

Categories First

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Abstract

Vaidya and Wallner [2021] claim that most relevant theories in recent epistemology of modality, that is, Conceivability-Theory, Counterfactual-Theory, and Deduction-Theory, face what they name “the problem of modal epistemic friction”, in a nutshell, the need to add some relevant information about the nature of the world that is not provided by the theories as such. Their proposal is that essences supply the needed information. In this paper I will agree with Vaidya and Wallner’s detection of the problem of modal epistemic friction, but I will importantly disagree with their solution in terms of a metaphysics and epistemology of essences. I will argue that knowledge of essence is neither necessary nor sufficient for metaphysical modal knowledge and claim instead that modal knowledge is firstly grounded in the categories that conform the facts of reality. Categorical knowledge does the job of creating the friction needed in all cases of modal metaphysical knowledge. Moreover, given the structural character of metaphysical categories, intuition is the basic proper form of modal knowledge. In fact, I will contend that intuition is the source of *a priori* knowledge invoked in Kripkean schemas for *a posteriori* modal truths.

Keywords

categories; essences; intuition; modal epistemic friction; structures

1 Introduction, purpose and structure

Anand Vaidya and Michael Wallner [2021] claim that the three most relevant theories in recent epistemology of modality, *i.e.*, Conceivability-Theory, Counterfactual-Theory and Deduction-Theory, face what they call “the problem of modal epistemic friction”. In a

nutshell, the problem is that for any of these theories to provide an account of modal metaphysical knowledge they all need to *add some sort of relevant information* about the world to which the theory is otherwise blind. Without this piece of information about reality, the truth of correspondent modal claims remains underdetermined. They then claim that knowledge of essence is the piece that is relevantly absent. For instance, without knowledge of the essence of a lectern there is no guarantee that we conceive a real possibility when conceiving a lectern made of ice. In the same line, essences create the epistemic friction that is needed to determine whether the development of the antecedent of a counterfactual leads to a contradiction so that, e.g., that the lectern is made of ice could, or could not, be the case. And, in what they call the Kripkean deduction-model, knowledge of essences is needed to transit inferentially from a given fact to its necessity. They conclude that, in all cases, essentialist propositions and essentialist principles about a certain kind of entity create the modal epistemic friction. Thus, they share with many others, e.g., Jonathan Lowe [2012], Bob Hale [2002, 2013], Tuomas Tahko [2015] or Antonella Mallozzi [2021], the belief that essence comes first in modal knowledge.

Now, while I agree with Vaidya and Wallner in their diagnosis that relevant *information about the nature of reality* is needed to determine which imaginings or conceptions represent possible facts, which counterfactuals are true, and when we can tell of a fact that it is necessarily/contingently the case, I disagree with their essentialist program. Instead, my claim is that metaphysical categories do the job of creating the epistemic friction that is needed in all cases of modal metaphysical knowledge. Moreover, I will argue that (against other readings) every Kripkean pattern for the discovery of *a posteriori* modal facts shows that the relevant information about the world is gained by categorial intuition.

This is the structure of the paper. In section 2 I analyse Vaidya and Wallner's argument for their diagnosis of the problem of modal epistemic friction for Conceivability-Theory and show that knowledge of essence is not sufficient for determining the truth of correspondent modal claims. I also argue that the difficulty for Conceivability-Theory resides in the always open possibility that we can conceive what is impossible in fact. Section 3 follows Vaidya and Wallner's argument for their diagnosis of the problem of modal epistemic friction for Counterfactual-Theory and shows that knowledge of essence is not necessary for determining the truth of correspondent modal claims. Following the implications of these two sections, I will argue (in section 4) that many relations of ontological dependence are not essential to the dependent; but they are necessary. These relations conform the modal structure of reality; formal structures that are indispensable to being. They are, as Tobias Wilsch [2017: 429] writes, "the modal joints of nature." Epistemological access to

them will thus provide epistemological access to metaphysical modality. Then, in section 5, I propose an alternative answer to the problem of modal epistemic friction in terms of intuition into the metaphysical structures of reality. The section is still tentative. But I think it fits nicely with the epistemological form of Kripkean schemas, showing the proper source of *a priori* knowledge required for the possibility of *a posteriori* empirical knowledge of modal facts. Kripkean schemas are, despite appearances, not deductions.

2 The need of modal friction: Conceivability-Theory

Consider Vaidya and Wallner's diagnosis of the problem of modal epistemic friction for Conceivability-Theory, such as it was proposed by Jackson [1998] and Chalmers [2002]. In general, according to this theory,

If *p* is conceivable, then *p* is possible.

