

Two notions of metaphysical modality

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Received: 31 May 2017 / Accepted: 24 January 2018 / Published online: 1 February 2018
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Abstract The paper explores the project of an ambitious modal epistemology that attempts to combine the *a priori* methods of Chalmers’ 2D semantics with Kripke’s modal metaphysics. I argue that such a project is not viable. The ambitious modal epistemology involves an inconsistent triad composed of (1) Modal Monism, (2) Two-Dimensionalism, and what I call (3) “Metaphysical Kripkeanism”. I present the three theses and show how only two of those can be true at a time. There is a fundamental incompatibility between Chalmers’ Modal Rationalism and Kripke’s modal metaphysics. Specifically, Chalmers’ conceivability entails possibilities that a Kripkean rejects as genuinely metaphysical. However, three positive stances in modal epistemology emerge from the combinations that the triad allows. One of those offers a promising way forward for 2D modal epistemologies. But it comes with a cost, as it requires abandoning modal monism and reshaping the scope of what *a priori* conceivability can give us access to.

Keywords Modal epistemology · Modal rationalism · Conceivability · Kripke · Chalmers · *A priori* · Two-dimensionalism

1 Introduction

Although there has been a recent turn toward modal empiricism in the epistemology of modality, there is still a need to look carefully at *a priori* methods in the acquisition of modal knowledge. The issue of whether, to what extent, and how we may have *a priori* access to metaphysical modality is still central to modal epistemology. There is an

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alluring idea coming out of two-dimensionalist (2D) treatments of modal knowledge—the brand I have in mind is David Chalmers’ *Modal Rationalism*. The idea is that we may be able to build an “ambitious” *a priori* 2D modal epistemology, which also satisfies Kripkean metaphysical requirements. In a time where broadly Aristotelian views of the kind Kripke put forward are also at the center of parallel debates in modal metaphysics, the project of such a modal epistemology seems appealing across the board. However, Chalmers’ Modal Rationalism offers an account of modal knowledge that rests on a conception of metaphysical modality that is incompatible with the kind of metaphysical modality that is at the heart of Kripke’s work or those that build off of his work. As I argue, Chalmers’ 2D framework may provide the structure for a Kripkean modal epistemology only given major modifications to its original program at the level of modal metaphysics.

The alluring idea derives from Chalmers’ response to a challenge posed by Kripke’s cases of the necessary *a posteriori*. The Kripkean cases seem to show that what is *a priori* conceivable may not be metaphysically possible. To use a familiar example, while we seem to be able to conceive that Hesperus is not Phosphorus, that is not a genuine metaphysical possibility. Empirical investigation eliminates *a priori* open possibilities or *epistemic* possibilities. In this case, it eliminates the *a priori* possibility that those are two distinct heavenly bodies. Furthermore, empirical investigation combined with Kripke’s necessity-generating principles (i.e., the necessity of identity, the necessity of origin, of kind-membership, and of substance composition) seems to give us access to the space of metaphysical possibility. On the basis of those principles and the relevant empirical information, we are in a position to rule out certain *a priori* conceivable hypotheses as merely logically or conceptually coherent epistemic possibilities. It is *a priori* conceivable that Hesperus is not Phosphorus. But given that Hesperus is Phosphorus and given the necessity of identity, it is not possible that Hesperus is not Phosphorus. I call this the “Kripkean Challenge”: Kripke’s *a posteriori* necessities are an apparent counterexample to the claim that *a priori* conceivability entails metaphysical possibility. More generally, accommodating the Kripkean cases is a fundamental task for any modal epistemology that advocates *a priori* methods.

Chalmers proposes an *a priori*, conceivability-based route to metaphysical modal knowledge that aims to answer the Kripkean Challenge. His Modal Rationalism deploys a 2D semantics that assumes one single modal primitive (*modal monism*). This means that, for Chalmers, logico-conceptual possibility and metaphysical possibility coincide, though we can still draw the desired distinctions by using the 2D semantic apparatus. Moreover, we can allegedly accommodate the Kripkean cases at the level of the secondary dimension, in such a way that they are no longer problematic for a rationalist account. If Chalmers is right, modal monism together with the 2D structure give us a way to neutralize the Kripkean challenge and to maintain that *a priori* conceivability entails metaphysical possibility.

Chalmers’ proposal has had a groundbreaking role in the debates on the epistemology of modality and has triggered many responses. Most of the critical literature responding to Chalmers’ work in the past 15 years has focused on providing “internal” or direct criticisms of his project, that is, various kinds of objections or counterexam-

ples aimed to spot flaws within his account.¹ My aim is not to add another such criticism of Modal Rationalism to the existing literature. Rather, my target is the alluring idea, mentioned in the beginning, that Chalmers' Modal Rationalism could accommodate a Kripkean view of metaphysical modality; or, otherwise put, that Kripkeans with rationalist sympathies could find in Chalmers' account a suitable modal epistemology. If that were the case, the project of what I called an "ambitious" modal epistemology combining 2D *a priori* methods with a broadly Aristotelian metaphysics would succeed. But the fact that Chalmers' 2D framework accommodates the cases of the necessary *a posteriori* at the *semantic* level does not suffice to provide a viable modal epistemology for a Kripkean, because of their conflicting underlying *metaphysical* commitments. Even a "2D-friendly" Kripkean who accepts the core semantic thesis that expressions have two dimensions of meaning will still reject its consequences at the level of modal metaphysics. Specifically, she will refuse to regard (many of) the 2D *primary* possibilities as genuine metaphysical possibilities.

As I argue, the project of such an *ambitious* modal epistemology involves an *inconsistent triad* whose elements are (1) *modal monism*, (2) *two-dimensionalism*, and what I call (3) "*metaphysical Kripkeanism*". I present the three theses and give reasons why only two of those can be true at a time. Thesis (3), metaphysical Kripkeanism, is what causes the most problems in the attempted combination. For the bridge-principles and *a posteriori* necessities are the cornerstones of Kripke's modal metaphysics. They hinge on an underlying *metaphysics of essence*, and the idea that *the actual world is a source of necessity*. On the other hand, Chalmers' two-dimensionalism itself comes equipped with a broad modal metaphysics that hardly fits the Kripkean essentialist commitments. Two-dimensionalism (2) joined to modal monism (1) results in an *a priori* "conceptual" modal metaphysics, for which modality is grounded in ideally rational concepts of possibility and necessity and ideally coherent entailment relations. There is only one source of necessity for Chalmers—and that is not to be found in the nature of things. Instead, we should look at *a priori* conceptual truths having to do with our understanding of the concept of necessity. Thus, the purported *ambitious* modal epistemology would have to somehow fit together two conflicting views of metaphysical modality. On the one hand, it would have to hold an *a priori conceptual metaphysics*, built out of theses (1) and (2). On the other hand, however, it would also have to respect the requirements of an *essentialist* metaphysics articulated by thesis (3). Those determine incompatible views of what is genuinely possible, and incompatible views of what *a priori* methods can give us access to. The consequence is that Chalmers' conceivability entails possibilities that a Kripkean still rejects as genuinely *metaphysical*. Modal Rationalism cannot incorporate metaphysical Kripkeanism.

However, there is also a positive story to be told, as three substantive stances in modal epistemology emerge from the combinations that the triad allows. Two of those are different versions of Kripkeanism: the *Monistic Kripkean* combines (3) metaphysical Kripkeanism with a version of (1) modal monism; and the *2D Kripkean* combines (3) metaphysical Kripkeanism with (2) two-dimensionalism. Exploring those views may contribute to gain some insight into familiar interpretative tensions in

¹ This literature is vast, but see e.g. Goff and Papineau (2014), Roca-Royes (2011), Soames (2005), Vaidya (2008), Worley (2003). See also Chalmers' discussion of a number of objections in his (2010: pp. 154–205).

