner suggest, essentialist knowledge. More generally, it is also an open question whether possibility-first accounts are successful, and how much modal knowledge they can deliver without collapsing into van Inwagen’s *modal scepticism*. We have, then, a very open and lively debate, to which the papers presented at the *IV Blasco Disputatio*, and included in this issue, make a significant contribution.

### 3 The papers in this issue

The five papers collected in this issue address, in more or less direct ways, the question described in the previous section, which **Sonia Roca-Royes** rephrases as follows at the beginning of her contribution: “[d]oes our capacity for modal knowledge depend on a capacity for essentialist knowledge?” Her paper contributes to a negative answer by discussing the limits of the similarity-based inductive account that she has developed in previous work (Roca-Royes [2017]). In that previous work, as noted above, the limits of her account were clearly delineated: the account was meant to explain our knowledge of ordinary *de re* possibilities of concrete objects (such as the possibility that my table can break), and it

---

<sup>7</sup> Roca-Royes [2017: 223]. We wish to note, though, that this is something that advocates of essence-based accounts may deny. As we have seen, for Mallozzi [2021], some essentialist knowledge is wholly ‘within our reach’ and as certain as scientific knowledge. From a different perspective, Lowe also suggests that it is uncontroversial that we have some knowledge of essence: we know what the table is (a table), and we know this perhaps with greater certainty than we know that it can break. This is compatible with *some* alleged knowledge of essence being out of our reach—as may be the case with alleged knowledge of the essentiality of origins.

was explicitly denied that it could be extended to account for (alleged) knowledge of more remote possibilities (such as the possibility that a given cow is naturally purple)—if these possibilities are real and known, some other epistemology will have to account for them. But in her contribution to this issue, Roca-Royes qualifies her previous claims about the limits of the inductive methods postulated by her account. She argues that unknowability by those methods (in the relevant sense of ‘unknowability’ that she clarifies) is a contingent feature of our situation: it is because our evidence happens to be what it is that we cannot know (by inductive methods) that a particular cow is naturally purple. Thus the limits of the inductive methods are revealed as accidental—they are not a feature of the methods *per se*. And partly because of that, as Roca-Royes further argues, those limits can be “pushed back”: it is to some extent in our power to actualize possibilities that determine the available evidence. Moreover, the fact that the limits of the inductive method are determined by how our world happens to be is something that speaks in its favour: it shows that the method is properly connected to “the objective subject matter in a way that rationalist methods don’t seem to be”.

If Roca-Royes’s similarity-based account is successful, then it would appear that at least some modal knowledge does not require knowledge of essence. However, in his contribution to this issue, **Michael Wallner** argues that Roca-Royes’s account faces the problem of modal epistemic friction that, as discussed above, Vaidya and Wallner [2021] present for other epistemologies of modality. And as happens in those other cases, the problem could be given an essentialist solution on Roca-Royes’s behalf as well: knowledge of essence could supply, at least in some cases, the required epistemic friction. This would result in an *essentialist version* of Roca-Royes’s similarity-based account that contrasts with her preferred *inductivist version*. Wallner calls our attention to the crucial point at which the similarity-based account requires epistemic friction: the account relies on the idea that, given two objects, it is their similarity in certain categorical properties (like their being made of certain materials) that allows us to infer their similarity in their possibilities (like their breakability). But, all too obviously, not every categorical property is relevant to every possibility: the fact that two tables are both white is irrelevant for inferring that they are equally breakable. So the question arises: how do we know which categorical properties are relevant to a given possibility? The essentialist answer that Wallner suggests on Roca-Royes’s behalf is that we know this (at least in some cases) by knowing an essential connection between the categorical properties and the possibility in question. But Wallner is clear that this essentialist answer is not the only one available to Roca-Royes: she could also insist that we know which categorical property is relevant for each possibility by applying “a

battery of ampliative methods (...), with induction having a central role". This alternative, non-essentialist answer faces the notorious old problem of induction, which leads Wallner to discuss how this problem can be dealt with from the perspective of hinge epistemology. In particular, he addresses the question of whether knowledge of essence plays a role in the hinge epistemology solution to the problem of induction. The answer seems to be 'no'. Thus, whereas there could be an essentialist version of Roca-Royes's similarity-based account, her preferred inductivist version does not make modal knowledge (within its scope) dependent on knowledge of essence.