And if something is impossible then it is inconceivable—by an idealized agent with a good working human cognitive system.

In their defence of the claim that the conceivability approach faces the problem of epistemic friction Vaidya and Wallner [2021] consider the conceivability of the metaphysical impossibility that iron is transparent. They argue that this impossibility is conceivable because the relevant depth of detail needed to actually preclude its conceivability is absent in conception. Conceiving that iron is transparent is like conceiving that mathematicians have announced that Goldbach's conjecture is true: in this scenario the truth of Goldbach's conjecture is not truly conceived but merely pretended. In a similar way, when conceiving that iron is transparent, one conceives *a bar of some transparent material* and assumes or pretends that this material is iron. This conception is insufficient for establishing that iron could be transparent because, clearly, relevant information about iron has been missed. The missing information, they conclude, is about the essence of iron. When information about *what it is to be iron* is added, the necessary friction is created thus making it impossible to conceive of a transparent piece of iron.

I agree with Vaidya and Wallner's important claim that we need something more, some relevant information about reality, to access to its modal nature. But I disagree with their conclusion that the information must be about essences. Conceiving that iron is transparent does not imply that one is not acknowledging the nature of iron. That is, conceiving the impossibility that iron is transparent is not to conceive "a bar of some transparent material

and pretend” that this material is iron. One plainly conceives that *iron* is transparent.

We do conceive metaphysical impossibilities. We can conceive that heat is a beam of photons, or that Hamlet is not Gertrude’s son in the play. And we can conceive these impossibilities even when knowing, or accepting, that they are impossible. When we conceive that heat is a beam of photons, we conceive the possible epistemic situation where *that* which causes in us the sensation of heat is a beam of photons, instead of molecular motion. The entity we are thinking of is, of course, *heat* but under the property of “sometimes causing our sensation of heat”. We conceive of things under some of their many possible descriptions or properties. Most of the descriptions involved are compossible with impossibilities about the things we are conceiving.¹ Being a causal condition for our sensation of heat is compossible with being a beam of photons or with being a sound wave. So we can conceive the metaphysical impossibility that heat is a sound wave, and we can conceive that it is a beam of photons. We *too often* conceive what is impossible in fact. This is the principal reason why conceivability cannot be a proper epistemic guide for the modal character of the world.

Moreover, it is not ignorance of essence that explains the conceivability of metaphysical impossibilities, such as that heat is a beam of photons, or that iron is transparent. For even if the nature of iron directly implies that it is not possible that iron is transparent, it is still possible that knowledge of its nature does not prevent conceiving that it is transparent. Suppose, for instance, that a witch has affected all humans with a spell that makes them perceive everything as transparent. Or imagine a possible world where humans are so designed that they perceive everything as transparent. They perceive only the outlines of things, so to say. Yet, their science has taught them that transparency is excluded from the essence of many things; in particular, they have scientific proofs that transparency is excluded from the essential nature of iron. However, just like we can imagine this situation where iron is transparent when at the same time knowing that it is impossibly so, people in the situation can also know the essence of iron, and not only they can conceive that iron is transparent, but they can actually see it being so. So being well-informed about the essence of iron is not sufficient to limit one’s capacity to conceive that *iron* is transparent.

This also shows that a difference between conceivability and imagination does not provide a more successful formulation of the “Conceivability”-Theory in terms

¹ We can also conceive of something under false and even contradictory descriptions, such as Pierre does when he thinks of London. See Kripke [1979].

of imagination. That is, against some recent proposals, relevantly, that of Magdalena Balcerak Jackson [2016], imagination does not provide better access to the modal dimension of the world than conceivability even if we accept that we have no clear sense of when something is conceivable, and even if we accept that imagination is importantly restricted by the nature of the world. That is, imagination does not provide better access to metaphysical modality than conceivability even if imagining is more demanding than conceiving. The difficulty for imagination still resides in that the restriction it makes can be wholly irrelevant for the real possibility of its content. For instance, one can imagine that one travels faster than light, or that one travels towards his past—one can watch it in a film, for instance. One can also imagine that one goes up and down at the same time in endless stairs—one can see that in a picture too. One can also accept that these are not mere suppositions but actual imaginings based on how things are, so that the imaginations are vivid and also restricted by the nature of the world. However, it is metaphysically impossible to travel backwards to the past, or to climb a stair for ever.

3 The need of modal friction: Counterfactual-Theory

Vaidya and Wallner [2021] diagnose the problem of modal epistemic friction also for Counterfactual-Theory, as it is proposed by Williamson [2007] or Daniel Dohrn [2019]. According to this theory,

p is necessary iff No-p would imply a contradiction.