Naming and Necessity. Finally, *Pure Two-Dimensionalism* drops metaphysical Kripkeanism, while keeping (2) two-dimensionalism, together with Chalmers' version of (1) modal monism. Pure Two-Dimensionalism seems to best reflect Chalmers' own view; whereas 2D Kripkeanism is probably the best compromise for a Kripkean friendly to the 2D approach to modal epistemology. However, it comes with a cost, as it requires abandoning modal monism and reshaping the scope of what *a priori* conceivability can give us access to.

I conclude by suggesting a broader moral for modal epistemology: in order to elucidate modal knowledge, we need to first look at the *sources of necessity*. Clarifying what grounds modal truth in the different domains (logico-conceptual, epistemic, metaphysical, etc.) is the prerequisite for understanding the use and scope of *a priori* methods for modal knowledge.

2 Desiderata for modal epistemology

Many modal epistemologists agree that a promising account of metaphysical modal knowledge should aim to meet the following desiderata: (i) distinguishing metaphysical possibilities from other kinds of possibilities; (ii) integrating the Kripkean bridge-principles and the necessary *a posteriori*; (iii) respecting the fundamentally *a priori* character of modal inquiry.

Desideratum (i) narrows down the focus to metaphysical modality, especially as opposed to epistemic modality. At first approximation, epistemic modality has to do with the possibilities open to subjects relative to what they know, under certain specified conditions, e.g., given the kind or amount of information available. By contrast, metaphysical modality concerns the possibilities that are determined by the *nature* or *identity* of things. Those are also sometimes cashed out as *objective* possibilities (Williamson 2016a).²

Desideratum (ii) insists on compliance with familiar results from *Naming and Necessity*. Many metaphysical necessities are grounded in the way the actual world is, and accordingly are only knowable via empirical investigation. Correspondingly, many metaphysical possibilities are also constrained by the features of the actual world. Kripke's essentialist bridge-principles such as the necessity of origins, of composition (substance), of fundamental kind, and the necessity of identity, clarify to an important extent the content of metaphysical necessity and set substantial constraints for metaphysical possibility.³

On the other hand, if *a posteriori* investigation is required to know many necessities, that does not look like the whole story. Empirical experience seems confined to

² Some might reject desideratum (i): one might be skeptical that there is a distinctive kind of metaphysical possibility as opposed to other kinds of possibilities, and hold instead a monistic view with only one kind of modality. However, even modal monists usually acknowledge at least a minimal distinction between two *notions* of modality—indeed, the 2D framework rests on this distinction. I take it that the skeptical reader will grant (i) under such a minimal understanding. At any rate, she should grant it as a dialectical point: for this distinction is shared by both Chalmers and the Kripkeans.

³ Some might reject desideratum (ii): Kripke's essentialist bridge-principles and examples are not uncontroversial. But note that complying with desideratum (ii) does not require further endorsing Kripke's modal metaphysics (what I call here *metaphysical Kripkeanism*). In fact, Chalmers' Modal Rationalism is a

tell us only about what is actual, so our modal judgments seem at most only *partially* empirically justified. That was already Kant’s diagnosis of our puzzlement with necessary statements: “experience teaches us that a thing is so and so, but not that it cannot be otherwise” (CPR: B3). In fact, for Kripke the bridge-principles are *a priori*. This explains desideratum (iii): when we isolate the basic principles underlying our modal beliefs from possible empirical content, an *a priori* step of some sort (e.g., inferential, or intuitive) seems required in order to justify our modal judgments. Put simply, modal investigation and knowledge seem importantly partly *a priori*.⁴

3 Chalmers’ proposal

Chalmers’ *Modal Rationalism* is a working example of how to comply with desiderata (i)–(iii).⁵ Chalmers defends an *a priori*, conceivability-based route to metaphysical modal knowledge, thus satisfying (iii); it also aims to respect the Kripkean principles and examples, thus satisfying (ii). Specifically, Chalmers’ project appears to answer the Kripkean Challenge:

(Kripkean Challenge) *Conceivability does not entail possibility since not everything we conceive is (metaphysically) possible.*

Footnote 3 continued

working example of how to fix the cases of the necessary *a posteriori* without endorsing the Kripkean modal metaphysics. Because of that, the skeptical reader should grant (ii) as a dialectical point.

⁴ Cf. Peacocke (1999: p. 41). See also Hale (forthcoming, 2013: ch. 11), and Lowe (2012). For recent discussion of the connection between apriority and modality, see Bueno and Shalkowski (2018); Casullo (2014); Vaidya (2017a, b). Some might reject desideratum (iii). I mentioned a recent empirical turn in modal epistemology: modal empiricists eschew *a priori* means and defend non-traditional epistemic sources and procedures for modal knowledge like perception, inductive and abductive reasoning, and (quasi-perceptual) imagination. They typically frame modal investigation as an extension of scientific investigation, and prefer naturalist and externalist stances in epistemology. Also, they tend to focus on knowledge of “nearby” possibilities as opposed to the remote “extravagant” ones (see e.g. the essays in Fischer and Leon 2017; Strohming 2015; Williamson 2016a, b, 2007: ch. 5). Although I also see metaphysical modal knowledge as generally grounded in empirical knowledge (specifically, in essentialist knowledge: see my ‘Putting Modal Metaphysics First’, (ms.)), I also distance myself from the more radical aspects of modal empiricism. First, I am skeptical that *a posteriori* ways of knowing by themselves can lead us to knowledge of metaphysical modality. The non-actual is something that structurally or by its very nature escapes empirical observation and experience. Second, I question the scope of those theories. While they seem to safely range over physical-nomological possibility, it is less clear that they cast light beyond that into the metaphysical realm. Metaphysical possibility is covered to the extent that it coincides with physical-nomological possibility; thereby it remains largely unexplored. Third, it is not obvious that the methods modal empiricists appeal to are themselves purely empirical. The justification of *induction*, for example, is a longstanding problem: e.g. Bonjour (1998) argues that it is *a priori*. Biggs and Wilson (2017) argue that *abduction* is *a priori*. In any case, the skeptical reader should still grant (iii) as a dialectical point, as *a priori* methods and justification play a central role for modal knowledge for both Chalmers and the Kripkeans.

⁵ Chalmers defends Modal Rationalism in his (2002a), but see also his (2004), (2010), (2011). As mentioned, most contemporary accounts fail to satisfy one or another of the desiderata above. A notable exception is Hale (2013: ch. 11), which in my view has the further merit of grounding knowledge of necessity in knowledge of essence.

Answering this challenge means finding some way to grant the necessary *a posteriori* and explaining how, nevertheless, *a priori* conceivability could entail metaphysical possibility.

Chalmers' strategy consists in distinguishing different notions of conceivability as well as possibility—thereby also satisfying desideratum (i)—and connecting a kind of conceivability with a kind of possibility:

(CP) *Ideal, primary conceivability entails primary possibility.*⁶

When something is *ideally* conceivable, it is so from the virtual stance of a reasoner “free of all contingent cognitive limitations” (Chalmers 2002: p. 148), which basically eliminates modal error and potential counterexamples based on our cognitive limitations.⁷ Furthermore, *primary* conceivability is the way we evaluate an expression's *primary intension*.⁸ Primary intensions carry the descriptive content *a priori* associated with a linguistic expression and return its referent or truth-value at a world considered as *actual*. Accordingly, primary conceivability requires putting aside empirical information about our world while supposing that a certain world is actual, and virtually taking the perspective of a speaker within that world. This is a purely *a priori* exercise based on considerations of logical and conceptual coherence of the hypotheses under examination. As Chalmers puts it more formally, primary conceivability consists in evaluating *a priori* entailments: given a sentence *S* and a world *W*, “the primary intension of *S* is true in *W* if the material conditional ‘if *W* is actual, then *S*’ is *a priori*” (2002: p. 163).⁹ That distinguishes it from *secondary* conceivability, which is empirically informed by how our world is and constrained by

⁶ More precisely, *positive* ideal primary conceivability. Whereas *negative* conceivability is the inability to exclude certain possibilities *a priori*, positive conceivability requires construing positive hypotheses and coherently filling in relevant details. This distinction is not relevant for what follows and I set it aside. Roca-Royes (2011) offers an excellent criticism of a variety of conceivability-based accounts of *de re* modal knowledge. However, I disagree with her that Chalmers' *primary aim* is to elucidate *de re* and essentialist modal knowledge. That seems rather a nice potential advantage of his view (if it holds). Moreover, Chalmers' basic link between (idealized) conceivability and (primary) possibility, which is one of Roca-Royes' main targets, is not problematic from the point of view of metaphysical Kripkeanism, and thereby it would not be problematic for an *ambitious* modal epistemology.