A negative answer to the question of whether modal knowledge relies on knowledge of essence is also endorsed by **M. J. García-Encinas** in her contribution to this issue. She focuses on the problem of modal epistemic friction, as discussed above. García-Encinas agrees with Vaidya and Wallner [2021] that the epistemological accounts that they target (conceivability-based, counterfactual-based, and deduction-based theories) need some epistemic friction creator, in order not to overgenerate or undergenerate. But she does not agree that knowledge of essence is the right candidate to play this role. She argues that having essentialist knowledge in place does not prevent us, for instance, from conceiving impossibilities. So such knowledge is not sufficient to get the desired results. On the other hand, essentialist knowledge is not necessary either: knowledge of other features of reality (such as nomic relations) could also prevent imaginative capacities from overgenerating. However, García-Encinas's preferred candidate for generating the admittedly needed epistemic friction is *categorical* knowledge: knowledge of facts about the most general categories of being. She therefore situates her account within a broadly Aristotelian tradition that sees reality as structured by certain categories that are common to all beings, and takes that structure to be the ultimate source of modality. Moreover, García-Encinas claims that we have epistemic access to categories through *rational intuition*: a notion that we have already encountered in some essence-based accounts, such as Lowe's, but which is here characterized along the lines suggested by the recent work of Elijah Chudnoff.

Like Roca-Royes, **Michael Omoge** defends a broadly empiricist account of a limited range of modal knowledge: knowledge of 'everyday' possibility claims. And thus, as happens with Roca-Royes, his paper contributes to a negative answer to the question of whether modal knowledge requires knowledge of essence: at least some modal knowledge does not. Omoge's account is meant to confront the idea that perception does not inform us about unactualized possibilities (*i.e.* that whereas I know that my table is brown just by seeing it, I cannot in the same way know that it *can* break). This is an idea that Omoge traces back to Descartes, Hume and Kant, and which, as noted above, is a widely held assumption in the

metaphysics of modality, particularly in the rationalist tradition. Against this tradition, Omoge motivates the view that we do *perceive* mere possibilities. In particular, we *see* that the objects in our ‘peripersonal space’ are reachable and graspable. And we see this because the information that those objects are reachable and graspable is a basic assumption that our visual system uses to organize itself. Unlike the information that the apples around me are edible, the information that they are graspable is evolutionarily and developmentally acquired—this is a modal assumption that structures perception. And since perception is a reliable method, the modal beliefs that it delivers are justified and constitute modal knowledge. Omoge’s paper has an eminently *naturalistic* outlook and it brings to the table different approaches to perception from cognitive science.

The naturalistic approach to modal epistemology also infuses the contribution of **Felipe Morales Carbonell**. In his paper, Morales Carbonell explores, from an evolutionary perspective, the different ways in which our mechanisms for modal belief formation can be *calibrated*. The requirement that a mechanism is calibrated is very close to the idea, already familiar to us, that there should be enough epistemic friction: we can understand Vaidya and Wallner [2021] as arguing that essentialist knowledge calibrates different mechanisms of modal belief formation (conceivability, counterfactual reasoning, etc.). Morales Carbonell argues that there is an important class of cases, which he calls ‘bootstrapping cases’, in which calibration cannot be required. Unlike what happens in more ordinary cases, in bootstrapping cases an agent trying to form a modal belief does not have other relevant, previously held modal (or modal-bearing) beliefs available for calibration. The conclusion that calibration is not required in all cases of modal belief formation is arrived at by adopting two views that Morales Carbonell motivates. First, reliability should be found at the level of populations rather than individuals: “*we* (collectively) can have reliable ways to modalize without it being true of anybody that their individual modalizing mechanisms are reliable”. Second, calibration may be *external*, *i.e.* take place “outside the operation of the belief-formation mechanism properly speaking”; for instance, by a restriction on the inputs available to the mechanism. According to Morales Carbonell, adopting these two views allows us to block arguments that, like Vaidya and Wallner’s, are intended to conclude that modal knowledge must be grounded in other kinds of foundational knowledge.<sup>8</sup>

---

<sup>8</sup> We are grateful to Sonia Roca-Royes and Jordi Valor for their encouragement, and for their very useful comments on preliminary versions of this piece. The research leading to this work was supported by the Ministry of Science and Innovation (Government of Spain) and the European Union [Grant PID2019-106420GA-100/AEI/10.13039/501100011033].