For the case of the possibility of the transparency of iron, the question that needs to be addressed is then whether, or when, the supposition that iron is transparent implies a contradiction. As we can develop in different ways the supposition that a piece of iron is transparent, Vaidya and Wallner [2021: 1917] point out that we need additional background information about the world in order to arrive to a contradiction. They remind us that Williamson [2007: 164] also admits this fact; that if we knew Chemistry enough our counterfactual development of the supposition that iron is transparent would generate a contradiction. And then Vaidya and Wallner conclude that “enough chemistry” means background information *about constitutive* facts; that the relevant information that creates the epistemological friction with the world is the chemical essence of iron. In other words, when counterfactually reasoning about the transparency of iron, we find a contradiction because we are *violating the nature* of iron.

Again, my point of disagreement is not with the need of modal epistemic friction that Counterfactual-Theory faces, but with the proposal that essences produce the friction. The essence of iron is not necessary for the truth that iron could have not been transparent. Suppose *contra* facts, that there is a metaphysically necessary law to the effect that certain macroscopic properties (P) that iron has are necessarily dependent on some external properties (E) of iron. Suppose that P is the reason why iron is opaque, and that P happens to be instantiated wherever there is iron around. If such were the case, the relevant information for the evaluation of correspondent counterfactuals concerning the possibility or impossibility of iron being transparent could be given by the metaphysically necessary law, $N(E, P)$. But this law is not an essential fact about iron, neither does it follow from the essence of iron. The non-transparency of iron would be like the fact that no mountains are higher than the Everest, under the assumption that, *contra* facts, there are natural laws such that, say, due to some characteristic factors of the upper mantle, the relative motion of tectonic plates must stop at some certain point—so there can be no mountain higher than the Everest. That there are no mountains higher than the Everest would then be necessary, but its necessity would not be due to the essence of mountains, but to a necessary law relating some properties of the upper mantle. A natural law, external to the nature of mountains, grounds the modality of this fact. In a similar way, the necessity of the fact that iron is opaque would be grounded in the natural law that necessarily relates E and P, given that iron happens to be always present when E is the case. The laws could then be what we need to know in order to have the required epistemic friction.

So there is the need of modal epistemic friction with the world to achieve modal metaphysical knowledge. But the relevant information does not need to be about essences. Philosophers that propose essence-based accounts to modality typically call themselves neo-Aristotelian. But Aristotle did not pretend that essence was first to all categories. Essence does not come first in modal knowledge, unless all other metaphysical (modal) categories such as, *e.g.*, law, causation, identity, diversity, nothingness, ... are grounded on essence.

4 Fundamental relations of ontological dependence

In what Vaidya and Wallner call the Kripkean Deduction-Theory, modal knowledge is gained via instances of a typical Kripkean schema. The following inference on *material constitution* is paradigmatic:

- (1a) If the lectern is made of wood, then it is necessarily made of wood [*a priori*]

(2a) The lectern is made of wood [*a posteriori*]

(3a) The lectern is necessarily made of wood [*a posteriori*]

Asking themselves about the correctness of this reasoning, Vaidya and Wallner claim that modal epistemic friction is needed to transit inferentially from (2a), that is, empirical knowledge of the fact that the lectern is made of wood, to (3a), knowledge of its necessity. So they—correctly, I think—demand for an epistemic guarantee of (1a). But then they conclude that the epistemic friction is created by the essence of the lectern. Essential principles, such as that it is essential to this lectern to be made of wood, guarantee the truth of (1a) and thus assure the correctness of the schema when the fact that the lectern is made of wood is known.

But again, one can question that essential information about the lectern is the relevant information about the nature of the world that guarantees the correctness of the schema. Not all relations of ontological dependence, even when they are necessary, are essential relations. Relations of constitution illustrate this. In general, the principle that its material constitution is essential to a material object is questionable—but the discussion is long. First, the piece of wood is not identical to the lectern: it would be the same piece even if it were very strongly compressed; but if the piece were very strongly compressed it would not be the lectern but, say, a piece of pellet. Thus, it seems that the relation between the piece and the lectern cannot be internal. Perhaps one could still claim that being constituted by this piece of wood is essential to the lectern *while* the lectern exists. However, it also seems that the lectern can change its whole material constitution along the years, becoming a lectern made of iron, and still be the same lectern.