⁷ Chalmers mentions highly difficult unsolved mathematical problems, e.g. Goldbach's conjecture: both its truth and its falsity are *prima facie* conceivable, but only one is *ideally* conceivable (2004: p. 145). Many have objected to this notion of ideal conceivability, e.g. Priest: “the ideality involved is that of some infinite and infallible *a priori* reasoner—not a very useful notion for mere mortals” (2016: p. 2660, fn.37). See also Worley (2003). Priest further objects that any decent mathematician can conceive of the conjecture being true and also of the conjecture being false, and they would not magically lose this ability if a proof of one or the other were found: examples proliferates in history. We might further note that mathematicians seem to conceive of contradictory scenarios any time they engage in a proof by contradiction. But Chalmers reiterates (in conversation) that while we might *negatively* conceive these proofs (we might not exclude them *a priori*), we cannot *positively* conceive them (building the proof itself).

⁸ I am only sketching the basics of Chalmers' 2D framework, assuming that the reader is already familiar with it and narrowing my focus to those aspects that are relevant for my discussion of Modal Rationalism. Another notable example of a 2D framework with a similar program as Chalmers' is Frank Jackson's (1998), though Jackson does not apply it to modal epistemology. For an extensive discussion of 2D semantics and a comparison between Chalmers' and other 2D programs (including Jackson's), see Chalmers (2004).

⁹ Chalmers works with a broad notion of *a priori justification*: “*S* is *a priori* when it expresses a thought that can be justified independently of experience” (2010: p. 548). Some (e.g. Devitt 2005) have objected to

the Kripkean bridge-principles. *Secondary intensions* return the referent or truth-value of an expression at a world considered as *counterfactual*. Thus, evaluating different intensions is in fact looking at different *possibilities*. We judge a sentence to be true or false depending on how the world at which the intension is evaluated looks like.

This apparatus seems to provide the tools to neutralize the Kripkean Challenge. For Chalmers, sentences describing Kripkean *a posteriori* necessities express multiple propositions: they are *secondarily* necessary but *primarily* contingent. This means that ideal primary conceivability captures a specific kind of possibilities, i.e., primary possibilities, that are sometimes secondarily impossible. Accordingly, *a priori* conceivability does entail (a kind of) possibility. When we conceive e.g., that Hesperus is not Phosphorus, we are not struggling to stretch our imagination beyond metaphysical possibility. For Chalmers, there is a primary possibility verifying ‘Hesperus is not Phosphorus’ (i.e., a world where the evening star and the morning star are distinct). However, it is still secondarily impossible that Hesperus is not Phosphorus (given that both ‘Hesperus’ and ‘Phosphorus’ refer to Venus). Our modal evaluations seem no longer restricted by the Kripkean assumptions built in the subjunctive mood. Modal thinking expands to cover an unexplored space of possibility, where ideally rational hypotheses are also genuine possibilities. At the same time, those Kripkean assumptions still stand, and the bonds of metaphysical necessity are preserved.

With such an apparatus in hand, it is tempting to think that Chalmers’ Modal Rationalism may accomplish the difficult task of deploying 2D methods for modal knowledge in a way that satisfies the requirements of a Kripkean modal metaphysics. The envisioned *ambitious* modal epistemology may seem within reach. Indeed, why would a Kripkean resist Modal Rationalism?

4 An inconsistent triad

I argue that the project of combining Chalmers’ Modal Rationalism with a Kripkean modal metaphysics entails an *inconsistent triad* composed of the following theses:

- (1) Modal Monism (*there is only one modal primitive. Metaphysical = logical = conceptual possibility*)
- (2) Two-Dimensionalism (*expressions capture two dimensions of possibility: epistemic and metaphysical*)
- (3) Metaphysical Kripkeanism (*metaphysical modality depends on the essential features of the actual world plus the Kripkean bridge-principles*)

Only two of the three theses can be true at one time. Specifically, the inconsistency lies in the conflict between Chalmers’ own modal metaphysics, which can be thought of as the combination of (1) and (2), coming up against the Kripkean’s (3). The latter can only be compatible with *either* (1) *or* (2), not both. Here is how to unpack each thesis and the inconsistency in more detail.

Footnote 9 continued

such *negative* formulations on the grounds that they do not say what the *a priori* is. The epistemology of the *a priori* is notoriously a thorny issue. Here I grant Chalmers’ broad formulation.

Metaphysical Kripkeanism (3) holds that metaphysical modality is *de re*, in things. Things are necessarily or contingently in a certain way independently of how we choose to describe them or conceptualize them. Their modal profiles depend instead on their fundamental nature. Both individuals and kinds have *essential properties*, which constitutively determine not just how things are, but how they must be across possible worlds. The bridge-principles capture this dependence relation between the nature of the actual world and metaphysical necessity, based on essential properties of things.¹⁰

Kripke introduces this notion of metaphysical modality in the context of his famous distinction between the *a priori* and the necessary (1980: pp. 35–36). He distinguishes metaphysical necessity from three other notions or senses of necessity: first, *epistemological* necessity, which “might just mean *a priori*”. Second, *physical* necessity; and, third, *logical* necessity. Setting aside epistemological necessity for the moment, modal space is arguably carved out in such a way that metaphysical possibility is not as *broad* as logical possibility but not as *narrow* as physical possibility. For Kripke, we can get a grip on the content of metaphysical necessity by simply asking ourselves: “is it possible that, in this respect, *the world should have been different from the way it is?*” (36: my emphasis). The “world” is for Kripke a combination of the actual makeup of things—individuals and kinds, with their essential properties—together with the bridge-principles that govern necessity. This combination sets the parameters for genuine *metaphysical* possibility.

Accordingly, in conducting our modal evaluations, we should reason from how the world is—from its actual makeup—to how it must be. The bridge-principles that guide modal inference have the form ‘ $P \rightarrow \Box P$ ’ (1971: p. 153). Certain essential features of the actual world, P , determine what must be the case (metaphysically) or what is the case at all worlds, $\Box P$. These principles bridge the realm of the actual and non-modal with the realm of the non-actual and necessary. Furthermore, it appears that modal inquiry has an important *empirical* aspect: in most cases, it is informed by observation and scientific investigation.¹¹ In Kripke’s words: “in general, science attempts, by investigating basic structural traits, to find the nature, and thus the *essence* (in the philosophical sense) of the kind” (1980: p. 138).¹² It was an empirical discovery that heat is molecular kinetic energy: we discovered its fundamental nature or, simply, what heat *is*. That means, for Kripke, that heat could not have been anything else than

¹⁰ A distinction between *trivial* vs. *non-trivial* essentialist import of Kripke’s *a posteriori* necessities has become standard (probably after Salmon 1981: pp. 82–87). Cases involving identities between rigid designators may only commit one to the “trivially” essential property of *self-identity* (and, although more tentatively, so do the cases of theoretical identifications. See also fn.13 below). Whereas, cases of kind essentialism and origin essentialism rather involve a commitment to “substantive” or non-trivially essential properties. I will discuss examples of both types.