Pablo Rychter  
University of Valencia  
Av. de Blasco Ibáñez, 13  
46010 València, Spain  
pablo.rychter@uv.es

Ezequiel Zerbudis  
National University of the Litoral  
Facultad de Humanidades y Ciencias  
Ciudad Universitaria, Paraje El Pozo  
3000 Santa Fe, Argentina  
National University of Rosario  
Facultad de Humanidades y Artes  
Entre Ríos 758  
2000 Rosario, Argentina  
ezerbu@yahoo.com

## References

- Bueno, Otávio and Shalkowski, Scott A. [2015]. “Modalism and theoretical virtues: Toward an epistemology of modality”. *Philosophical Studies* **172**: 671–89.
- Chalmers, David [2002]. “Does conceivability entail possibility?”. In *Conceivability and Possibility*, edited by T. S. Gendler & J. Hawthorne. Oxford: Clarendon Press: 145–200.
- Divers, John [2021]. “Modal anti-realism”. In *The Routledge Handbook of Modality*, edited by O. Bueno & S. A. Shalkowski. *The Routledge Handbook of Modality*. New York: Routledge.
- Fine, Kit [1994]. “Essence and modality: The second philosophical perspectives lecture”. *Philosophical Perspectives* **8**: 1–16. DOI: doi.org/10.2307/2214160
- Fischer, Bob & Leon, Felipe (eds) [2017]. *Modal Epistemology After Rationalism*. Cham: Springer.
- Hale, Bob [2013]. *Necessary Beings: An Essay on Ontology, Modality, and the Relations Between Them*. Oxford: Oxford University Press.
- Kripke, Saul [1980]. *Naming and Necessity*. Cambridge, MA: Harvard University Press.
- Lewis, David [1986]. *On the Plurality of Worlds*. Oxford: Blackwell Press.

- Lowe, E. Jonathan [2008]. "Two notions of being: Entity and essence". *Royal Institute of Philosophy Supplement* **62**: 23–48.
- Mallozzi, Antonella [2021]. "Putting modal metaphysics first". *Synthese* **198**: 1937–56.
- Mallozzi, Antonella, Vaidya, Anand and Wallner, Michael [2021]. "The epistemology of modality". *The Stanford Encyclopedia of Philosophy* (Fall 2021 Edition), edited by Edward N. Zalta. <https://plato.stanford.edu/archives/sum2024/entries/modality-epistemology/>
- Peacocke, Christopher [1999]. *Being Known*. Oxford University Press.
- Roca-Royes, Sonia [2017]. "Similarity and possibility: an epistemology of *de re* possibility for concrete entities". In *Modal Epistemology After Rationalism*, edited by R. Fischer and F. Leon. Dordrecht: Synthese Library Series: 221–45.
- Roca-Royes, Sonia [2021]. "The epistemology of modality". In *The Routledge Handbook of Metametaphysics*, edited by R. Bliss and J. Miller. New York: Routledge: 364–75.
- Shalkowski, Scott A. [1994]. "The ontological ground of the alethic modality". *Philosophical Review* **103**: 669–88. DOI: doi.org/10.2307/2186101
- Shalkowski, Scott A. [2021]. "Modalism". In *The Routledge Handbook of Modality*, edited by O. Bueno & S. A. Shalkowski. New York: Routledge.
- Vaidya, Anand and Wallner, Michael [2021]. "The epistemology of modality and the problem of modal epistemic friction". *Synthese* **198**: S1909–35.
- van Inwagen, Peter [1998]. "Modal epistemology". *Philosophical Studies* **92**: 67–84. DOI: doi.org/10.1023/A:1017159501073
- Vetter, Barbara [2016]. "Williamsonian modal epistemology, possibility-based". *Canadian Journal of Philosophy* **46**: 766–95.
- Williamson, Timothy [2007]. *The Philosophy of Philosophy*. Oxford: Oxford University Press.
- Yablo, Stephen [1993]. "Is conceivability a guide to possibility?". *Philosophy and Phenomenological Research* **53**: 1–42.