Material or not, relations of constitution are hard to deal with. They are not all of the same kind, and they even have different directions of ontological dependence. A priest could not exist without his Church (the institution to which he belongs). By contrast, a set could not exist without each of its members. But whatever their nature, relations of constitution teach us that not all relations of ontological dependence, even if they are necessary, are essential relations. A set could not exist without each of its members, but the members and the set do not share essence—such as Fine's [1994] classical example of Socrates and Singleton Socrates illustrates.²

² And perhaps the old Quinean (Medieval) example could be interpreted in the same way: all creatures with a kidney are creatures with a heart, but the sets are different. It could even be a necessary fact that if one has a kidney then one has a heart. But having a heart and having a kidney are different classes.

The same idea is reflected in Thomasson's [1999: 30–3] distinction between ontological constant dependence and historical dependence. While the first kind of dependence is internal, such as the relation between a wife and her marriage or between being red and having a colour, ontological relations of historical dependence are necessary, but not internal. All necessary relations of ontological dependence are such that if one the terms were not, the other would have not existed, but this does not imply that the relations must be internal.

My point is that, irrespective of its essential character, what guarantees in fact the correctness of the Kripkean schema above is *the necessity of the relation* of material constitution. Not all necessary relations, or relational properties, are essential to their terms because not all necessary relations are internal. Thus, epistemic friction with the world is created by metaphysical structures that are modal in character, even when they are not essential. But then knowledge of these structures will provide for the modal epistemology of the facts they structure. This is what Kripkean schemas show.

Consider, for instance, the relation of *material origin*, and the corresponding Kripkean schema for the knowledge of the necessary fact that the lectern was originally made of wood:

- (1b) If the lectern was originally made of wood, then it was necessarily originally made of wood [*a priori*]
- (2b) The lectern was originally made of wood [*a posteriori*]
- (3b) The lectern was necessarily originally made of wood [*a posteriori*]

According to Kripke, being originally made from a given matter is a necessary relational property of that lectern. It is a necessary relation because the lectern would not exist ('it' would have not been this lectern) if its origin had been other. But it is also an external relation because the lectern and its origin are (necessarily) distinct entities. As Kripke [1980: fn 57] notes, the lectern could change into ice, thus losing or changing its material constitution; but this is irrelevant for the necessary truth that it cannot be originally made from a different material.

The lectern would persist after all its material parts have been substituted for new ones, perhaps for pieces of ice, or iron, over the years. Like the pieces of the ship of Theseus, all parts of the lectern *could be destroyed* and replaced along the years while it remains the same lectern. So material things can exist (in time) even when their actual material origin does not. However, no entity can exist without its essence, without its nature. So it is not

its essence but the necessary (external) relation that the lectern has to its material origin which grounds the correctness of the Kripkean schema.

Or think of the *intellectual origin* of a work of art, e.g., the opera *Madame Butterfly*:

- (1c) If *Madame Butterfly* was created by Giacomo Puccini, then it was necessarily created by Giacomo Puccini [*a priori*]
- (2c) *Madame Butterfly* was created by Giacomo Puccini [*a posteriori*]
- (3c) *Madame Butterfly* was necessarily created by Giacomo Puccini [*a posteriori*]

We can accept that this Kripkean schema is correct. That is, we can accept that (1c) is true and then, that when one knows *a posteriori* that Puccini is the author of *Madame Butterfly*, one knows *a posteriori* a necessary fact. However, Puccini or his action/s are not part of the essence of the opera *Madame Butterfly*; they are not part of *what* *Madame Butterfly* is. And *Madame Butterfly* is not part of the essence of Puccini's genius either.³ (1c) is not grounded on the essence of *Madame Butterfly*. But it is still true, because *Madame Butterfly* could have not existed without Puccini, or his genius. It is *the necessity of the relation* of intellectual origin that grants the schema.

Another example is the spatio-temporal *historical path of species*. For instance, Marion Godman [2021] writes, also following Beatty [2006], that speciation occurs determined by its place in a spatial-temporal order of individuals.⁴

[S]peciation is not merely a matter of mutations for new adaptations (and perhaps, reproductive isolation) occurring, but also a matter of a *specific order and pathway events*, such as the temporal order of mutations. If the order of mutations were reorganized, speciation may in fact not have occurred. ([2021: S3050]; original italics.)

³ The schema is more obvious if you think of, say, a painting or a sculpture, instead of an abstract work of music such as an opera: if not created by da Vinci, there would be no *Mona Lisa*. But I wanted to propose that the authors of musical works are also necessarily related to them, being their creators. This implies that musical representations are not the works themselves, but distinct singular happenings that attempt to exemplify the works.

⁴ Godman [2021] says that this is form of historical "essentialism." This is perhaps because she thinks, as I wrote above, that the historical relation is *necessary* to the existence of the species. In fact, it is difficult to see how a previous path can be essential to a species, i.e., how the path can be *part of the nature* of the species. There could be a necessary path from *Homo Habilis* to *Homo Erectus* such that there would have been no *Homo Erectus* without such path. But *Homo Habilis* is not *part of the essence* of *Homo Erectus*.