¹¹ Not in all cases. The truths of logic and mathematics are presumably both necessary and purely *a priori*, for Kripke.

¹² If Kripke is right, essences are not hidden substrata or mysterious entities, but rather an object of scientific investigation. Unfortunately, Kripke does not further explore the metaphysics and epistemology of essence. In my ‘Putting Modal Metaphysics First’, (ms.), I argue that we can effectively do so by pursuing the thesis that, at least in the case of natural kinds, the essence of the kind is what *causes* and *explains* all the many, many other properties and behaviors shared by all the instances of the kind.

molecular motion: given that heat *is* molecular motion, it is necessarily so.¹³ This is the powerful, two-sided idea behind Kripke's necessary *a posteriori*. We need empirical information about the world in order to know certain necessities (an *epistemic* thesis); but this is so, in turn, because those necessities are grounded in the way the world is or in the intrinsic nature of things (a *metaphysical* thesis). Kripke has illuminated another *source of necessity* besides the traditional *a priori* logico-analytic necessity. Our world—specifically, the essences of things—generates metaphysical necessities.

Given this picture of metaphysical modality, it is not clear that Chalmers' primary possibilities can be genuinely *metaphysical* for a Kripkean. From the point of view of metaphysical Kripkeanism, Chalmers' account seems in danger of allowing worlds that go against the nature of things—that is, primarily possible worlds that deny the essential properties of things. Two-dimensionalism has a more generous attitude, we may say, to what is possible and enriches the picture with further possibilities. But those are *de dicto*, purely *a priori* possibilities. From the 2D perspective modality is a matter of ideally rational concepts and entailments; thereby, metaphysical possibility is largely independent of how things actually are and their essential properties. "Primary conceivability is always an *a priori* matter. We consider specific ways the world might be, in such a way that the true character of the actual world is irrelevant" (Chalmers 2002: p. 158). The 2D parameters for the scope of metaphysical possibility turn out to be antithetical to the Kripkean's, as they allow for worlds that she would not accept.

To illustrate, take Kripke's example of the necessity of (biological) origin. According to Kripke's principle, it is metaphysically impossible for a human being to have different parents than the ones she actually has. While Chalmers' framework respects this principle at the level of the secondary dimension, it also treats ideally *a priori* conceivable possibilities—i.e., primary possibilities—as genuine metaphysical possibilities (again, there is only one modal primitive). Since it seems ideally *a priori* conceivable that a human being might have had different parents from those she actually has, we should conclude that this is primarily and, as such, metaphysically possible. But for a Kripkean this is unacceptable.

Let us look at this contrast more closely. Chalmers' strategy to avoid worlds that go against the nature of things from a Kripkean perspective can be broken down in two parts. On the one hand, Chalmers stresses that the worlds in question verify the primary intension of the relevant expressions, which is independent of their actual referents (i.e., of *that* particular human being and *her* parents). Primary intensions only capture an aspect of content under a specific mode of presentation (i.e., the rules for assigning names to referents, based on their semantic content). Since that intension is *a priori* and independent of the nature of the actual referents, it should not conflict with the nature of those referents, namely with what is essentially true of them. As I explain below (Sects. 5.1–5.2), this bit of Chalmers' strategy appears to meet the Kripkean requirements only superficially, that is, only at the level of semantics. Although this is

¹³ This is one of Kripke's paradigmatic *theoretical identifications*, typically having the form of identity sentences involving a rigid (general) term for natural kinds on the left-hand side and a rigid semantically complex expression on the right-hand side (1980: pp. 125–140). It is a matter of debate what exactly the semantic status of the right-hand side expressions is (for a survey, see Beebe and Sabbarton-Leary 2010), but this is an issue at the level of language and reference that we do not have to settle here.

sufficient for the two-dimensionalists' purposes, it does not satisfy the Kripkeans'. For a Kripkean, those possibilities may still go against the nature of things. Depending on whether we consider an "orthodox monistic" Kripkean, or a "2D-friendly" Kripkean, primary possibilities turn out to be either impossible *tout-court*, or merely epistemic not metaphysical possibilities (or *scenarios*, as they are often called).

On the other hand—this is the second bit of the strategy—Chalmers emphasizes that the Kripkean necessities are preserved at the level of the secondary dimension. This is so thanks to the rules for assigning secondary intensions that respect the Kripkean bridge-principles. However, those rules are motivated by the 2D machinery itself—they are conceptual truths based on our understanding of linguistic expressions and of the notion of metaphysical necessity. From a Kripkean perspective, it seems accordingly largely *arbitrary* that the rules are like that. In fact, two-dimensionalists simply disregard such rules when evaluating primary intensions. When switching from a referential, *de re* reading to a descriptive, *de dicto* reading of expressions, one considers the *a priori* associated intensions while disregarding the actual referents and their properties, as well as the bridge-principles. But a Kripkean finds this wrong. Far from being merely arbitrary conceptual truths, the bridge-principles are rather tied to the actual makeup of the world. For a Kripkean, modal space is structured bottom-up, from the nature of things to the possibilities that their essences allow; it is not primitively *a priori* given in the manner Chalmers holds.

The contrast becomes especially clear if we distinguish a strictly *semantic* Kripkeanism from metaphysical Kripkeanism.¹⁴ The 2D project only signs up for the former. Integrating semantic Kripkeanism requires fixing the cases of the necessary *a posteriori* and respecting the bridge-principles; whereas the essentialist commitments belong to metaphysical Kripkeanism. However, the latter is further needed to get the *ambitious* modal epistemology off the ground. For a Kripkean, compliance with the bridge-principles and the examples of the necessary *a posteriori* is not something that one can just opt out of by adding suitable intensional content to our expressions. It is instead a matter of respecting the nature of things, where that is independent of any description or mode of presentation. As I am picturing the Kripkean stance, one can hardly accommodate the semantic doctrine without taking into account also the underlying metaphysics. The attempt to divorce them has the consequence of going against the Kripkean requirements themselves, while endorsing a largely arbitrary modal metaphysics that disregards the nature of things. Thus, the *ambitious* modal epistemology that would successfully combine the 2D framework with a Kripkean metaphysics turns out to be rather out of reach.

Some tenacious modal epistemologist might suggest that we avoid this difficulty by distinguishing different *sources of necessity*. Roughly: *a priori* logico-conceptual truths and ideally rational entailments would be the source of primary-epistemic necessity; whereas the essential makeup of the world would be the source of secondary-metaphysical necessity. Distinguishing between sources of necessity would provide a corresponding *qualitative* distinction between kinds of possibilities or possible

¹⁴ Thanks to Jonathan Schaffer for suggesting this distinction.

worlds—namely between genuinely metaphysically possible worlds vs. epistemically possible worlds or scenarios.

This is an attractive possibility. In fact, this is the route chosen by the *2D Kripkean* (Sect. 4.2 below). However, taking this route requires giving up a central component of Chalmers' account, that is, the commitment to *modal monism* (1). Modal monism can be cashed out in a number of ways. It may capture the idea of a single modal primitive or source of necessity; or a single kind of possibility; or, also, formally, the notion of a single space of worlds. Those are not equivalent characterizations. For example, one might hold that there is a single source of necessity, while drawing nonetheless interesting distinctions between e.g. logical vs. metaphysical possibility.¹⁵ Furthermore, regardless of one's theoretical commitments, one might choose to work with either a monistic or a dualistic space of worlds, depending on one's particular purposes. In Chalmers' account, however, all those notions line up: he describes monism in terms of a single modal primitive, and a single space of worlds. Moreover, there is only one source of necessity—logico-conceptual necessity—whereas the nature or essences of things play no role. Logico-conceptual possibility is coextensive with metaphysical possibility: “Of course I hold that conceptual possibility = logical possibility = metaphysical possibility (at the level of worlds)” (1999: p. 478). Any logico-conceptual possibility is also a metaphysical possibility, with no qualitative distinction between them. “Ultimately, there is just one circle of modal concepts, including both the rational modal concepts...and the metaphysical modal concepts” (2002a: p. 194).

Still, according to Chalmers, endorsing monism does not compromise the desired modal distinctions. We do not need two modal primitives or distinct sources of necessity, and so we do not need two kinds of qualitatively different worlds, since the intensional apparatus can account for all the differences we are interested in. Any world that is logico-conceptually possible is also metaphysically possible; but different intensions will be verified, or satisfied, at each world. Otherwise put, whether something is primarily or secondarily possible depends on where an intension is verified or satisfied within a single space of metaphysically possible worlds; not on whether a certain world is located in the space of genuine metaphysical possibility as opposed to mere epistemic possibility.

It follows that Chalmers' monism cannot accommodate the *de re* essentialist Kripkean commitments that locate the source of metaphysical necessity in the nature of things. His monism forgoes that further source and rather tracks such commitments back to the *a priori* semantic rules for assigning secondary intensions. On the other hand, a *dualistic* picture of modality, by adding a further source of necessity, could provide the desired corresponding qualitative distinction between kinds of possibilities. That is probably the only way to successfully meet the requirements of metaphysical Kripkeanism while preserving the core thesis of 2D semantics.

¹⁵ See e.g. Vaidya (2006), Hale (2013).

5 Three positive views

On the bright side, the triad allows three combinations, which correspond to three positive views in conceptual space. Two of those are broadly Kripkean, by both including (3) metaphysical Kripkeanism. One, which I am calling *Monistic Kripkeanism*, endorses a version of (1) modal monism. The other, which I am calling *2D Kripkeanism*, endorses (2) two-dimensionalism. It is a methodological point in *Naming and Necessity* that Kripke does not aim to offer formal theses or definitions that satisfy sets of necessary and sufficient conditions. Rather, he is interested in broad *pictures* (1980: p. 93). That is why both strands of Kripkeanism appear to be consistent with Kripke's views. Indeed, besides being interesting positions *per se*, these may help us gain some deeper insight into those pictures that Kripke laid out. On the other hand, exploring both strands of Kripkeanism casts light on why Chalmers and Kripke's modal metaphysics are fundamentally incompatible. The last available stance resulting from the triad, which I am calling *Pure Two-Dimensionalism*, drops (3) metaphysical Kripkeanism while retaining (2) the 2D framework together with (1) a monistic picture of modality.

In the remainder of the paper, I examine those three views in turn. In the end, the following should be clear. From the Kripkean perspective, Chalmers' Modal Rationalism is not a viable option. For it either (a) fails to neutralize the Kripkean Challenge (conceivability still does not entail possibility); or (b) the main conceivability-to-possibility thesis has to be amended to avoid the Kripkean Challenge; but with the result that *a priori* conceivability may fail to access genuine metaphysical possibility. The Monistic Kripkean represents outcome (a): for her, *a priori* conceivability still does not entail metaphysical possibility. The 2D Kripkean represents outcome (b): for her, *a priori* conceivability only entails epistemic possibilities having ideally coherent logico-conceptual content, which however may not be genuine metaphysical possibilities. Finally, the Pure Two-Dimensionalist replaces metaphysical Kripkeanism with her own monistic modal metaphysics, which is grounded in purely *a priori* rational notions rather than in the *de re* essential profiles of things. Whichever of the three views one chooses, the project of fully combining the original program of Modal Rationalism with metaphysical Kripkeanism into a coherent modal epistemology does not succeed.

5.1 Giving up two-dimensionalism: the monistic Kripkean

It seems common ground between Chalmers and *both* the Monistic and the 2D Kripkean that cases like 'Hesperus is not Phosphorus', 'Cicero is not Tully', 'Water is not H₂O', 'Heat is not molecular motion', and so on are metaphysically impossible. The question is whether a Kripkean could concede that they are still possible in some interesting sense; and, if yes, what more precisely is the content of those possibilities.

The Monistic Kripkean rejects the 2D framework and the thesis that expressions have a further, primary intension. Accordingly, she also rejects Chalmers' take on *a posteriori* necessities. For her, the relevant examples are possible only in the loose sense that it is not *a priori* that, for example, Hesperus is Phosphorus. The possibility that Hesperus might not have been Phosphorus is *illusory*: it only corresponds

to a subject's lack of information about certain astronomical facts. "Obviously, the 'might' here is purely 'epistemic'—it merely expresses our present state of ignorance, or uncertainty" (Kripke 1980: pp. 102–103). Strictly, that does not even count as a *possibility* at all: we shall not model it by means of possible worlds. In general, for the Monistic Kripkean there is no distinct primary possibility, no further dimension of possibility besides the metaphysical one. When we speak of epistemic possibility, we do not refer to objective possibilities "out there" in the metaphysical realm.

For the Monistic Kripkean, often the scenarios that one conceives when conceiving the falsity of some *a posteriori* necessity are (*ceteris paribus*) metaphysically possible. But, crucially, the objects thus conceived are alien and unrelated to the actual ones. For Kripke, in such cases we are "*qualitatively in the same epistemic situation that in fact obtains*" (1980: p. 142), but what we are considering is a different object. Examples proliferate. Supposing that *this particular* table could have been made of ice rather than wood means supposing that "I could have the same sensory evidence that I in fact have, about *a table* which was made of ice" (ivi). Had there been a substance having the same phenomenal properties as water, but having a completely different atomic structure, that would not have been water but rather some *other* substance (1980: pp. 128–129). Insisting that Hesperus might not have been Phosphorus, or Cicero might not have been Tully, only amounts to contemplating cases involving, say, *Sch-Hesperus*, *Sch-Cicero*, and so on.¹⁶

In this perspective, 2D ways of explaining Kripkean intuitions do not succeed.¹⁷ For the Monistic Kripkean, the content that Chalmers takes to be verified at a scenario or primary possibility does not really *falsify* an *a posteriori* necessity, because it does not involve the actual objects that we should be considering, but other ones that only have superficial properties similar to those. What the two-dimensionalist takes to be primarily possible is instead for the Monistic Kripkean only the misguided expression of a momentary state of ignorance, or an epistemic illusion.¹⁸ More generally, metaphysical Kripkeanism holds that the actual world with its individuals, kinds and relevant essential properties determine the scope of metaphysical possibility. *The possible is constrained by the actual*. For the Monistic Kripkean this means that there is only one space of possibility, i.e., metaphysical possibility—and nothing beyond that. Thus, she endorses a version of *modal monism*. For her, too, there is only one source of necessity and one kind of possibilities or possible worlds, i.e., the genuinely metaphysically possible worlds. But her version of monism differs from Chalmers' in two crucial respects. First, no merely epistemic possibility has a place within modal space. And second, the source of metaphysical necessity lies in the makeup of the actual world as determined by the essential properties of individuals and kinds.¹⁹

¹⁶ What about a scenario where e.g. 'Tully' refers to the *actual* individual, while 'Cicero' to someone else? For the Monistic Kripkean this would still *not* be a possibility where *Tully is not Cicero*; but rather one where Tully is not also *called* Cicero. For surely the metalinguistic statement "Cicero and Tully are names of the same Roman orator" might have been false (cf. 1971: p. 154).

¹⁷ *Pace* Chalmers (2010: pp. 188–189, fn.3).

¹⁸ See Yablo (2006) for an insightful discussion of such cases.