- (1d) If Christmas Island shrew is historically related to the kangaroo, then it is impossibly historically related to the American shrew [*a priori*]
- (2d) Christmas Island shrew is historically related to the kangaroo [*a posteriori*]
- (3d) Christmas Island shrew is impossibly historically related to the American shrew [*a posteriori*]

If historically related to the American shrew, Christmas Island shrew would not be Christmas Island shrew. It would have not been the same species if it had not been historically related to the Australian shrew. *The necessary historical relation* of the species grounds the correctness of the Kripkean schema.

Let's recap now. I have given different examples of alleged necessary facts: that iron cannot be transparent, that Hamlet is necessary the son of Gertrude, that heat cannot be a sound wave, that this lectern is necessarily made of wood, that this lectern is necessarily originally made of wood, that Madame Butterfly was necessarily created by Puccini, that Christmas Island shrew is impossibly historically related to the American shrew... I have agreed with Vaidya and Wallner that in order to know that these are necessary facts there is need of modal epistemic friction with reality; and I have proposed that what creates the friction is, in each case, a distinct category that *metaphysically structures* each particular fact, say, material constitution, material and intellectual origin, natural law, distinctness, identity... Each metaphysical category impresses its modality in the facts it structures.⁵ Thus, categories guarantee the correctness of correspondent Kripkean-schemas for every *a posteriori* modal fact. So we get the following general schema, where *k* stands for some metaphysical form or category:

(K) Facts structured by category *k* are necessary/contingent

- (1) If *p* (structured by *k*) is the case, then *p* is necessary/contingent [*a priori*]
- (2) *p* [*a posteriori*]
- (3) *p* is necessary/contingent [*a posteriori*]

⁵ In García-Encinas [2022] I argue that identity and diversity, can be understood as purely formal structures in Russellian facts.

Metaphysical categories ground modal facts. Thus, I claim, they sustain modal epistemology. *Metaphysical* modal knowledge must be about the world, so something in the nature of the world must create the necessary modal friction. But metaphysical *modal* knowledge must be *a priori* because, arguably, no form of empirical knowledge can give access to the non-actual. You perceive, and thus you can come to know, that *this* violet is blue. Perhaps you also know that *all* violets are blue. You could even come to know—empirically?— that *everywhere* and *every time* in the universe violets are blue. But none of this could ever provide for your knowledge of a single violet being *necessarily* blue. That violets are necessarily blue, if they are, cannot be empirically known. Neither perception, nor abstraction from singular cases, nor inference towards (true) generalization, can provide for knowledge of the modality of the proposition.

These two fundamental aspects of metaphysical modal knowledge, that (i) it must be *a priori* but that (ii) it must be about the world, get well captured in Kripkean schemas. As Kripke claimed at the end of *Naming and Necessity*, all the cases of necessary *a posteriori* advocated have a special character also attributed to identity statements: philosophical investigation tells us that they cannot be contingently true, so that any empirical knowledge of their truth is automatically empirical knowledge that they are necessary ([1980: 159]). We know *a posteriori* that some facts are (necessarily) *the case* when we know *a priori*, by philosophical investigation, that they are *necessary* (if they are the case). This is what K-schemas reveal: that *a priori* access to the categories that structure empirical facts is automatically empirical knowledge of their modal status.

True properties, relations and behaviour of things, be them necessary or contingent, must be known *a posteriori*. But natural laws are necessary, that is a metaphysical truth that can only be established *a priori*; and then, knowing (*a posteriori*) that some properties of the upper mantle determine a breakpoint for the relative motion of tectonic plates, we can learn *a posteriori* that no mountain can be higher than the Everest when we “see” that the relation between the properties and the motion is a nomic relation. What creates the friction must then be present in the facts but it is *a priori* detected. This is, in a word, why conceptual necessity cannot sustain the correctness of Kripkean schemas, yielding the modal status of an *empirical* fact. The modal character of reality lies at the deepest level of its metaphysical categories and existence conditions: only if, and then because, *identity is necessary*, Marilyn is necessarily Norma Jeane. Only if, and thus because, *origin is necessary*, Elisabeth is necessarily the daughter of Elisabeth Bowes and George VI and Madame Butterfly is necessarily created by Giacomo Puccini. And it is only if, and because, *laws of nature are necessary* that the law of universal gravitation holds of necessity. We can

scientifically discover laws and origins, or empirically learn that Marilyn is Norma Jeane. But knowledge of the modality of these facts is not empirical knowledge. It belongs instead to the framework experience: the framework where the metaphysical *formal structures of reality* of identity, origin, time, laws of nature ... pertain.

Categories could thus offer a metaphysical classification of fundamental facts (facts of causation, nomological facts, identity facts, facts of origin, ...). But categories do not provide us with an ontological inventory of things.⁶

Categories, in this sense, are not kinds. They do not explain *what* things are. Rather, categories are ultimate formal conditions for being. That metaphysics is the “science” of being means that it studies the possibility of being and reality. Metaphysical questions are those giant questions such as: what is to be real? Why is there anything rather than nothing? Does everything exist in time? Does everything exist necessarily? Is there another possible reality? It is in answering these questions that metaphysics encounters metaphysical categories: being, existence, beauty, time, law, identity, nothingness, causation, good, ... that is, categories that are *indispensable to reality* and then, indispensable to our philosophical understanding of it. Thus, categories mark the modal aspects of being. Some categories seem necessary for every sort of reality: nothing can be without identity, so everything is necessarily identical to itself; also, nothing can be without being some way, but things could be in many ways. Other categories are necessary only for some entities: for instance, material beings necessarily exist in, or define, a space.

Different philosophers will propose and discuss the existence of different categories. The search for the categories is the main task of metaphysicians and, as humans, they can go wrong. But no matter how reality could be, there will always remain the fact that reality is impossible without at least some category. It is then indubitable that there are categories structuring reality.

5 The intuition of modality

Following Aertsen’s [2003] investigation, I believe that metaphysical categories are what medieval thinkers called “transcendentals”: (i) they *surpass the modes of being*, i.e., go beyond mere general characterizations —this explains that they were also called transcategorial;

⁶ Against, say, Thomasson’s [2016] main definition of categories, I think they are better understood as what medieval philosophers called “transcendentals”. See Goris Aertsen [2019].

(ii) they are *tied to a realist program* in metaphysics, i.e., belong in reality; (iii) they are no addition to knowledge in a usual way but they are *immediately understood* within what is given in knowledge, i.e., they are known by intuition. The previous sections support, I hope, (i) and (ii) as correct characterizations of metaphysical categories. In this section I deal with (iii). I sketch a general description and defence of a form of knowledge by intuition that, even if also differing in important points, owes a lot to Elijah Chudnoff's [2011, 2013] view on rational intuition.

I have claimed that if the modality of the world is due to its categorial structure, knowledge of this structure will give us access to its modality. This knowledge, recall, must be *a priori* because it is modal knowledge; but, at the same time, it must be the result of epistemological friction with the facts. In this last section, I will claim that modal metaphysical knowledge is a form of *direct intuition into the transcendental structure of given facts*. This, I think, is what Kripkean schemas show. Against usual readings—e.g., Bealer [2002], Hale [2003], García-Encinas [2012], Mallozi [2021], Vaiyda Wallner [2021]—, K-schemas are not deductions from conceptual truths. They do not work as deduction-patterns of modal truths. Rather K-schemas display acts of phenomenological intuition into the categorial structure of particular facts.

Metaphysical modality cannot be of the conceptual type, say, the form of necessity that is provided by the linguistic nature of definitions. As Lowe [2008] argued—and Quine did before—, there is no possible path from the necessity of definitions to the necessity of the world. No conceptual necessity can in fact sustain the correctness of Kripkean schemas, yielding the necessity of an empirical fact. Knowledge of modal facts is not conceptual, or logical—nor is it empirical, inferential, or by abstraction. But we can be *a priori* acquainted with them by immediate intuition into their categorial structure when particular facts are empirically learned or given to us. Given its *a priori* character, this form of intuition is traditionally called rational intuition. As Bonjour [1998: 15–6] writes, in *a priori* intuition the mind directly sees or grasps a modal fact about the nature or structure of reality. Given the fact that Madame Butterfly is created by Giacomo Puccini, one can know that Madame Butterfly is necessarily created by Puccini by being intellectually *aware of* the metaphysical relation of origin that structures the fact. Thus, categories generate the modal epistemic friction needed for modal knowledge.