¹⁹ Kripke's discussion suggests some form of nomological necessitarianism, for which the laws of nature are metaphysically necessary. Theoretical identifications and scientific statements more generally are "not contingent truths but necessary truths *in the strictest possible sense*" (1980: p. 125, my emphasis). And at

That is why *a priori* conceivability does not really help cast light on metaphysical possibility, for the Monistic Kripkean. One needs to know how things actually are and which kinds of principles one ought to follow in order to reason about metaphysical modality. That is also why Chalmers' modal metaphysics is antithetical to Kripke's. Both the intrinsic and structural features of the actual world as well as the Kripkean essentialist principles are irrelevant to the content of Chalmers' primary possibilities.

From the point of view of the philosophy of language, Kripkean intuitions against an intensional semantics like Chalmers' may not be surprising. As mentioned, for the Monistic Kripkean, sentences expressing *a posteriori* necessities do not carry the extra-content needed to build the typical surrogate primary possibilities. Chalmers stresses that intensions are functions not descriptions; they rather reveal an expression's cognitive role, similarly as coarse-grained Fregean senses do (2002b). Still, his 2D framework operates under the main assumption that expressions have an associated descriptive content (Papineau 2007; Soames 2005). This is something that the Monistic Kripkean rejects. She may hold, as some put it, that expressions are often *radically opaque* (Goff and Papineau 2014).²⁰

Finally, for the Monistic Kripkean the Kripkean Challenge itself seems misguided. The conceivability of the falsity of an *a posteriori* necessity turns out to be only apparent, and quickly fades away. How can one conceive that *this particular* table is not made of wood, that *water* is not H₂O, that *Hesperus* is not Phosphorus, that *Cicero* is not Tully? We struggle to deny the essentialist bridge-principles, and ultimately the necessity of identity. But every time we seem to be doing it, we realize that a shift in content occurred. Chalmers is trying to press a *de dicto* reading, supposedly available at the level of the primary dimension, which would not violate the essentialist

Footnote 19 continued

least for a range of cases, "it might be that when something's physically necessary, it always is necessary *tout court*" (99). Still, Kripke is also cautious: "physical necessity *might* turn out to be necessity in the highest degree. But that's a question which I don't wish to prejudge" (ivi). Overall, it seems safe to say that Kripke endorses a *weak* necessitarianism for which properties are individuated by their role in laws or their causal role. E.g.: "It's not just that it's a scientific law [that gold has atomic number 79], but of course we can imagine a world in which it would fail. Any world in which we imagine a substance which does not have these properties is a world in which we imagine a substance which is not gold, provided these properties form the basis of what the substance is" (125).

²⁰ Kripkean Monism entails a sort of *direct reference about meaning*. This is the view, as Devitt puts it regarding names, that "the meaning of a name is simply its bearer" (2015: p. 128). Cf. Soames (2002, 2005), Salmon (1986). However, it is worth stressing that although Kripke rejected descriptivism, he never explicitly endorsed direct reference. Perhaps more in seminars than in print, Kripke has remarked that senses *qua* associated descriptions are fine so long as they are not treated as *definitions* of the corresponding expressions. They are not part of the content of an expression, and do not provide necessary and sufficient conditions to determine their extension. Does this leave any room for Chalmers' intensions? Perhaps only for a sort of secondary ones: "in the formal semantics of modal logic, the 'sense' of a term *t* is usually taken to be the (possibly partial) function which assigns to each possible world *H* the referent of *t* at *H*. For a rigid designator, such a function is constant" (Kripke 1980: p. 56, fn. 22). 'Cicero' or 'Hesperus' cannot fail to pick out the very same individual at all possible worlds where that individual exists. Those names would not pick out someone else in the primary dimension, like Chalmers wants. But, again, this does not necessarily make of Kripke himself a Monistic Kripkean.

principles and the necessity of identity. But the Monistic Kripkean pushes back with the *de re* reading and denies any further dimension of meaning.²¹

To take stock: in order to accommodate the Monistic Kripkean's view, Chalmers would appear to have only two options. The first: he could concede that what we refer to as e.g. "water" at worlds where 'water is not H₂O' is verified, is rather some *other* substance (similarly for the other examples). While this would make it a genuine metaphysical possibility for the Monistic Kripkean, it would also leave her wondering why we should be calling such a substance "water". For her, the very idea of a further dimension of meaning seems misguided. After all, that further intensional content leads us astray by having familiar terms pick out alien referents across possible worlds. The second: Chalmers could agree that the possibility of water not being H₂O is merely illusory, and it is better described in terms of a momentary subjective state of ignorance. For that matter, it could even still be called "epistemic". However, the unwanted result is that that would not constitute a genuine metaphysical possibility. Rejecting both those options, on the other hand, would seem to put Chalmers in a bad spot: for the only alternative available seems to be that we can conceive *de re* metaphysical impossibilities, including actual water not being H₂O. While this may be a perfectly respectable view (Priest 2016), it is clearly a non-starter in this context. For such a view not only directly denies the Kripkean assumptions; but it also amounts to rejecting Chalmers' whole setup.

In terms of the triad, the Monistic Kripkean rejects (2) two-dimensionalism, while retaining (3) metaphysical Kripkeanism. The space of possibilities for her covers *only* metaphysical possibilities, thereby she endorses (1) monism.

5.2 Giving up monism: the 2D Kripkean

The 2D Kripkean has some sympathy for two-dimensionalism. She is more flexible about the philosophy of language and engages with Chalmers' 2D framework. For her, expressions may have some extra descriptive content and that plausibly opens up a further dimension of possibility. As we might put it, where the Monistic Kripkean only sees a misdescription, the 2D Kripkean sees an epistemic possibility that is not merely a momentary illusion. Thus, the 2D Kripkean agrees with Chalmers that there

²¹ Thus, I disagree with Goff (in Goff and Papineau 2014) that radically opaque expressions provide examples of *strong necessities*, because those expressions lack the further dimension of meaning that is needed to build such cases. Chalmers characterizes a *strong (a posteriori) necessity* as what a counterexample to (CP) would look like, if there were such a thing (then of course everyone took up the challenge and tried to come up with a good case. For discussion: Chalmers 2010: pp. 170–180). A strong necessity must be: (i) metaphysically-secondarily necessary; (ii) epistemically-primarily necessary; (iii) conceivably false. In the case of radically opaque expressions, against Goff, I do not see how (ii) is satisfied, given that no extra descriptive content motivates such a further dimension. Instead, the Monistic Kripkean neutralizes Chalmers' challenge by simply *rejecting* his 2D analysis of *a posteriori* necessities as weakly necessary because primarily contingent. It is rather the 2D Kripkean the one who has the theoretical resources to build cases of strong necessities (i.e., modal dualism). However, I recommend against engaging with such a quest after strong necessities. Given Chalmers' setup, any such attempt is doomed to failure. Since he treats conceivability and epistemic-primary possibility as *de facto* coextensive, any conceivable falsity (iii) automatically denies epistemic-primary necessity (ii).

is a more robust sense in which “a world with XYZ in the oceans can be seen as satisfying the statement ‘Water is not H₂O’” (Chalmers 2002a: p. 162).

For the 2D Kripkean, we can speak of e.g. “Hesperus” not “*Sch*-Hesperus”, *actual* “water”, and so on when considering controversial primary possibilities, without thereby denying the essentialist principles or the necessity of identity. For she agrees that the relevant descriptions or associated Fregean senses partly constitute the content of expressions. So, even once we know how things have actually turned out, we can still make sense of those epistemic possibilities and model them by means of a suitable world-semantics. For the 2D Kripkean, modal space is richer.