Intuition and deduction are two different powers of reason. In the *Regulae* Descartes claimed that in mathematical reasoning we find reason at its best. Starting from self-evident data and following a deductive process, reason reaches new data with certainty. Deduction is the active power of moving from data to data. Intuition is the passive

power of apprehending, by the natural light of reason, what is indubitable. This feeling of indubitability is what led Descartes to conclude that intuition cannot go wrong. However, *pace* Descartes, intuition can fail as much as any other faculty of people. You cannot doubt everything, as Wittgenstein [1968] claimed, for even doubt must begin at some point. You can doubt Excluded Middle or the Rule of Existential Generalization, only if you are relying on logical principles that are compatible with their denial, and which you do not doubt. And you can doubt that you have two hands, but only because you woke up from an operation in which you knew you ran the risk of losing them. However, even if there must be something taken as certain without which you cannot even begin to doubt, nothing guarantees that intuition is infallible. Indubitability, the phenomenological feeling, is all there is to the infallibility of intuition. Intuition is the conscious experience that something is certain, and that everybody that is confronted to the same must have the same experience. But the feeling could be wrongly aroused, as when one feels pain where there is no limb.

Intuition is an experience of awareness that something is, indubitably, the case. It sometimes fails but still is a reliable source of belief. Chudnoff [2011] has argued that intuition can justify beliefs because of its presentational phenomenology, *i.e.*, because of the mode in which rational intuitions are present to our conscience. Rational intuition, he claims, is like perception in this sense. Following the tradition, Chudnoff [2023] claims that the phenomenology of perceptions includes *modes of validity*—perceptions are epistemologically loaded. The awareness of perceptions includes their being *perceived as* certain or as doubtable—also depending on other perceptions and beliefs such as self-awareness of our own position in the room, our physical conditions, the light-conditions etc. So perceptions perceptually justify beliefs. Same with rational intuition. According to Chudnoff, *being intellectually aware of an item* that makes it the case that *p*, justifies (by intuition) the belief that *p*. As with perception, intuitions have their own presentational phenomenology. They are present to our consciousness as having one or another mode of validity.

Intuition, *i.e.*, the intellectual experience of *awareness* that something is the case, justifies the belief that *p* when it includes both, the intellectual awareness of *p*, and the intellectual *awareness of an item* that makes it the case that *p*. And it is important to underline that, for Chudnoff, being intellectually *aware of p* is to somehow *represent* in the mind (*propositionally or by imagining*) that *p*. This representational character is a fundamental character that intellectual intuition shares with perception. Thus, when one is aware that Madame Butterfly is created by Giacomo Puccini, that is, when one's intuition experience *represents that* Madame Butterfly is created by Giacomo Puccini, one is *also aware of* the metaphysical relation of intellectual creation that makes it the case that Madame Butterfly is created by

Puccini, then one is justified (by intuition) in believing that Madame Butterfly is necessarily created by Puccini.

As I have pointed out above, I agree with many of the phenomenological aspects of intuition that Chudnoff highlights, such as its pre-doxastic character. However, there is one important point of disagreement. Awareness of metaphysical facts is better understood if not compared with perception (which, as Chudnoff underlies, has a representational character), but with feeling or aesthetic experience. If metaphysical intuitions are direct awareness of the structures of metaphysical facts, in knowing the fact that Madame Butterfly is created by Giacomo Puccini, one is *also aware of* the metaphysical relation of intellectual creation that makes it the case that Madame Butterfly is necessarily created by Puccini.⁷

Metaphysical intuitions are direct intellectual awareness of the structures of metaphysical facts. Consider, for instance, the case where one learns a fact of diversity. Audience at the cinema learns that whom they took to be Leni Zaubers is not Leni Zaubers, but Mystique. As it is impossible that anything is other than itself, the audience learns a necessary fact. This is the correspondent K-schema:

(K) Facts structured by self-diversity are impossible

(1e) If That is not Leni Zaubers, That is impossibly Leni Zaubers [*a priori*]

(2e) That is not Leni Zaubers, but Mystique [*a posteriori*]

(3e) That is impossibly Leni Zaubers [*a posteriori*]

But when you learn that that is impossibly Leni Zaubers, because you learn that that is (necessarily) Mystique, your intuition that it is impossible that anything is self-diverse does not include the intellectual awareness of *an item*, a proposition or a truth-maker concerning the nature of self-diversity, that makes it the case that it is impossible that anything is

⁷ In his *Critique of Judgement* Kant (1790) claimed that in the judgement of beauty, e.g., when one feels that a rose is beautiful, there is no proposition involved because neither beauty is a concept—it is a feeling—, nor is it dependent on any property or representation of the rose. When intuiting that the rose is beautiful, one is aesthetically intellectually aware, with certainty, of the pre-doxastic, non-judicative “judgement” that the rose is beautiful. My point is that metaphysical judgements respond to this structure of Kantian aesthetic judgments.

self-diverse.⁸

Chudnoff [2013] mentions this case as a difficulty (see Ernest Sosa [2007]) for his proposal. The difficulty is that awareness of the fact that nothing is self-diverse does not seem to include the intellectual awareness of any proposition as its truth-maker. This is the worry, and his response:

Suppose you intuit that nothing is self-diverse—*i.e.* nothing fails to be identical to itself. And suppose you do not seem to be aware of a truth-maker for this proposition. It doesn't follow that your intuition lacks presentational phenomenology. Your intuition that nothing is self-diverse might be like your perception that your car is moving at 60 m.p.h. In the perceptual case your experience has presentational phenomenology because it has presentational phenomenology with respect to some of its content, for example the proposition that the speedometer reads 60 mph. Similarly, in the intuition case, perhaps you also intuitively represent another proposition, *e.g.*, that everything is self-identical, and you seem to be aware of a truth-maker for this proposition. In the perceptual case the propositional content about the speedometer might not be the object of your attention, but it still might exist. Similarly, in the intuition case, the propositional content about self-identity might not be the object of your attention, but it still might exist. [Chudnoff 2013: 60–1]

Intuiting that nothing is self-diverse does involve the awareness of an item that makes it the case that nothing is self-diverse. But the item is not “nothing”, or “non-identity”. According to Chudnoff the item is what makes it the case that everything is self-identical. So even if self-identity is not the object of your attention, it is part of the phenomenological content that makes it the case the equivalent proposition that nothing is self-diverse. It is as when you perceive that your car is speeding, but the phenomenological content in your perception is not your car, but its speedometer.

But this response misses the target. For the problem is not only that the judgement that nothing is self-diverse is wholly negative, or that nothingness is nothing, so there is nothing to be aware of. The difficulty resides in accounting for the intellectual perception of the *conceptual content of a fact of distinctness*. And this difficulty persists if you state the situation in terms of identity. Consider the fact that Marilyn is necessarily Norma Jeane, and that necessarily everything is self-identical. Everything is not a kind of abstract object

⁸ I have argued how, within the general frame of a Kripkean theory of proper names, it makes sense to discover empirically necessary facts of identity and diversity, in García-Encinas [2017].

or concept that we see. We are born blind to totalities, and the concept of everything is nowhere to be found. Even if you could without paradox imagine discovering the actual number of the total entities existing in reality, the awareness of this number would not give you the metaphysical fact that every thing within the totality is necessarily identical to itself.

Everything is no *concept* in intuition making it the case that everything is self-identical. There is no representation in the mind for everything. Equally there is no concept or representation of self-identity that is directly perceived by your mind when you learn that Marilyn is Norma Jeane. Identity is not a concept: there are no properties or predicates that you can put into any possible idea of self-identity without using self-identity itself. Identity is a formal category that belongs in the structure of every fact of identity, including every possible fact. Like identity, metaphysical categories are not concepts, but transcendental formal structures given in intuition.

In the same way, one cannot have the intellectual experience of being aware of *the proposition* that Madame Butterfly is necessarily created by Giacomo Puccini. The metaphysical relation of dependence of *intellectual origin* that makes it the case that Madame Butterfly is necessarily created by Giacomo Puccini is *not a concept*. Rather, when given the (empirical) fact that Madame Butterfly is created by Giacomo Puccini, one intuits the relation of origin that structures the fact, and thus one has the intuition, that Madame Butterfly is necessarily created by Puccini.

But this is just a form of the Kripkean schema, where (K) states that facts structured by the category of origin are necessary.

- (1c) If Madame Butterfly was created by Giacomo Puccini, then it was necessarily created by Giacomo Puccini [*a priori*]
- (2c) Madame Butterfly was created by Giacomo Puccini [*a posteriori*]
- (3c) Madame Butterfly was necessarily created by Giacomo Puccini [*a posteriori*]

When (2c) is given, one is aware of the relation of creation that structures the fact. Given the necessary character of this metaphysical category, one is aware of (3c). (1c) is an intuition. Thus, the whole schema is not a deduction, but an intuition into the metaphysical structure of a given fact.

6 Conclusion

I have argued that Anand Vaidya and Michael Wallner are right in their diagnosis of the problem of modal epistemic friction for Conceivability-Theory, Counterfactual-Theory and Deduction-Theory; but they are wrong in that (only) essences in the world provide for modal epistemic friction. Rather, I have maintained that this is the job of formal, metaphysical categories that structure the facts of reality. The modal nature of categories is the modal nature of reality. Thus, direct acquaintance with the categorial structure of empirical facts makes *a posteriori* knowledge of their modality possible. Categories are intuitively apprehended in facts, so empirical knowledge of the facts they structure is, such as Kripke claimed, *automatically* empirical knowledge that they are necessary/contingent.⁹

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