However, crucially, such robust epistemic possibilities are qualitatively different from genuine metaphysical possibilities. Modal space as the 2D Kripkean envisages it is *dualistic* not monistic, with two sources of necessity. On the one hand, there is the actual makeup of the world with all its *de re* properties. This is the source of metaphysical necessity—more precisely, in the essential properties of things. On the other hand, there are the ideally rational modal concepts and the *a priori* entailments resulting from the intensional contents of expressions. That is instead the source of epistemic necessity. Epistemically possible worlds or epistemic possibilities, in this light, although robust (not merely momentary psychological states) may not be also metaphysically possible worlds or metaphysical possibilities. Accordingly, the 2D Kripkean endorses an amended version of (CP) for which primary conceivability only gives us access to ideally coherent *a priori* epistemic possibilities, or scenarios, with no metaphysical import.²² As anticipated, endorsing a qualitative difference between sources of necessity and corresponding kinds of possibilities is probably the only way to construe a coherent modal metaphysics that is both Kripkean and “2D-friendly”.

In fact, the 2D Kripkean finds Chalmers’ modal monism puzzling. How can Chalmers treat *both* primary *and* secondary possibilities (or possible worlds) as genuinely *metaphysical*? Recall that monism commits one to accepting that primary-epistemic possibilities are verified by metaphysically possible worlds, just like genuine Kripkean possibilities are. Chalmers converts the qualitative difference between epistemic and metaphysical possibility into an intensional difference, which is dependent on one’s (ideal) evaluative standpoint. In the case of *a posteriori* necessities, such worlds cannot be genuinely *metaphysically* possible from a Kripkean perspective. Specifically, the 2D Kripkean might object that Chalmers commits what I call “*modal upgrading*”. In Chalmers’ picture, purely *a priori* ideally coherent logico-conceptual possibilities seem to have been promoted or *upgraded* to the status of full-fledged metaphysical possibilities. Primary intensions, just like secondary intensions, are verified by worlds that are theoretically-qualitatively indistinguishable from all the other worlds—most importantly, from *our* world. For Chalmers, there is a metaphysical possibility or world where Hesperus is not Phosphorus, or water is not H₂O—actually, a “*first class* metaphysical possibility” (2002a: p. 165). This seems unacceptable for a Kripkean—even for the 2D Kripkean.

²² Strictly, with only *some* metaphysical import. For scenarios in some cases map metaphysical possibility. So, although we cannot generally infer metaphysical possibility from epistemic possibility, the relevant intensional contents might provide a connection that does allow for such inferences in certain cases (Thanks to an anonymous referee for drawing my attention to this point).

In sum, for the 2D Kripkean we can accept the 2D semantic apparatus—in fact, we should. Expressions do pack multiple meanings or intensions; and we do have multiple ways of evaluating those tokens. But this semantic apparatus and its rational epistemic implications need not have any metaphysical import. Monism is a further thesis. It is precisely the combination of 2D semantics and modal monism that even the most open-minded Kripkean rejects. For her, considerations of rational coherence cannot carry over onto matters of metaphysical possibility, on pain of falling into modal upgrading. What is genuinely possible is not a matter of how we (or even ideally rational beings) evaluate *a priori* statements. What is genuinely possible is a matter of how things really are—of their nature or essential properties.

I should stress that the 2D Kripkean does not dismiss epistemic-primary possibilities as illusory (like the Monistic Kripkean does). Nor does she suggest that the content of such possibilities is merely a function of one’s modal intuitions, which would trivialize the link between conceivability and possibility (not to mention treat genuine possibilities as psychological products). For the 2D Kripkean, *both* epistemic-primary possibilities *and* metaphysical-secondary possibilities are “real” in the sense that they are independent of our conceptualization and subjective intuitions. However, they are grounded in different aspects of reality, which makes them qualitatively different and irreducible to each other. The difference is categorical or metaphysical: the two modalities hold in virtue of different primitive aspects of reality. Borrowing Fine’s (2005) terminology, we might call such epistemic-primary necessities that structure reality “*transcendental truths*”. For they are taken to hold necessarily “regardless of the circumstances or how things turn out”. As the term suggests, those would be in effect *preconditions* for the existence of any world. Like a web or empty structure, such necessities would set the *a priori* fundamental conditions for world-existence. Both logically and metaphysically possible worlds would *constitutively depend* on such necessities.²³ In this perspective, epistemic *a priori* modality would be perfectly “real” and capture fundamental aspects of reality. But since it would also be constitutively independent of the particular features of the world—it would be independent of the features of *any* world—by itself it would not help us cast light on what is genuinely metaphysically possible. By dealing with *a priori* preconditions of possibility, epistemic modality would simply lack the resources to capture the metaphysically-based modal profiles of things.

In conclusion, although more flexible with the philosophy of language, the 2D Kripkean does not negotiate the metaphysics. She does expand the space of possibility but maintains that metaphysical modality is rooted in the essential makeup up of the actual world. The resulting picture is therefore dualistic.

Looking back at the triad, (2) two-dimensionalism and (3) metaphysical Kripkeanism cannot be conjoined with (1) modal monism. From the point of view of the 2D Kripkean, Modal Rationalism can only be viable if paired with modal dualism.²⁴

²³ Arguably, epistemic necessities include, at a first approximation, mathematical, logical, and traditional analytic/conceptual truths. What distinguishes this class of truths is that they are necessarily truth-preserving patterns of inference (Cf. Hale 2013: pp. 60–62; see also his forthcoming).

²⁴ Chalmers does not reject in principle modal dualism. He concedes that “a two-space model is coherent and useful for various purposes” (2011: p. 79, fn. 9). Moreover, he has devised a technical account of

Here is the general dialectic. From a *broadly* Kripkean perspective, Chalmers' Modal Rationalism seems to do either of the following. It may give us access to primary-epistemic possibilities which verify an expression's primary intension. Although these have the correct *de re* content (i.e., they involve the actual referents), they are not genuine metaphysical possibilities. This is the 2D Kripkean's position, combining (2) and (3). In effect, this is a sort of *severed* Modal Rationalism, which only elucidates our *a priori* access to part of the modal space—the purely epistemic space. Alternatively, Chalmers' conceivability may give us access to *certain* metaphysical possibilities. Although those are genuine possibilities also for the Kripkean, they crucially involve different referents not the actual ones (the '*sch*'-reconstructions of the relevant actual referents). This is the Monistic Kripkean's position, combining (1) and (3). Either way, from a Kripkean perspective conceivability does not entail possibility in Chalmers' sense, and *a priori* access to metaphysical modality is blocked. Once again, Modal Rationalism cannot be successfully combined with a Kripkean modal metaphysics.

5.3 Intermezzo: two notions of metaphysical modality

One might wonder whether at the heart of this dialectic is a *terminological* issue. Perhaps there is a misunderstanding concerning the term 'metaphysical' that Chalmers and the Kripkean might work out together. From Chalmers' point of view, *both* primary-epistemic possibilities and secondary-Kripkean possibilities are *metaphysical*. For the Kripkeans, only the latter deserved to be called so. But couldn't this conflict be simplified by saying that Chalmers is willing to call "water" something that the Kripkean is not?

From a certain point of view, it does seem so. After all, the scenario depicting 'Water is not H₂O' that both Chalmers and the Kripkeans contemplate has probably the same features: namely a world-state where some liquid substance looks exactly like water and has the same roles as actual water. Chalmers wants to call that "water" while also at the same time denying that it is H₂O. The Kripkeans, instead, either do not want to call it "water" but something else, whatever it is (this is Monistic Kripkean), or accept calling it "water" but only insofar as the described scenario is not a genuine metaphysical possibility (the 2D Kripkean). Maybe all the *ambitious* modal epistemologist needs to solve the inconsistency and get her project off the ground is to specify further senses of 'metaphysical modality'. She might need to distinguish between, say, a notion of "strict" metaphysical possibility versus an "epistemic-*but-somehow-still-metaphysical*" possibility.

But the apparent terminological point is only the tip of a *world-view*. For Chalmers, the metaphysical makeup of possible worlds or the content of genuine metaphysical possibility can change as long as the scenario that verifies the relevant intensions is ideally coherent. We can call those different things at the other worlds with the same old

Footnote 24 continued

possibility in terms of purely epistemic scenarios—constituted by maximally consistent sentence-types of an ideal language. However, he admits that his metaphysical claims will not go through if one works with the pure epistemic construction (2010: pp. 552–553).

words, as long as we are careful not to fall into a contradiction. But for the Kripkeans this is unacceptable. For her, what a possible world could look like, both intrinsically and structurally, is determined by how the actual world looks like, not by the descriptive content of our expressions.²⁵ We cannot just associate familiar words to different things when that involves a deep metaphysical change—e.g., a change in the structure of a fundamental kind, or one that leads us to give up transworld identity. From a Kripkean perspective, Chalmers' metaphysical modality may seem dangerously flimsy. Primary conceivability can only tell us that *if* things are so and so, given the descriptive content of a primary intension under ideal rationality, *then* certain counterfactuals follow. But that does not address the issue of how the modal realm *really* is. Given two-dimensionalism and a liberal approach to what is metaphysically possible, modal monism can only be integrated given a purely *a priori* logico-conceptual notion of modality, while a Kripkean modal metaphysics is excluded.²⁶

5.4 Giving up metaphysical Kripkeanism: the pure two-dimensionalist

This leads us to the *Pure Two-Dimensionalist* view, the last available option from the triad. Pure Two-Dimensionalism consists of maintaining the combination of (1) modal monism with (2) two-dimensionalism; while endorsing a notion of metaphysical modality that is non-Kripkean and independent of the nature of things. A two-dimensionalist who is only committed to *semantic* Kripkeanism and does not want to give up modal monism would choose this option. Metaphysical possibility itself is *a priori* rooted in those primitive logico-conceptual structures and relations that hold regardless of how the actual world happens to be. Our world with its essential makeup does not play any special role for what is metaphysically possible. More than that, for the Pure Two-Dimensionalist our world is itself one of countless epistemic possibilities within a monistic modal space—it is just *the* possibility or world that happens to have been actualized. Antithetically to the Kripkean view, *the actual is determined by the possible*.²⁷

The Pure Two-Dimensionalist view seems to best reflect Chalmers' own view. That gives us a key to interpret certain suggestive remarks of his, for example, that “the concept of metaphysical modality itself has roots in the *epistemic* domain” (2010: p. 566). Indeed, we noted that Chalmers' framework rests on a sort of *a priori conceptual metaphysics*. Unfortunately, though, he does not expand on these ideas, leaving us with the puzzle of how exactly Kripkean counterfactual possibilities are rooted *a priori* in the epistemic domain. The worry here is that his reassurances that the epis-

²⁵ Similarly, Soames: “[Kripke] did not view *language* as the source of the necessary *a posteriori* status of his examples. Instead, he looked to metaphysics” (2005: p. 203).

²⁶ Cf. Vaidya: “[Chalmers' considerations] suggest that the conception of modality at play is one that eliminates the notion of metaphysical modality as originally conceived by Kripke” (2008: p. 196).

²⁷ In a talk at Princeton in November 2012, Chalmers presented this idea by recalling David Armstrong's point that “There is a picture in Leibniz, in Lewis, and in other metaphysicians that *the actual swims in a wider sea, the sea of the possible*. The actual is just one case of the possible” (Chalmers, ‘Two Concepts of Metaphysical Possibility’, quoting from Armstrong, *A World of States of Affairs*, Cambridge University Press 1997: pp. 173–174 my emphasis. Slides available at <http://consc.net/slides/possibility.pdf>).

temic notions are wholly grounded in rational notions will hardly convince a Kripkean that such epistemic notions also capture genuine metaphysical possibility. The notion of intensional content certainly implies that modal truth is partly built into our expressions. It is constitutive of an expression's intensional content that the referent(s) of that expression have certain modal features. But what those features are is not generally an *a priori* matter for the Kripkean. Moreover, given Chalmers' use of the 2D framework, it seems that both the primary and secondary dimensions ultimately capture *de dicto* modality.

On the other hand, Chalmers holds that a Kripkean modal metaphysics of the kind outlined here “will put constraints on the space of possible worlds that are brute and inexplicable” (1996: p. 137). For the Kripkean, however, it is not clear why those constraints should be *brute and inexplicable*. In her view, the constraints derive from the fundamental nature of our world. Its essential makeup plus the bridge-principles determine the range of genuine metaphysical possibilities. For her, this is simply how *nature* is. Perhaps the “brutality” of the relevant constraints could be traced back to their being at the mercy of nature; or of how God shaped reality, if one prefers. In this sense, how the modal realm is may be a brute matter. But the constraints for her are not brute in the sense of unjustified, or “inexplicable”. The nature of the actual world as revealed by empirical investigation draws the boundary between the epistemic and the metaphysical space—it justifies and *explains* that boundary. Moreover, the Kripkean might contend that, from her perspective, it seems equally brute and inexplicable to grant that logico-conceptual coherence—however pure and idealized—gives us a secure criterion for metaphysical possibility.

A broader moral for modal epistemology emerges from this conflict. In trying to elucidate our knowledge of possibility and necessity we need to first get clear about the underlying modal metaphysics, particularly about the source(s) of necessity. As I like to put it, it might prove fruitful to approach the epistemology of modality by *putting modal metaphysics first*. Conceivability as used by traditional rationalism may guide us safely to possibility within a purely conceptual-epistemic understanding of modal metaphysics; whereas this seems more controversial if the source of necessity is located in the essential properties of things. Such an essentialist modal metaphysics would instead likely be captured by non-uniform modal epistemology, combining different methods and procedures. And we may predict an analogous result on the assumption that there are multiple sources of necessity, and a fragmented, non-monistic picture of modality and modal space.

6 Conclusion

Finally, I should note that the sort of modal knowledge that Modal Rationalism promises does not appear to match broadly Kripkean metaphysical interests. For *ex hypothesi* (CP) primary possibilities are the only possibilities we may access *a priori*. Knowledge of secondary possibility remains an *a posteriori* matter for Chalmers, since we need empirical information concerning the actual world in order to conceive and judge those matters (secondary conceivability). In other words, primary *a pri-*

ori conceivability does not have the resources to illuminate Kripkean possibilities.²⁸ Yet, arguably those are the possibilities that Kripkeans are interested in. In general, Kripkeans are mostly concerned with how things are—actually—and how they might have gone—counterfactually. They have a special interest in how *our* world might have been different; which is probably why they may find Kripke’s picture of *de re* modality so attractive and consolatory.

From a Kripkean perspective, Modal Rationalism may give us a general formula to construct perfectly coherent hypotheses, which however might have very little to do with how the modal realm really is. Chalmers’ strategy of taking modal issues to the semantic level is not really an answer to the Kripkean worries. For a Kripkean, we cannot just reduce metaphysical modal differences to purely intensional ones. There is *a whole world* standing in between that reduction, and that is the *actual* world as we can come to know it.²⁹

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²⁸ The only cases where primary conceivability captures secondary possibility are those where the primary and secondary intensions of the relevant expressions coincide. For Chalmers, those include mathematical and analytic truths, and phenomenal truths (2010: ch.6). However, it might be objected that whereas mathematical and analytic truths seem to *obviously* verify the thesis, the class of phenomenal truths makes it on the other hand extremely *controversial*.

²⁹ Thanks to Nate Bice, Paul Boghossian, David Chalmers, Michael Devitt, Mateo Duque, David Papineau, Jonathan Schaffer, Anand Vaidya, and two anonymous referees for useful comments on earlier drafts of this paper. Thanks also to the audiences at the GEM—Ground Essence and Modality conference in Helsinki in June 2016 and at the PLM Masterclass in Stockholm in June 2015.

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